Barton & Loguidice

March 22, 2019

John R. Strang, P.E.
NYSDEC Region 4
Division of Environmental Remediation
1130 North Westcott Road
Schenectady, New York 12306-2014

Re: NYSDEC Comment Response Letter
West Well and Parking Area (Amphenol), Site No. 413010
Amphenol Aerospace Facility, 40-60 Delaware Avenue, Sidney
Revised Draft PCB Contaminated Concrete Slab Remedial Work Plan

File: 1153.010.001

Dear Mr. Strang:

Amphenol has reviewed the New York State Department of Environmental Conservation (NYSDEC) letter dated March 18, 2019 regarding the Revised Draft PCB Contaminated Concrete Slab Remedial Work Plan and offers the following responses:

1. Concrete Removal

NYSDEC Comment:

It is the Department's understanding that the slab will be fully removed from Area B-1 and Area B-5 (i.e., to the underlying soil or sub-base material). Based on the PCB analytical results from the bottom 1-inch of concrete at the B-5 and B-5-E0 sample locations, the Department requires post-excavation confirmatory sampling of the material (sub-base material or soil or whatever is encountered immediately below the slab). Confirmatory samples should be collected and analyzed for PCBs from Area B-1 (requesting eight confirmatory samples) and Area B-5 (requesting twelve confirmatory samples). The confirmatory sample results will be evaluated to determine if further removal action is required pursuant to Commissioner Policy CP-51, which allows for a level of 25 ppm total PCBs in subsurface soil below cover at Industrial Use sites.

Response:

Subsequent to removal of the concrete slab from Areas B-1 and B-5, Amphenol will collect confirmation PCB soil samples from the top 6-inches of the underlying substratate. A total of 8 confirmation samples will be collected from Area B-1 and 12 confirmation samples from Area B-5. Sample locations will be spaced equally across each exposed area of concern. In the event that a confirmation sample does not meet Industrial cleanup objectives of 25 ppm, an additional soil sample from that location will be collected from a deeper interval and analyzed for PCB

443 Electronics Parkway, Liverpool, NY 13088 ▪ Office: 315-457-5200 ▪ Fax: 315-451-0052 ▪ BartonandLoguidice.com

concentrations. Soils found to be in excess of Industrial use standards will be removed and disposed of accordingly at an appropriate landfilling facility.

2. Concrete Repair

NYSDEC Comment:

The excavation areas are to be temporarily covered with plastic sheeting while confirmatory samples are analyzed, and the results evaluated. The installation and compaction of sub-base material and reinforced cast-in-place concrete may commence pursuant to the subject draft work plan upon receiving Department approval.

Response:

It is understood that plastic sheeting will be installed subsequent to the removal of concrete and the collection of confirmatory substrate samples. Once confirmation samples identify that Industrial PCB standards are met, the plastic sheeting will remain in place and be used as a vapor barrier prior to backfilling.

Sincerely,

BARTON & LOGUIDICE, D.P.C.

Bryce D. Dingman, P.G.
Managing Hydrogeologist

BDD/akg
cc: Joseph Bianchi, Amphenol
James Mickam, JTM Associates
Joshua Haugh, DEC Region 4
Scott Nostrand, B&L

Barton & Loguidice

February 25, 2019

John R. Strang, P.E.
NYSDEC Division of Environmental Remediation
1130 North Westcott Road
Schenectady, New York 12306

Re: PCB Contaminated Concrete Slab Remedial Work Plan & Remedial Design
Amphenol Corporation 40-60 Delaware Avenue
Sidney, New York

Dear Mr. Strang:

Barton & Loguidice, D.P.C. (B&L) is submitting this Remedial Work Plan and Remedial Design on behalf of the Amphenol Corporation to address two areas of PCB contaminated concrete slab from the former main plant building located at 40-60 Delaware Avenue, Sidney, New York (Figure 1). The purpose of this document is to define the means and methods proposed to remove two areas of PCB contaminated concrete and replace with new concrete to encapsulate the underlying soil and match the surrounding grade. The New York State Department of Environmental Conservation (NYSDEC) has established a 25 parts per million (ppm) cleanup criteria for industrial sites. Slab areas documented to be < 25 ppm will remain on-site. Slab areas with concentrations >25 ppm but <50 ppm will be removed and disposed of at a regulated solid waste management facility. PCB contaminated concrete > 50 ppm is considered TSCA waste and will require disposal at a regulated chemical waste landfill.

Site Background Information

Two areas of concrete slab from the former Amphenol main plant building were identified for investigation of PCB impacts based on pre-1978 historical manufacturing operations and observed concrete staining. The first area of concern is located in the northwest corner of the former building. This area was used for cutting oil filtering and reclaim. The second location is situated on the eastern side of the former building footprint where the Gridley Screw Machine was located. Former factory operations in this area consisted of cutting bar stock and manufacturing of electrical components which used oil lubricants. Similar to the northwestern area of interest, equipment lubricants likely leaked onto the concrete surface resulting in the observed staining and subsequent PCB impacts.

At total of 37 concrete dust/chip samples were collected between September 6 and December 18, 2018, from the areas of concern identified in Figures 2 and 3. Samples were collected using a hammer drill to break up the concrete surface into dust and chips, which were collected and analyzed for PCBs. Table 1 summarized the laboratory analyses. Concrete dust/chip samples were analyzed by Adirondack Environmental Services, Inc., located in Albany, New York. Concrete core samples were submitted to Alpha Analytical, located in Massachusetts. All samples were analyzed for PCBs using EPA Method 8082A. A summary of PCB sample results have been presented in Table 1; laboratory analytical reports are provided in Appendix A.

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The December 3, 2018 sampling event included collecting 4-inch diameter cores of the slab. Samples were collected from three locations (Figures 2 and 3); one sample from the northwest corner (B-1) and two from the eastern area (B-5 and B-5-E0). Following collection a 1-inch cross-section of each core was submitted for PCB analysis. Cross-sectional samples were submitted from the 0 to 1 inch depth interval, the 1 to 2 inch depth interval, and the 2 to 3 inch depth interval. The lab was directed to only analyze the 1- to 2-inch interval, with the subsequent samples available for further analysis if desired.

Elevated concentrations of PCBs were observed within the two areas of concern, which are around and adjacent to sample locations B-1 and B-5. PCB levels ranged from 0.2 ppm to 10,000 ppm.

The western area of concern (B-1) has been defined with the proposed remedial limits identified in Figure 2. Concrete dust/chip and one core sample collected from area B-1 ranged in concentrations of 0.2 ppm to 3500 ppm. PCB concentrations for a portion of the B-1 area were found to be > 25 ppm and < 50 ppm and will be disposed of at a regulated solid waste disposal facility. The remaining B-1 slab area contains PCB concentrations > 50 ppm and will require disposal at a chemical waste landfill.

The eastern area (B-5) has been delineated to the north, east, and west based on observed sample concentrations (<25 ppm Industrial Cleanup Objectives). The southern boundary of the B-5 area was characterized as the former die casting wall, which was a load bearing wall with an underlying footer. All operations north of the die casting wall used PCB oils in manufacturing equipment. Operations south of the die casting wall were related to storage, bathrooms, aluminum die casting, and are not anticipated to result in impacts to the concrete surface. All observed impacts north of the die casting wall would be cut off from the south side of the wall by the subsurface footer.

On Thursday February 14, 2019 the bottom 1-inch of the aforementioned core samples were submitted to Alpha Analytical to determine PCB concentrations from the lower portion of the concrete slab. Analytical results revealed a concentration <25 ppm from location B-1. The bottom 1-inch of concrete core samples collected from locations B-5 and B-5-EO were <50 ppm and >50 ppm, respectively. Core sample results are summarized in Table 1; laboratory analytical results are provided in Appendix A.

Proposed PCB Remedial Cleanup Measures and Design

Concrete slab removal will be performed on the two identified areas of concern. Remedial boundaries have been established for areas B-1 and B-5 and are depicted on Figures 2 and 3, respectively. Area B-5 requires immediate action based on anticipated development activities involving the installation of solar panels starting in the vicinity of the eastern slab area. Area B-1 remediation will be completed subsequent to the B-5 area.

Concrete Removal:

Concrete dust/chip and core samples collected from the B-1 area range in concentration from 0.2 ppm to 3500 ppm. PCB concentrations for a portion of the B-1 area were found to be >25 ppm and < 50 ppm and shall be managed and disposed of at a state regulated municipal solid waste facility. The remaining B-1 slab area contains PCB concentrations >50 ppm and will require disposal at a chemical waste landfill. Concrete dust/chip and core samples collected from the B-5 area, range in concentration from 61 ppm to 10,000 ppm. Based on these concentrations (>50 ppm), the concrete slab within this area will be managed as PCB remediation waste and disposed of at a chemical waste disposal facility.

Removal of concrete from the B-1 and B-5 areas will be saw cut along the proposed delineated boundaries. All saw cutting activities will be performed with a wet saw to eliminate the generation of dust. The areas of contaminated concrete will be demolished using a hoe-ram attachment on an excavator to break the slab into manageable pieces of concrete. Water will be misted over the surface of the concrete during slab demolition to prevent the generation of dust or dust migration. An upwind and downwind particulate monitor will be established during demolition operations to monitor contractor dust mitigation effectiveness. An initial particulate background concentration will be recorded prior to the commencement of work each morning to establish a daily background level for comparison purposes.

The concrete rubble will be removed by the contractor for disposal at a permitted facility. PCB contaminated concrete rubble will be live loaded into trucks and disposed of at an approved disposal facility. No material stockpiling is anticipated during the course of the project. The selected contractor will be responsible for providing all manifests documenting disposal to the Owner.

The work area will be surrounded by a temporary fabric fencing barrier to delineate the work zone. Only authorized personnel will be allowed behind the temporary barrier.

Based on the PCB analytical results from the B-5 and B-5-E0 concrete core bottom samples, it is proposed to encapsulate the underlying soil from these areas with a new concrete replacement slab. This is consistent with the remedial containment approach used at other locations on-site (West Parking lot and 90-day hazardous waste storage area).

All equipment used in the demolition process will require decontamination prior to removal off-site. A decontamination pad will be constructed by the contractor for cleaning of contaminated equipment. All runoff from decontamination procedures will be captured. Decontamination water will be pumped from the decontamination pad into 55 gallon drums for disposal. The selected contractor will be responsible for collecting representative samples of the decontamination water and disposal in accordance with all local, state, and federal regulations. Manifests documenting disposal quantities will be provided to the Owner.

Upon project completion the contractor will be responsible for take down of the decontamination pad and disposal operations.

Please refer to the remedial drawings included in Appendix B, which further outline contractor procedures required for concrete removal and disposal.

Transportation:

Transportation of PCB contaminated material will be handled by a selected contractor containing a current NYSDEC Part 364 Waste Transporter Permit. Manifests will be prepared by the selected contractor, documenting transportation and disposal of PCB contaminated material from the site to the approved regulated landfill facility.

Disposal Facility:

PCB-contaminated media in excess of 50 ppm is considered a TSCA waste, and therefore will require disposal at a chemical waste landfill permitted by the EPA under section 3004 of RCRA, or by a State authorized landfill under section 3006 of RCRA, or a PCB disposal facility approved under 40 CFR 761. The Wayne Disposal facility is the closest chemical waste landfill with the ability to accept TSCA level PCB material at this time. Wayne Disposal Inc. is located in South Belleville, Michigan.

Remediation area B-1 contains a portion of concrete with PCB concentrations greater than 25 and less than 50 ppm. Since the levels are below hazardous waste levels, these areas of concrete will be segregated and disposed of separately at a permitted solid waste disposal facility capable of accepting non-TSCA regulated PCB materials.

Concrete Repair:

Following removal of PCB contaminated concrete, the selected contractor will be responsible to furnish all labor, materials and equipment for the installation and compaction of subbase material and reinforced cast-in-place concrete. Cold weather conditions will likely apply during the placement of concrete for the B-1 and B-5 replacement area and will require heated concrete, if temperatures are below 40°F. All portions of freshly poured concrete shall be continually maintained at a temperature of not less than 50°F for seven days. Specified temperature shall be maintained by heated enclosures, insulating blankets, or whatever approved methods are required to attain the specified results. Based on future use of the site, it is proposed that a Class D concrete with a 28 day compressive strength of 2,500 psi be installed.

Prior to placement of the concrete fill the selected contractor will be responsible for the temporary placement of poly sheeting over the remedial areas until the area has been prepared and ready to receive new concrete. The selected contractor will be responsible for the installation of a 2-inch layer of

granular fill over the existing ground surface. The granular fill will require compaction using a plate tamper to produce an acceptable subbase surface. Where the new concrete will meet the existing concrete, holes will be drilled into the existing concrete and steel dowels will be installed. The dowels will be greased on the end installed into the existing concrete to allow for movement. The dowels will be installed at the frequency outlined in the remedial design drawing provided in Appendix B. A 4-inch x 4-inch wire mesh will be tied into the steel doweling to provide stability of the replacement concrete pad. Steel mesh will be placed no deeper than 2-inches from the finished surface. Concrete will be poured to matching surrounding grade.

Schedule:

The remedial construction design has been provided as an appendix to this remedial work plan. Following the Department's review and approval of the remedial work plan and design, B&L will make arrangements with an environmental contractor to complete the referenced work. Completion of work for the B-1 and B-5 remediation is proposed to be completed in March 2019, to avoid interference with the solar panel installation process. It is estimated that the removal and replacement of concrete in the B-1 and B-5 area should take approximately 3 weeks to complete.

Should you have any questions regarding the presented remedial approach or design, please contact Bryce Dingman at (518)-300-0770 or myself at (315)-457-5200 to discuss.

Sincerely,

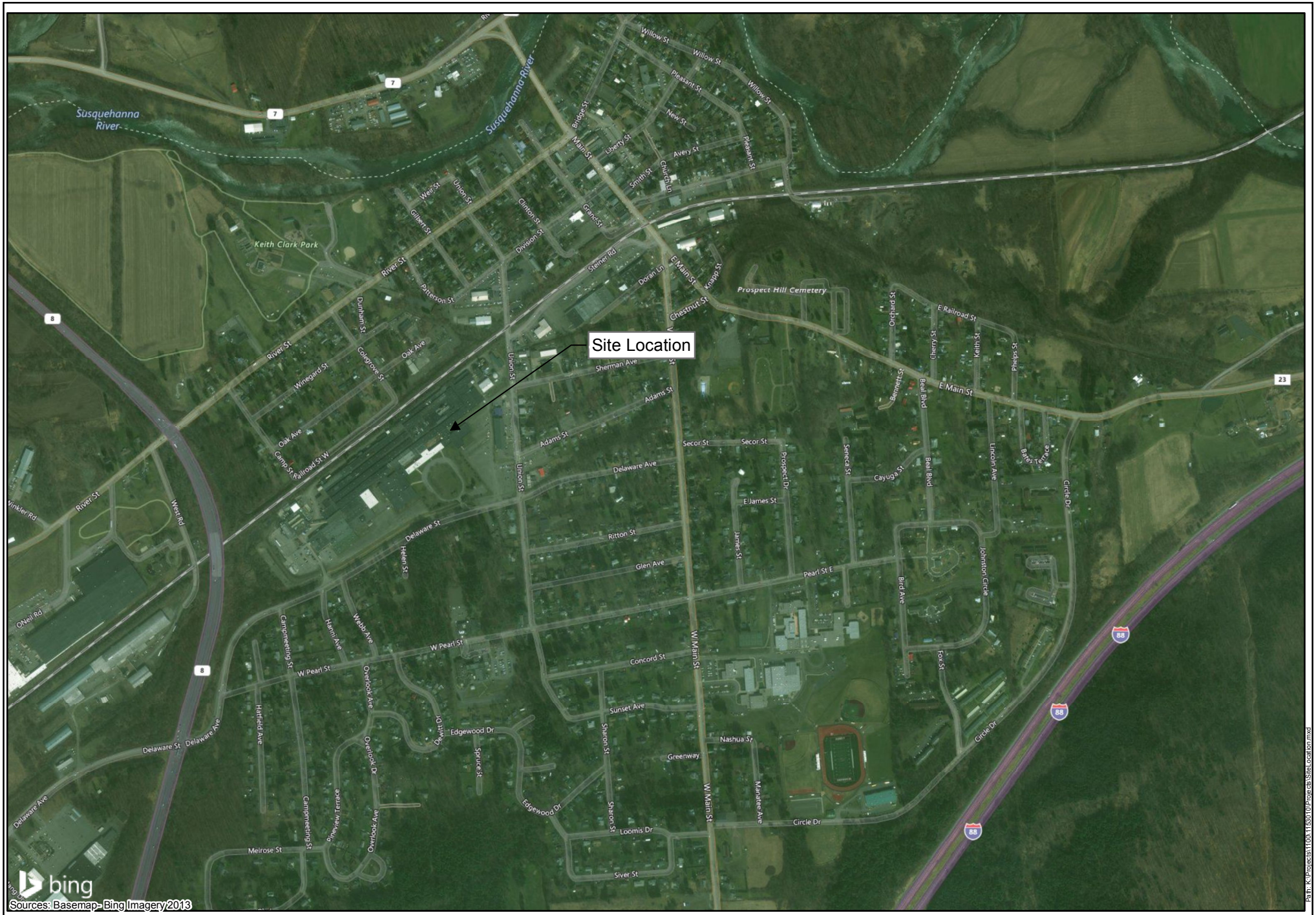
BARTON & LOGUIDICE, D.P.C.

Scott D. Nostrand, P.E.
Senior Vice President

Bryce D. Dingman, P.G.
Managing Hydrogeologist

SDN/BDD/akg
Attachments

Figures 1-3



Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 1,000 feet

Amphenol Aerospace

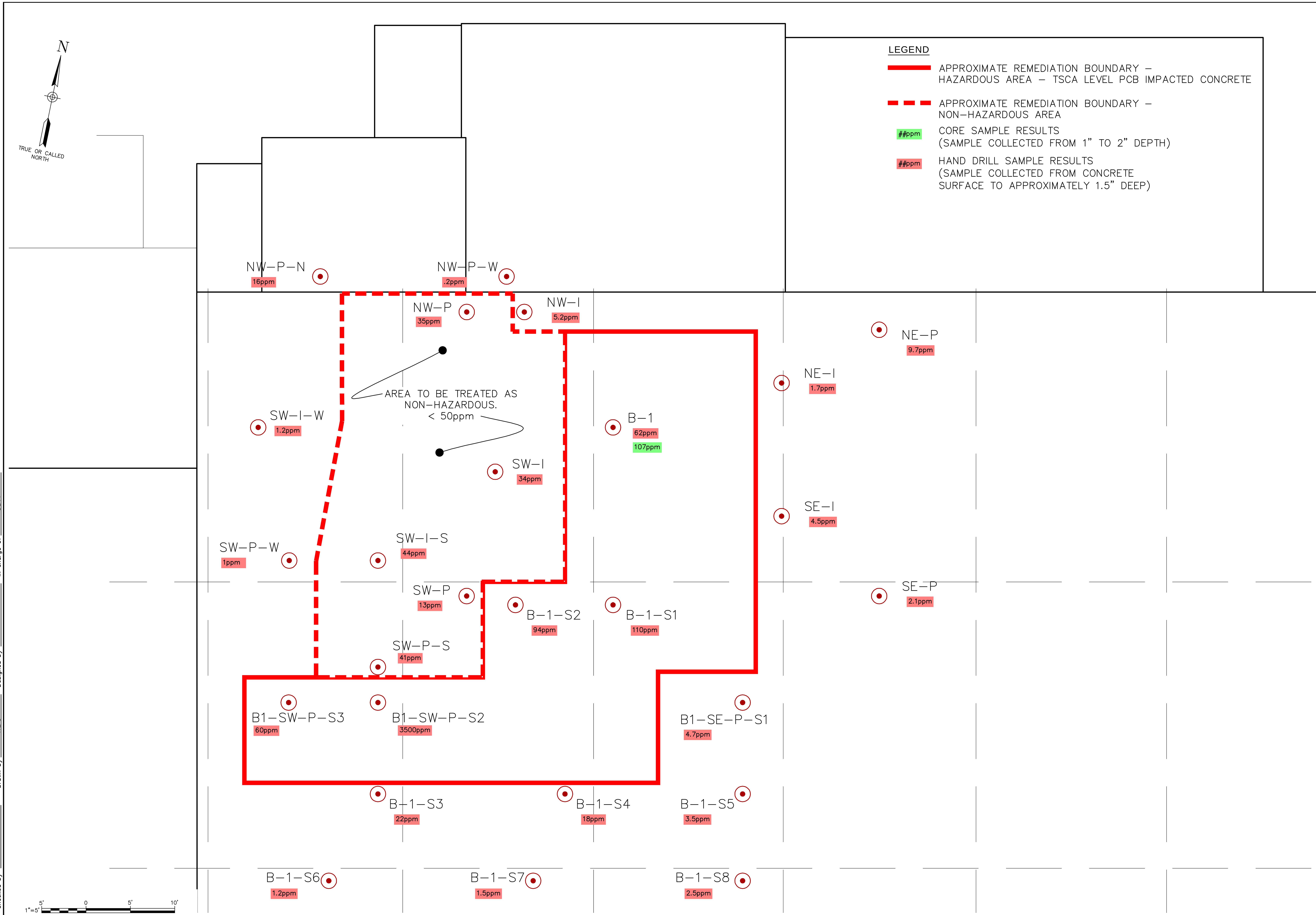
Site Location

Delaware County | December 2018 | New York

Figure 1

Project No. 1153.010

Path: K:\Projects\1100\1153010\Projects\SiteLocation.mxd



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION".

REVISIONS

AMPHENOL AEROSPACE
AMPHENOL-DEMOLITION WORK PLAN

AREA B-1 PCB SAMPLE LOCATIONS & RESULTS

TOWN OF SYDNEY DELAWARE COUNTY, NEW YORK

Barton & Loguidice

Date JANUARY 2019
Scale 1" = 5'
Sheet Number FIGURE 2
Project Number 1153.010.001

Plotted: Jan 28, 2019 - 8:09AM SYR By: WBG
C:\Users\wbg\appdata\local\temp\AcPublish_3816\1153.010.001_Sample Locations_NYSDEC SET (ID 1672518).dwg

Checked by ____ Drawn by WBG Designed by ____ In charge of SDN

LEGEND

APPROXIMATE REMEDIATION BOUNDARY – HAZARDOUS AREA – TSCA LEVEL PCB IMPACTED CONCRETE

##ppm CORE SAMPLE RESULTS (SAMPLE COLLECTED FROM 1" TO 2" DEPTH)

##ppm HAND DRILL SAMPLE RESULTS (SAMPLE COLLECTED FROM CONCRETE SURFACE TO APPROXIMATELY 1.5" DEEP)

N

TRUE OR CALLED NORTH

B-4 .6ppm

B-5-N2 7.3ppm

B-5-NE1 7.7ppm

B-5-NE2 10ppm

B-5-N1 88ppm

B-5-NE3 130ppm

B-5-W1 21ppm

B-5 1700ppm 5070ppm

B-5-E0 290ppm 214ppm

B-5-E2 1300ppm

B-5-E1 1.4ppm

B-5-SE-1 390ppm

B-5-SW-1 410ppm

B-5-S1 580ppm

B-5-S2 61ppm

B-5-SE2 10,000ppm

FORMER WALL LOCATION

10' 0 10' 20'
1"=10'

In charge of SDN

Designed by

Drawn by WBG

Checked by

Plotted: Jan 28, 2019 - 8:09AM By: WBG
C:\Users\wbg\appdata\local\temp\AcPublish_3816\1153.010.001_Sample Locations_NYSDEC SET (ID 1672518).dwg

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REVISIONS

AMPHENOL AEROSPACE
AMPHENOL-DEMOLITION WORK PLAN

AREA B-5 PCB SAMPLE LOCATIONS & RESULTS

TOWN OF SYDNEY DELAWARE COUNTY, NEW YORK

Barton & Loguidice

STATE OF NEW YORK SCOTT D. NOSTRAND LICENSED PROFESSIONAL ENGINEER No. 075492

Date JANUARY 2019

Scale 1" = 10'

Sheet Number FIGURE 3

Project Number 1153.010.001

Table 1 – PCB Results Summary

Table 1
PCB Results Summary

Account:	**Barton & Loguidice, D.P.C.**
Project:	**Amphenol - Concrete Slab Sampling**
Project Number:	**1153.010.001**
Analysis Method	**PCBs - EPA 8082**

		9/6/2018								
Client Sample ID:		B-1	B-2	B-3	B-4	--	--	--	--	--
Matrix:		chip/dust	chip/dust	chip/dust	chip/dust	--	--	--	--	--
DATE:		9/6/2018	9/6/2018	9/6/2018	9/6/2018	--	--	--	--	--
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1221	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1232	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1242	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1248	ug/kg	62000	1000	390	600	--	--	--	--	--
Aroclor 1254	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1260	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1262	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1268	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Total PCBs	ug/kg	**62000**	**1000**	**390**	**600**	--	--	--	--	--

		10/23/2018								
Client Sample ID:		(B-1) NW-P	(B-1) NE-P	(B-1) SE-P	(B-1) SW-P	(B-1) NW-I	(B-1) NE-I	(B-1) SE-I	(B-1) SW-1	B-5
Matrix:		chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust
DATE:		10/23/2018	10/23/2018	10/23/2018	10/23/2018	10/23/2018	10/23/2018	10/23/2018	10/23/2018	10/23/2018
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	ug/kg	35000	9700	2100	13000	5200	1700	4500	34000	1700000
Aroclor 1254	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1262	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1268	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	ug/kg	**35000**	**9700**	**2100**	**13000**	**5200**	**1700**	**4500**	**34000**	**1700000**

		11/5/2018								
Client Sample ID:		B-5 S1 DC	B-5 N1	B-5 W1	B-5 E1	B-5 S1	NW-P-N	NW-P-W	SW-I-W	SW-I-S
Matrix:		chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust
DATE:		11/5/2018	11/5/2018	11/5/2018	11/5/2018	11/5/2018	11/5/2018	11/5/2018	11/5/2018	11/5/2018
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	ug/kg	580000	88000	21000	1400	390000	16000	220	1200	44000
Aroclor 1254	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1262	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1268	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	ug/kg	**580000**	**88000**	**21000**	**1400**	**390000**	**16000**	**220**	**1200**	**44000**

		11/8/2018								
Client Sample ID:		SW-P-S	SW-P-W	B-5 S2	B-5 N2	B-5 EO	--	--	--	--
Matrix:		chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	--	--	--	--
DATE:		11/8/2018	11/8/2018	11/8/2018	11/8/2018	11/8/2018	--	--	--	--
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1221	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1232	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1242	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1248	ug/kg	41000	1000	61000	7300	290000	--	--	--	--
Aroclor 1254	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1260	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1262	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Aroclor 1268	ug/kg	ND	ND	ND	ND	ND	--	--	--	--
Total PCBs	ug/kg	**41000**	**1000**	**61000**	**7300**	**290000**	--	--	--	--

Notes
Exceedance of NYSDEC Commercial Cleanup Restrictions (25 ppm) highlighted in yellow.
ND - Analyte was not detected

Table 1
PCB Results Summary

Account:	**Barton & Loguidice, D.P.C.**
Project:	**Amphenol - Concrete Slab Sampling**
Project Number:	**1153.010.001**
Analysis Method	**PCBs - EPA 8082**

		12/3/2018								
Client Sample ID:		B-5 1-2"	B-5-EO 1-2"	B-1 1-2"	B-5-SW-1	B-5-SE-1	B-5-SE-2	B-5-E-2	B-5-NE-1	B-5-NE-2
Matrix:		core	core	core	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust
DATE:		12/3/2018	12/4/2018	12/5/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	ug/kg	5070000	214000	107000	410000	390000	10000000	1300000	7700	10000
Aroclor 1254	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1262	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1268	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	ug/kg	**5070000**	**214000**	**107000**	**410000**	**390000**	**10000000**	**1300000**	**7700**	**10000**

		12/3/2018								
Client Sample ID:		B-5-NE-3	B-1-S-1	B-1-S-2	B1-SW-PS2	--	--	--	--	--
Matrix:		chip/dust	chip/dust	chip/dust	chip/dust	--	--	--	--	--
DATE:		12/3/2018	12/3/2018	12/3/2018	12/3/2018	--	--	--	--	--
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1221	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1232	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1242	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1248	ug/kg	130000	110000	94000	3500000	--	--	--	--	--
Aroclor 1254	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1260	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1262	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Aroclor 1268	ug/kg	ND	ND	ND	ND	--	--	--	--	--
Total PCBs	ug/kg	**130000**	**110000**	**94000**	**3500000**					--

		12/18/2018								
Client Sample ID:		B1-SW-P-S3	B1-SE-P-S1	B-1-S3	B-1-S4	B-1-S5	B-1-S6	B-1-S7	B-1-S8	--
Matrix:		chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	chip/dust	--
DATE:		12/18/2018	12/18/2018	12/18/2018	12/18/2018	12/18/2018	12/18/2018	12/18/2018	12/18/2018	--
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1221	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1232	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1242	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1248	ug/kg	60000	4700	22000	18000	3500	1200	1500	2500	--
Aroclor 1254	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1260	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1262	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Aroclor 1268	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	--
Total PCBs	ug/kg	**60000**	**4700**	**22000**	**18000**	**3500**	**1200**	**1500**	**2500**	--

		2/17/2019								
Client Sample ID:		B-5 5-6"	B-5-EO 4-5"	B-1 4-5"	--	--	--	--	--	--
Matrix:		core	core	core	--	--	--	--	--	--
DATE:		2/17/2019	2/17/2019	2/17/2019	--	--	--	--	--	--
Analyte	Units	Results								
Aroclor 1016	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1221	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1232	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1242	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1248	ug/kg	37000	1060000	16500	--	--	--	--	--	--
Aroclor 1254	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1260	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1262	ug/kg	ND	ND	ND	--	--	--	--	--	--
Aroclor 1268	ug/kg	ND	ND	ND	--	--	--	--	--	--
Total PCBs	ug/kg	**37000**	**1060000**	**16500**	--	--	--	--	--	--

Notes
Exceedance of NYSDEC Commercial Cleanup Restrictions (25 ppm) highlighted in yellow.
ND - Analyte was not detected

Appendix A

Laboratory Analytical Results

Experience is the solution
314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

September 17, 2018

Matt Stodel
Barton & Loguidice, P.C.
443 Electronics Parkway
Liverpool, NY 13088

TEL: (315) 457-5200

Work Order No: 180907088
PO#: 1153.010.001

RE: Concrete Slab Sampling
Amphenol

Dear Matt Stodel:

Adirondack Environmental Services, Inc received 6 samples on 9/7/2018 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Krzysztof Trafalski
Laboratory Manager

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Barton & Loguidice, P.C.	**Date:**	*17-Sep-18*
Project:	Concrete Slab Sampling		
Lab Order:	180907088		

Sample containers were not supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

- ND : Not Detected at reporting limit
- J: Analyte detected below quantitation limit
- B: Analyte detected in Blank
- X : Exceeds maximum contamination limit
- H: Hold time exceeded
- N: Matrix Spike below acceptable limits
- N+: Matrix Spike is above acceptable limits
- C: CCV below acceptable Limits
- C+: CCV above acceptable Limits
- S: LCS Spike recovery is below acceptable limits
- S+: LCS Spike recovery is above acceptable limits
- Z: Duplication outside acceptable limits
- T : Tentatively Identified Compound-Estimated
- E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *17-Sep-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **180907088**
PO#: 1153.010.001

Lab SampleID: 180907088-001 **Collection Date:** 9/6/2018
Client Sample ID: W-1 **Matrix:** WIPE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3650 - 9/10/2018**)						Analyst: **KF**
PCB, Total	**21.8**	5.0		µg/100cm2	5	9/11/2018 2:13:01 PM
Surr: Decachlorobiphenyl	**60.0**	52.3-151		%REC	5	9/11/2018 2:13:01 PM

Lab SampleID: 180907088-002 **Collection Date:** 9/6/2018
Client Sample ID: W-4 **Matrix:** WIPE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3650 - 9/10/2018**)						Analyst: **KF**
PCB, Total	**13.0**	5.0		µg/100cm2	5	9/11/2018 2:26:45 PM
Surr: Decachlorobiphenyl	**55.0**	52.3-151		%REC	5	9/11/2018 2:26:45 PM

Lab SampleID: 180907088-003 **Collection Date:** 9/6/2018
Client Sample ID: B-1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 9/10/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1221	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1232	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1242	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1248	**62000**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1254	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1260	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1262	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Aroclor 1268	**ND**	3300		µg/Kg	100	9/10/2018 4:36:04 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	100	9/10/2018 4:36:04 PM

Adirondack Environmental Services, Inc

Date: *17-Sep-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **180907088**
PO#: 1153.010.001

Lab SampleID: 180907088-004 **Collection Date:** 9/6/2018
Client Sample ID: B-2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 9/10/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1221	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1232	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1242	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1248	**1000**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1254	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1260	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1262	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Aroclor 1268	**ND**	330		µg/Kg	10	9/10/2018 4:49:44 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	10	9/10/2018 4:49:44 PM

Lab SampleID: 180907088-005 **Collection Date:** 9/6/2018
Client Sample ID: B-3 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 9/10/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1221	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1232	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1242	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1248	**390**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1254	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1260	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1262	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Aroclor 1268	**ND**	330		µg/Kg	10	9/10/2018 5:03:26 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	10	9/10/2018 5:03:26 PM

Adirondack Environmental Services, Inc

Date: *17-Sep-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **180907088**
PO#: 1153.010.001

Lab SampleID: 180907088-006 **Collection Date:** 9/6/2018
Client Sample ID: B-4 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 9/10/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1221	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1232	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1242	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1248	**600**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1254	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1260	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1262	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Aroclor 1268	**ND**	330		µg/Kg	10	9/10/2018 5:17:04 PM
Surr: Decachlorobiphenyl	**100**	48.1-152		%REC	10	9/10/2018 5:17:04 PM

Adirondack Environmental Services Inc
314 North Pearl Street
Albany, NY 12207
518-434-4546 / 518-434-0891 FAX

EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 18907088

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Barton & Loguidice	Address: 443 Electronics Parkway , Liverpool, NY 13088	
Send Report to: mstrodel@bartonandloguidice.com, snostrand@bartonandloguidice.com	Project Name (Location): Amphenol Concrete Slab Sampling	Samplers Name: Matt Strodel
Client Phone #: 315-457-5200	Client PO #: 1153.010.001	Samplers Signature:
Client Email: mstrodel@bartonandloguidice.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm		Sample Type Matrix	C	G	Number of Cont's	Analysis
001	W-1	9/6/2018	9:50	AP	Wipe		X	1	PCBs - 8082-3540C
002	W-4	9/6/2018	11:24	AP	Wipe		X	1	PCBs - 8082-3540C
				AP					
003	B-1	9/6/2018	10:00	AP	Solid		X	1	PCBs - EPA 8082
004	B-2	9/6/2018	10:33	AP	Solid		X	1	PCBs - EPA 8082
005	B-3	9/6/2018	11:10	AP	Solid		X	1	PCBs - EPA 8082
006	B-4	9/6/2018	11:30	AP	Solid		X	1	PCBs - EPA 8082
				AP					
				AP					
				AP					
				AP					
				AP					
				AP					
				AP					
				AP					
				AP					

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

Turnaround Time Requested:
1 Day 3 Day **Normal**
2 Day 5 Day
NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks: B-4 Limited sample volume
Sample containers were not supplied by AES J.M. 9/7/18

Relinquished by: (Signature) 09/06/18 15:3	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by:	Date	Time
		9/7/18	9:40

Sample Temperature	Properly Preserved	Received Within Holding Times
Ambient Chilled	Y N	Y N

Notes:_____ Notes:_____

Demo
180907088

Adirondack Environmental Services Inc.
Experience is the solution
314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

Experience is the solution
314 North Pearl Street ♦ Albany, New York 12207
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October 29, 2018

M. Strodel
Barton & Loguidice
10 Airline Drive
Albany, NY 12205

TEL: (518) 218-1801

Work Order No: 181025010

RE: Concrete Slab Sampling
Amphenol

Dear M. Strodel:

Adirondack Environmental Services, Inc received 10 samples on 10/25/2018 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Tara Daniels
Laboratory Director

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Barton & Loguidice	**Date:**	*29-Oct-18*
Project:	Concrete Slab Sampling		
Lab Order:	181025010		

Sample containers were not supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

- ND : Not Detected at reporting limit
- J: Analyte detected below quantitation limit
- B: Analyte detected in Blank
- X : Exceeds maximum contamination limit
- H: Hold time exceeded
- N: Matrix Spike below acceptable limits
- N+: Matrix Spike is above acceptable limits
- C: CCV below acceptable Limits
- C+: CCV above acceptable Limits
- S: LCS Spike recovery is below acceptable limits
- S+: LCS Spike recovery is above acceptable limits
- Z: Duplication outside acceptable limits
- T : Tentatively Identified Compound-Estimated
- E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *29-Oct-18*

CLIENT: Barton & Loguidice
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181025010**
PO#:

Lab SampleID: 181025010-001 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) NW-P **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 10/25/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1221	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1232	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1242	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1248	**35000**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1254	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1260	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1262	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Aroclor 1268	**ND**	670		µg/Kg-dry	20	10/25/2018 9:33:16 PM
Surr: Decachlorobiphenyl	**40.0**	48.1-152	S	%REC	20	10/25/2018 9:33:16 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**1.9**	0.1		wt%	1	10/26/2018

Lab SampleID: 181025010-002 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) NE-P **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 10/25/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1221	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1232	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1242	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1248	**9700**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1254	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1260	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1262	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Aroclor 1268	**ND**	660		µg/Kg-dry	20	10/25/2018 3:18:34 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 3:18:34 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**0.5**	0.1		wt%	1	10/26/2018

CLIENT: Barton & Loguidice
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181025010**
PO#:

Lab SampleID: 181025010-003 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) SE-P **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 10/25/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1221	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1232	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1242	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1248	**2100**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1254	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1260	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1262	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Aroclor 1268	**ND**	660		µg/Kg-dry	20	10/25/2018 3:31:45 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 3:31:45 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**0.5**	0.1		wt%	1	10/26/2018

Lab SampleID: 181025010-004 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) SW-P **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 10/25/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1221	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1232	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1242	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1248	**13000**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1254	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1260	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1262	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Aroclor 1268	**ND**	660		µg/Kg-dry	20	10/25/2018 3:44:57 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 3:44:57 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**0.4**	0.1		wt%	1	10/26/2018

CLIENT: Barton & Loguidice
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181025010**
PO#:

Lab SampleID: 181025010-005 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) NW-I **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 10/25/2018)						Analyst: **KF**
Aroclor 1016	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1221	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1232	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1242	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1248	**5200**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1254	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1260	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1262	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Aroclor 1268	**ND**	660		µg/Kg-dry	20	10/25/2018 3:58:13 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 3:58:13 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**0.4**	0.1		wt%	1	10/26/2018

Lab SampleID: 181025010-006 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) NE-I **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 10/25/2018)						Analyst: **KF**
Aroclor 1016	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1221	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1232	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1242	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1248	**1700**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1254	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1260	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1262	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Aroclor 1268	**ND**	680		µg/Kg-dry	20	10/25/2018 4:11:27 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 4:11:27 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.7**	0.1		wt%	1	10/26/2018

Lab SampleID: 181025010-007 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) SE-I **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 10/25/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1221	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1232	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1242	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1248	**4500**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1254	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1260	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1262	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Aroclor 1268	**ND**	680		µg/Kg-dry	20	10/25/2018 6:42:34 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 6:42:34 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.6**	0.1		wt%	1	10/26/2018

Lab SampleID: 181025010-008 **Collection Date:** 10/23/2018
Client Sample ID: (B-1) SW-I **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 10/25/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1221	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1232	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1242	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1248	**34000**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1254	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1260	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1262	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Aroclor 1268	**ND**	670		µg/Kg-dry	20	10/25/2018 6:55:45 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 6:55:45 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**1.9**	0.1		wt%	1	10/26/2018

Adirondack Environmental Services, Inc

Date: *29-Oct-18*

CLIENT: Barton & Loguidice
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181025010**
PO#:

Lab SampleID: 181025010-009 **Collection Date:** 10/23/2018
Client Sample ID: B-5 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 10/25/2018)						Analyst: **KF**
Aroclor 1016	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1221	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1232	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1242	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1248	**1700000**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1254	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1260	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1262	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Aroclor 1268	**ND**	35000		µg/Kg-dry	1000	10/25/2018 9:19:54 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	1000	10/25/2018 9:19:54 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**6.2**	0.1		wt%	1	10/26/2018

Lab SampleID: 181025010-010 **Collection Date:** 10/23/2018
Client Sample ID: B-1 DUPE **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 10/25/2018)						Analyst: **KF**
Aroclor 1016	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1221	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1232	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1242	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1248	**33000**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1254	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1260	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1262	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Aroclor 1268	**ND**	670		µg/Kg-dry	20	10/25/2018 7:22:19 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	10/25/2018 7:22:19 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**1.6**	0.1		wt%	1	10/26/2018

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Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order # 181025010

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Barton & Loguidice	**Address:** 443 Electronics Pkwy Liverpool NY 13088	
Send Report To: mstrodel@bartonandloguidice.com, sostrand "	**Project Name (Location)** Amphenol concrete slab sampling	**Samplers: (Names)** Dan Vandam
Client Phone No: 315-457-5200 / **Client Email:** ↓	**PO Number:** 1153.010.001	**Samplers: (Signature)** Dan Vandam

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	A/P	Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	(B-1) NW-P	10/23/18	1000	A	Solid		✓	1	PCBs - EPA 8082
002	(B-1) NE-P	↓	1020	A	↓		✓	↓	↓
003	(B-1) SE-P		1035	A			✓		
004	(B-1) SW-P		1055	A			✓		
005	(B-1) NW-I		1115	A			✓		
006	(B-1) NE-I		1135	A			✓		
007	(B-1) SE-I		12	P			✓		
008	(B-1) SW-I		1215	P			✓		
009	B-5	↓	135	P	↓		✓	↓	↓
010	B-1 dupe	↓	1240	P	↓		✓	↓	↓
				A/P					
				A/P					
				A/P					
				A/P					

Shipment Arrived Via: FedEx **UPS** (circled) Client AES Other:______

Turnaround Time Request: ☐ 1 Day ☐ 3 Day ☐ Normal ☒ 2 Day ☒ 5 Day (circled)

CC Report To / Special Instructions/Remarks:
All the B-1's are associated with B-1 (previous sample) but do not have "B-1" written on the label

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Dan Vandam		
Relinquished by: (Signature)	**Received by: (Signature)**	**Date/Time**
Relinquished by: (Signature)	**Received for Laboratory by:** [signature]	**Date/Time** 10/25/18 11:1? AM

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient (circled) or Chilled	Y ☐ N ☒	**Y** (circled) N	**Y** (circled) N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services,

Demo
181025010

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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

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November 06, 2018

M. Strodel
Barton & Loguidice, P.C.
443 Electronics Parkway
Liverpool, NY 13088

TEL: (315) 457-5200

Work Order No: 181105047

RE: Concrete Slab Sampling
Amphenol

Dear M. Strodel:

Adirondack Environmental Services, Inc received 9 samples on 11/5/2018 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Krzysztof Trafalski
Laboratory Manager

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Barton & Loguidice, P.C.	**Date:**	*06-Nov-18*
Project:	Concrete Slab Sampling		
Lab Order:	181105047		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

- ND : Not Detected at reporting limit
- J: Analyte detected below quantitation limit
- B: Analyte detected in Blank
- X : Exceeds maximum contamination limit
- H: Hold time exceeded
- N: Matrix Spike below acceptable limits
- N+: Matrix Spike is above acceptable limits
- C: CCV below acceptable Limits
- C+: CCV above acceptable Limits
- S: LCS Spike recovery is below acceptable limits
- S+: LCS Spike recovery is above acceptable limits
- Z: Duplication outside acceptable limits
- T : Tentatively Identified Compound-Estimated
- E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *06-Nov-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181105047**
PO#:

Lab SampleID: 181105047-001 **Collection Date:** 11/5/2018
Client Sample ID: B-5 S1 DC **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 11/5/2018)						Analyst: **KF**
Aroclor 1016	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1221	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1232	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1242	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1248	**580000**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1254	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1260	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1262	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Aroclor 1268	**ND**	35000		µg/Kg-dry	1000	11/5/2018 5:39:33 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	1000	11/5/2018 5:39:33 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**5.4**	0.1		wt%	1	11/5/2018

Lab SampleID: 181105047-002 **Collection Date:** 11/5/2018
Client Sample ID: B-5 N1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 11/5/2018)						Analyst: **KF**
Aroclor 1016	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1221	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1232	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1242	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1248	**88000**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1254	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1260	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1262	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Aroclor 1268	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:08:54 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	100	11/5/2018 7:08:54 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**5.1**	0.1		wt%	1	11/5/2018

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181105047**
PO#:

Lab SampleID: 181105047-003 **Collection Date:** 11/5/2018
Client Sample ID: B-5 W1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 11/5/2018)						Analyst: **KF**
Aroclor 1016	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1221	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1232	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1242	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1248	**21000**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1254	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1260	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1262	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Aroclor 1268	**ND**	740		µg/Kg-dry	20	11/5/2018 6:15:23 PM
Surr: Decachlorobiphenyl	**80.0**	48.1-152		%REC	20	11/5/2018 6:15:23 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**10.8**	0.1		wt%	1	11/5/2018

Lab SampleID: 181105047-004 **Collection Date:** 11/5/2018
Client Sample ID: B-5 E1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 11/5/2018)						Analyst: **KF**
Aroclor 1016	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1221	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1232	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1242	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1248	**1400**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1254	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1260	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1262	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Aroclor 1268	**ND**	370		µg/Kg-dry	10	11/5/2018 5:26:11 PM
Surr: Decachlorobiphenyl	**120**	48.1-152		%REC	10	11/5/2018 5:26:11 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**11.2**	0.1		wt%	1	11/5/2018

Adirondack Environmental Services, Inc

Date: *06-Nov-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181105047**
PO#:

Lab SampleID: 181105047-005 **Collection Date:** 11/5/2018
Client Sample ID: B-5 S1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 11/5/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1221	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1232	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1242	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1248	**390000**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1254	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1260	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1262	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Aroclor 1268	**ND**	36000		µg/Kg-dry	1000	11/5/2018 7:22:17 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	1000	11/5/2018 7:22:17 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**9.6**	0.1		wt%	1	11/5/2018

Lab SampleID: 181105047-006 **Collection Date:** 11/5/2018
Client Sample ID: NW-P-N **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 11/5/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1221	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1232	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1242	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1248	**16000**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1254	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1260	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1262	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Aroclor 1268	**ND**	360		µg/Kg-dry	10	11/5/2018 6:42:08 PM
Surr: Decachlorobiphenyl	**60.0**	48.1-152		%REC	10	11/5/2018 6:42:08 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**7.8**	0.1		wt%	1	11/5/2018

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181105047**
PO#:

Lab SampleID: 181105047-007 **Collection Date:** 11/5/2018
Client Sample ID: NW-P-W **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 11/5/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1221	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1232	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1242	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1248	**220**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1254	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1260	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1262	**ND**	35		µg/Kg-dry	1	11/5/2018
Aroclor 1268	**ND**	35		µg/Kg-dry	1	11/5/2018
Surr: Decachlorobiphenyl	**56.0**	48.1-152		%REC	1	11/5/2018
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**7.0**	0.1		wt%	1	11/5/2018

Lab SampleID: 181105047-008 **Collection Date:** 11/5/2018
Client Sample ID: SW-I-W **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 11/5/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1221	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1232	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1242	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1248	**1200**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1254	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1260	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1262	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Aroclor 1268	**ND**	350		µg/Kg-dry	10	11/5/2018 6:55:31 PM
Surr: Decachlorobiphenyl	**60.0**	48.1-152		%REC	10	11/5/2018 6:55:31 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**6.6**	0.1		wt%	1	11/5/2018

Adirondack Environmental Services, Inc

Date: *06-Nov-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181105047**
PO#:

Lab SampleID: 181105047-009 **Collection Date:** 11/5/2018
Client Sample ID: SW-I-S **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 11/5/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1221	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1232	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1242	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1248	**44000**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1254	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1260	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1262	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Aroclor 1268	**ND**	3500		µg/Kg-dry	100	11/5/2018 7:48:59 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	100	11/5/2018 7:48:59 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**5.9**	0.1		wt%	1	11/5/2018

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314 North Pearl Street
Albany, New York 12207
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CHAIN OF CUSTODY RECORD

AES Work Order # 181105047

Client Name:	Address:		
Barton & Loguidice	443 electronics Pkwy Liverpool NY 13088		
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**	
Scott Nostrand	Amphenol slab	Dan Vandam	
Client Phone No:	**Client Email:**	**PO Number:**	**Samplers: (Signature)**
315 457 5200	snostrand@bartonandloguidice.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	B-5 S1 DC	11/5/18	900	A				1	PCBs
002	B-5 N1		930	A				1	PCBs
003	B-5 W1		1000	A				1	
004	B-5 E1		1230	P				1	
005	B-5 S1		1300	A				1	
006	NW-P-N		1350	A				1	
007	NW-P-W		1350	A				1	
008	SW-I-W		1400	A				1	
009	SW-I-S		1405	A				1	
				A					
				A					
				A					
				A					
				A					

Shipment Arrived Via:
FedEx UPS Client (AES) Other:_____

CC Report To / Special Instructions/Remarks:

Turnaround Time Request:
☒ 1 Day ☐ 3 Day ☐ Normal
☐ 2 Day ☐ 5 Day
Note: Samples received after 3:30 pm are considered next business day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Dan Vandam		11/5/18 2:20
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time
	Kaitlin Nazarko	11/5/18 4:13 pm

Temperature	AES Bottles		Properly Preserved	Received Within Holding Times
Ambient or Chilled	Y	N	(Y) N	(Y) N
Notes:	☒	☐	Notes:	

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services,

181105047

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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

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November 12, 2018

M. Strodel
Barton & Loguidice, P.C.
443 Electronics Parkway
Liverpool, NY 13088

TEL: (315) 457-5200

Work Order No: 181109007

RE: Concrete Slab Sampling
Amphenol

Dear M. Strodel:

Adirondack Environmental Services, Inc received 5 samples on 11/9/2018 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Krzysztof Trafalski
Laboratory Manager

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Barton & Loguidice, P.C.	**Date:**	*12-Nov-18*
Project:	Concrete Slab Sampling		
Lab Order:	181109007		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

- ND : Not Detected at reporting limit
- J: Analyte detected below quantitation limit
- B: Analyte detected in Blank
- X : Exceeds maximum contamination limit
- H: Hold time exceeded
- N: Matrix Spike below acceptable limits
- N+: Matrix Spike is above acceptable limits
- C: CCV below acceptable Limits
- C+: CCV above acceptable Limits
- S: LCS Spike recovery is below acceptable limits
- S+: LCS Spike recovery is above acceptable limits
- Z: Duplication outside acceptable limits
- T : Tentatively Identified Compound-Estimated
- E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *12-Nov-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181109007**
PO#:

Lab SampleID: 181109007-001 **Collection Date:** 11/8/2018
Client Sample ID: SW-P-S **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 11/9/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1221	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1232	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1242	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1248	**41000**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1254	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1260	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1262	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Aroclor 1268	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:12:41 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	100	11/9/2018 5:12:41 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.7**	0.1		wt%	1	11/9/2018

Lab SampleID: 181109007-002 **Collection Date:** 11/8/2018
Client Sample ID: SW-P-W **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 11/9/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1221	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1232	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1242	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1248	**1000**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1254	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1260	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1262	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Aroclor 1268	**ND**	340		µg/Kg-dry	10	11/9/2018 3:25:51 PM
Surr: Decachlorobiphenyl	**60.0**	48.1-152		%REC	10	11/9/2018 3:25:51 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**1.8**	0.1		wt%	1	11/9/2018

Adirondack Environmental Services, Inc

Date: *12-Nov-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181109007**
PO#:

Lab SampleID: 181109007-003 **Collection Date:** 11/8/2018
Client Sample ID: B-5 S2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 11/9/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1221	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1232	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1242	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1248	**61000**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1254	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1260	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1262	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Aroclor 1268	**ND**	3400		µg/Kg-dry	100	11/9/2018 5:26:01 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	100	11/9/2018 5:26:01 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.7**	0.1		wt%	1	11/9/2018

Lab SampleID: 181109007-004 **Collection Date:** 11/8/2018
Client Sample ID: B-5 N2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 11/9/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1221	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1232	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1242	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1248	**7300**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1254	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1260	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1262	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Aroclor 1268	**ND**	350		µg/Kg-dry	10	11/9/2018 3:52:26 PM
Surr: Decachlorobiphenyl	**60.0**	48.1-152		%REC	10	11/9/2018 3:52:26 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**5.2**	0.1		wt%	1	11/9/2018

Adirondack Environmental Services, Inc

Date: *12-Nov-18*

CLIENT: Barton & Loguidice, P.C.
Project: Concrete Slab Sampling
Amphenol

LabWork Order: **181109007**
PO#:

Lab SampleID: 181109007-005 **Collection Date:** 11/8/2018
Client Sample ID: B-5 EO **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 11/9/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1221	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1232	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1242	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1248	**290000**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1254	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1260	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1262	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Aroclor 1268	**ND**	17000		µg/Kg-dry	500	11/9/2018 5:39:21 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	500	11/9/2018 5:39:21 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**3.8**	0.1		wt%	1	11/9/2018

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CHAIN OF CUSTODY RECORD

AES Work Order # 181109007

Client Name:	Address:	
Barton & Loguidice	443 Electronics Pkwy Liverpool NY 13088	
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**
Scott Nostrand	Amphenol slab	Dan Vandam
Client Phone No:	**Client Email:**	**PO Number:**
315 457 5200	snostrand@bartonandloguidice.com	**Samplers: (Signature)**

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	SW-P-S	11/8/18	1:00	A (P)	S		X	1	PCBs
002	SW-P-W		1:30	A (P)	S		X	1	PCBs
003	B-5 S2		2:00	A (P)	S		X	1	PCBs
004	B-5 N2		2:45	A (P)	S		X	1	PCBs
005	B-5 EO		3:30	A (P)	S		X	1	PCBs
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					

Shipment Arrived Via:
(FedEx) UPS Client AES Other:_____

Turnaround Time Request:
☒ 1 Day ☐ 3 Day ☐ Normal
☐ 2 Day ☐ 5 Day
Note: Samples received after 3:30 pm are considered next business day

CC Report To / Special Instructions/Remarks:

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Dan Vandam		
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time
	Kaitlin Nazarko	11/9/18 8:58am

Temperature	AES Bottles		Properly Preserved	Received Within Holding Times
(Ambient) or Chilled	Y ☐	N ☐	(Y) N	(Y) N
Notes:			Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services

181109007

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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

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December 05, 2018

Matthew Strodel
Barton & Loguidice, P.C.
443 Electronics Parkway
Liverpool, NY 13088

TEL: (315) 457-5200

Work Order No: 181204003

RE: Amphenol

Dear Matthew Strodel:

Adirondack Environmental Services, Inc received 10 samples on 12/4/2018 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Tara Daniels
Laboratory Director

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Barton & Loguidice, P.C.	**Date:**	*05-Dec-18*
Project:	Amphenol		
Lab Order:	181204003		

Sample containers were not supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:		
	ND : Not Detected at reporting limit	C: CCV below acceptable Limits
	J: Analyte detected below quantitation limit	C+: CCV above acceptable Limits
	B: Analyte detected in Blank	S: LCS Spike recovery is below acceptable limits
	X : Exceeds maximum contamination limit	S+: LCS Spike recovery is above acceptable limits
	H: Hold time exceeded	Z: Duplication outside acceptable limits
	N: Matrix Spike below acceptable limits	T : Tentatively Identified Compound-Estimated
	N+: Matrix Spike is above acceptable limits	E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *05-Dec-18*

CLIENT: Barton & Loguidice, P.C.
Project: Amphenol

LabWork Order: **181204003**
PO#:

Lab SampleID: 181204003-001 **Collection Date:** 12/3/2018
Client Sample ID: B-5-SW-1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1221	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1232	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1242	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1248	**410000**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1254	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1260	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1262	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Aroclor 1268	**ND**	14000		µg/Kg-dry	400	12/4/2018 3:18:28 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	400	12/4/2018 3:18:28 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**4.0**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-002 **Collection Date:** 12/3/2018
Client Sample ID: B-5-SE-1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1221	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1232	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1242	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1248	**390000**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1254	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1260	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1262	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Aroclor 1268	**ND**	13000		µg/Kg-dry	400	12/4/2018 6:35:26 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	400	12/4/2018 6:35:26 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**3.4**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-003 **Collection Date:** 12/3/2018
Client Sample ID: B-5-SE-2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1221	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1232	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1242	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1248	**10000000**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1254	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1260	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1262	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Aroclor 1268	**ND**	350000		µg/Kg-dry	10000	12/4/2018 6:48:49 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	10000	12/4/2018 6:48:49 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**5.8**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-004 **Collection Date:** 12/3/2018
Client Sample ID: B-5-E-2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1221	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1232	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1242	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1248	**1300000**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1254	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1260	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1262	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Aroclor 1268	**ND**	34000		µg/Kg-dry	1000	12/4/2018 7:02:10 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	1000	12/4/2018 7:02:10 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.6**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-005 **Collection Date:** 12/3/2018
Client Sample ID: B-5-NE-1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 12/4/2018)						Analyst: **KF**
Aroclor 1016	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1221	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1232	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1242	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1248	**7700**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1254	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1260	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1262	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Aroclor 1268	**ND**	690		µg/Kg-dry	20	12/4/2018 4:24:59 PM
Surr: Decachlorobiphenyl	**120**	48.1-152		%REC	20	12/4/2018 4:24:59 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**4.7**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-006 **Collection Date:** 12/3/2018
Client Sample ID: B-5-NE-2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 12/4/2018)						Analyst: **KF**
Aroclor 1016	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1221	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1232	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1242	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1248	**10000**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1254	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1260	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1262	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Aroclor 1268	**ND**	690		µg/Kg-dry	20	12/4/2018 4:38:23 PM
Surr: Decachlorobiphenyl	**120**	48.1-152		%REC	20	12/4/2018 4:38:23 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**4.0**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-007 **Collection Date:** 12/3/2018
Client Sample ID: B-5-NE-3 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1221	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1232	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1242	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1248	**130000**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1254	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1260	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1262	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Aroclor 1268	**ND**	6800		µg/Kg-dry	200	12/4/2018 4:51:44 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	200	12/4/2018 4:51:44 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.7**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-008 **Collection Date:** 12/3/2018
Client Sample ID: B-1-S-1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1221	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1232	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1242	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1248	**110000**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1254	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1260	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1262	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Aroclor 1268	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:05:06 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	200	12/4/2018 5:05:06 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**1.8**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-009 **Collection Date:** 12/3/2018
Client Sample ID: B-1-S-2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1221	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1232	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1242	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1248	**94000**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1254	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1260	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1262	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Aroclor 1268	**ND**	6700		µg/Kg-dry	200	12/4/2018 5:28:27 PM
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	200	12/4/2018 5:28:27 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**1.6**	0.1		wt%	1	12/4/2018

Lab SampleID: 181204003-010 **Collection Date:** 12/3/2018
Client Sample ID: B-1-SW-P-S-2 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (**Prep: SW3545A - 12/4/2018**)						Analyst: **KF**
Aroclor 1016	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1221	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1232	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1242	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1248	**3500000**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1254	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1260	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1262	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Aroclor 1268	**ND**	340000		µg/Kg-dry	10000	12/4/2018
Surr: Decachlorobiphenyl	**0**	48.1-152	S	%REC	10000	12/4/2018
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**2.3**	0.1		wt%	1	12/4/2018

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Albany, New York 12207
518-434-4546/434-0891 FAX

A full service analytical research laboratory offering solutions to environmental concerns

CHAIN OF CUSTODY RECORD

AES Work Order # 181204003

Client Name: B+L	Address: 443 Electronics Pkwy, Liverpool, NY 13088	
Send Report To: Scott Nostrand, Matthew Stradel	Project Name (Location): Amphenol	Samplers: (Names) Matthew Stradel
Client Phone No: 315-457-5200 / Client Email: SNostrand@, MStradel@ Barton and Loguidice.com	PO Number: 1153.00.001	Samplers: (Signature) [signature]

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	B-5-SW-1	12/3/18	11:50 A	Solid	X		1	PCBs
002	B-5-SE-1	↓	12:12 P	↓	↓		↓	↓
003	B-5-SE-2		12:10 P					
004	B-5-E-2		12:20 P					
005	B-5-NE-1		12:45 P					
006	B-5-NE-2		12:35 P					
007	B-5-NE-3		12:24 P					
008	B-1-5-1		13:25 P					
009	B-1-5-2		13:22 P					
010	B-1-SW-P-5-2	↓	13:35 P	↓	↓		↓	↓
			A P					
			A P					
			A P					
			A P					

Shipment Arrived Via: (FedEx) UPS Client AES Other:________

CC Report To / Special Instructions/Remarks: Please also report to Jim Mickam @ jmickam@jtmllc.com

Turnaround Time Request:
- ☐ 1 Day ☐ 3 Day ☐ Normal
- ☒ 2 Day ☐ 5 Day

Note: Samples received after 3:30 pm are considered next business day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]		12/3/18 17:00
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by: [signature]	Date/Time 12/4/18 8:33 Am

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or (Chilled) Notes: 12°C	Y ☐ N ☒	(Y) N Notes:	(Y) N

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services

181204003

Adirondack Environmental Services Inc.
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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

ANALYTICAL REPORT

Lab Number:	L1849352
Client:	Barton & Loguidice, P.C 443 Electronics Pkwy Liverpool, NY 13088
ATTN:	Matthew Strodel
Phone:	(716) 352-2102
Project Name:	AMPHENOLL
Project Number:	1153.010.001
Report Date:	12/05/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1849352-01	B-5 0-1"	SOLID	SIDNEY, NY	12/03/18 11:03	12/03/18
L1849352-02	B-5 0-1-2"	SOLID	SIDNEY, NY	12/03/18 11:05	12/03/18
L1849352-03	B-5 2-3"	SOLID	SIDNEY, NY	12/03/18 11:07	12/03/18
L1849352-04	B-5-E0 0-1"	SOLID	SIDNEY, NY	12/03/18 11:28	12/03/18
L1849352-05	B-5-E0 1-2"	SOLID	SIDNEY, NY	12/03/18 11:30	12/03/18
L1849352-06	B-5-E0 2-3"	SOLID	SIDNEY, NY	12/03/18 11:32	12/03/18
L1849352-07	B-1 0-1"	SOLID	SIDNEY, NY	12/03/18 11:57	12/03/18
L1849352-08	B-1 1-2"	SOLID	SIDNEY, NY	12/03/18 11:59	12/03/18
L1849352-09	B-1 2-3"	SOLID	SIDNEY, NY	12/03/18 12:01	12/03/18

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	AMPHENOLL	**Lab Number:**	L1849352
Project Number:	1153.010.001	**Report Date:**	12/05/18

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1849352-02, -05, and -08: The sample was received in an inappropriate container for the PCBs analysis.

PCBs

L1849352-02, -05, and -08: The surrogate recoveries are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (0%) and decachlorobiphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/05/18

ORGANICS

PCBS

Project Name: AMPHENOLL
Project Number: 1153.010.001
Lab Number: L1849352
Report Date: 12/05/18

SAMPLE RESULTS

Lab ID: L1849352-02 D
Client ID: B-5 0-1-2"
Sample Location: SIDNEY, NY

Date Collected: 12/03/18 11:05
Date Received: 12/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 12/05/18 16:31
Analyst: AWS
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 12/04/18 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 12/05/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/05/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	472000	41900	5000	A
Aroclor 1221	ND		ug/kg	472000	47200	5000	A
Aroclor 1232	ND		ug/kg	472000	100000	5000	A
Aroclor 1242	ND		ug/kg	472000	63600	5000	A
Aroclor 1248	5070000		ug/kg	472000	70700	5000	B
Aroclor 1254	ND		ug/kg	472000	51600	5000	A
Aroclor 1260	ND		ug/kg	472000	87100	5000	A
Aroclor 1262	ND		ug/kg	472000	59900	5000	A
Aroclor 1268	ND		ug/kg	472000	48800	5000	A
PCBs, Total	5070000		ug/kg	472000	41900	5000	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B

Project Name: AMPHENOLL
Project Number: 1153.010.001
Lab Number: L1849352
Report Date: 12/05/18

SAMPLE RESULTS

Lab ID: L1849352-05 D
Client ID: B-5-E0 1-2"
Sample Location: SIDNEY, NY

Date Collected: 12/03/18 11:30
Date Received: 12/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 12/05/18 15:50
Analyst: AWS
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 12/04/18 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 12/05/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/05/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	50300	4460	500	A
Aroclor 1221	ND		ug/kg	50300	5040	500	A
Aroclor 1232	ND		ug/kg	50300	10600	500	A
Aroclor 1242	ND		ug/kg	50300	6780	500	A
Aroclor 1248	214000		ug/kg	50300	7540	500	B
Aroclor 1254	ND		ug/kg	50300	5500	500	A
Aroclor 1260	ND		ug/kg	50300	9290	500	A
Aroclor 1262	ND		ug/kg	50300	6380	500	A
Aroclor 1268	ND		ug/kg	50300	5210	500	A
PCBs, Total	214000		ug/kg	50300	4460	500	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B

Project Name: AMPHENOLL
Project Number: 1153.010.001
Lab Number: L1849352
Report Date: 12/05/18

SAMPLE RESULTS

Lab ID: L1849352-08 D
Client ID: B-1 1-2"
Sample Location: SIDNEY, NY

Date Collected: 12/03/18 11:59
Date Received: 12/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 12/05/18 16:19
Analyst: AWS
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 12/04/18 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 12/05/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/05/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	24100	2140	250	A
Aroclor 1221	ND		ug/kg	24100	2420	250	A
Aroclor 1232	ND		ug/kg	24100	5110	250	A
Aroclor 1242	ND		ug/kg	24100	3250	250	A
Aroclor 1248	107000		ug/kg	24100	3620	250	B
Aroclor 1254	ND		ug/kg	24100	2640	250	A
Aroclor 1260	ND		ug/kg	24100	4460	250	A
Aroclor 1262	ND		ug/kg	24100	3060	250	A
Aroclor 1268	ND		ug/kg	24100	2500	250	A
PCBs, Total	107000		ug/kg	24100	2140	250	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 12/05/18 14:02
Analyst: AWS

Extraction Method: EPA 3540C
Extraction Date: 12/04/18 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 12/05/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/05/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 02,05,08 Batch: WG1185256-1						
Aroclor 1016	ND		ug/kg	97.6	8.67	A
Aroclor 1221	ND		ug/kg	97.6	9.78	A
Aroclor 1232	ND		ug/kg	97.6	20.7	A
Aroclor 1242	ND		ug/kg	97.6	13.2	A
Aroclor 1248	ND		ug/kg	97.6	14.6	A
Aroclor 1254	ND		ug/kg	97.6	10.7	A
Aroclor 1260	ND		ug/kg	97.6	18.0	A
Aroclor 1262	ND		ug/kg	97.6	12.4	A
Aroclor 1268	ND		ug/kg	97.6	10.1	A
PCBs, Total	ND		ug/kg	97.6	8.67	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	79		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	80		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: AMPHENOLL

Project Number: 1153.010.001

Lab Number: L1849352

Report Date: 12/05/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 02,05,08 Batch: WG1185256-2 WG1185256-3									
Aroclor 1016	83		77		40-140	8		50	A
Aroclor 1260	83		76		40-140	9		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	95		88		30-150	A
Decachlorobiphenyl	77		71		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		85		30-150	B
Decachlorobiphenyl	80		74		30-150	B

INORGANICS
&
MISCELLANEOUS

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

SAMPLE RESULTS

Lab ID: L1849352-02
Client ID: B-5 0-1-2"
Sample Location: SIDNEY, NY

Date Collected: 12/03/18 11:05
Date Received: 12/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Solid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	12/04/18 10:36	121,2540G	RI

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

SAMPLE RESULTS

Lab ID: L1849352-05
Client ID: B-5-E0 1-2"
Sample Location: SIDNEY, NY

Date Collected: 12/03/18 11:30
Date Received: 12/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Solid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.8		%	0.100	NA	1	-	12/04/18 10:36	121,2540G	RI

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

SAMPLE RESULTS

Lab ID: L1849352-08
Client ID: B-1 1-2"
Sample Location: SIDNEY, NY

Date Collected: 12/03/18 11:59
Date Received: 12/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Solid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.3		%	0.100	NA	1	-	12/04/18 10:36	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: AMPHENOLL

Project Number: 1153.010.001

Lab Number: L1849352

Report Date: 12/05/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02,05,08 QC Batch ID: WG1185370-1 QC Sample: L1848879-02 Client ID: DUP Sample						
Solids, Total	85.6	80.2	%	7		20

Project Name: AMPHENOLL
Project Number: 1153.010.001

Lab Number: L1849352
Report Date: 12/05/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1849352-01A	Bag	A	NA		2.0	Y	Absent		HOLD-8082()
L1849352-02A	Bag	A	NA		2.0	Y	Absent		TS(7),NYTCL-8082-CNCRT(14)
L1849352-03A	Bag	A	NA		2.0	Y	Absent		HOLD-8082()
L1849352-04A	Bag	A	NA		2.0	Y	Absent		HOLD-8082()
L1849352-05A	Bag	A	NA		2.0	Y	Absent		TS(7),NYTCL-8082-CNCRT(14)
L1849352-06A	Bag	A	NA		2.0	Y	Absent		HOLD-8082()
L1849352-07A	Bag	A	NA		2.0	Y	Absent		HOLD-8082()
L1849352-08A	Bag	A	NA		2.0	Y	Absent		TS(7),NYTCL-8082-CNCRT(14)
L1849352-09A	Bag	A	NA		2.0	Y	Absent		HOLD-8082()

*Values in parentheses indicate holding time in days

Project Name:	AMPHENOLL	**Lab Number:**	L1849352
Project Number:	1153.010.001	**Report Date:**	12/05/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Project Name:	AMPHENOLL	**Lab Number:**	L1849352
Project Number:	1153.010.001	**Report Date:**	12/05/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	AMPHENOLL	**Lab Number:**	L1849352
Project Number:	1153.010.001	**Report Date:**	12/05/18

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/4/18

ALPHA Job #: L1849352

Client Information

Client: Barton & Loguidice
Address: 443 Electronics Pkwy
Liverpool, NY 13088
Phone: 315-457-5200
Fax:
Email: mstrodel@bartonandloguidice.co

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Amphenoll
Project Location: Sidney, NY
Project #: 1153.010.001
Project Manager: Matthew Strodel
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)

Due Date: 12/06/18 Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Data Deliverables

Billing Information

☒ Same as Client info PO #: 1153.010.0

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

ANALYSIS

PCBs

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☒ Lab to do
(Please specify below)
Pulverize to analyze

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCBs	TOTAL # BOTTLES
49352 -01	B-5 0-1"	12/03/18	11:03	Solid	MPS	☐	1
-02	B-5 1-2"	12/03/18	11:05	Solid	Solid	☒	1
-03	B-5 2-3"	12/03/18	11:07	Solid	Solid	☐	1
-04	B-5-E0 0-1"	12/03/18	11:28	Solid	Solid	☐	1
-05	B-5-E0 1-2"	12/03/18	11:30	Solid	Solid	☒	1
-06	B-5-E0 2-3"	12/03/18	11:32	Solid	Solid	☐	1
-07	B-1 0-1"	12/03/18	11:57	Solid	Solid	☐	1
-08	B-1 1-2"	12/03/18	11:59	Solid	Solid	☒	1
-09	B-1 2-3"	12/03/18	12:01	Solid	Solid	☐	1
						☐	

Container Type
Preservative

* Please only run 1-2" samples + retain others for analysis following receipt of analytical results *

Relinquished By:	Date/Time	Received By:	Date/Time
	12/4/18 17:30	Robyn Wells	12/3/18 20:00
			12/4/18 01:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

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314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

January 02, 2019

Matthew Strodel
Barton & Loguidice, P.C.
443 Electronics Parkway
Liverpool, NY 13088

TEL: (315) 457-5200

Work Order No: 181218069

RE: Amphenol Slab Sampling
PCB Analysis

Dear Matthew Strodel:

Adirondack Environmental Services, Inc received 8 samples on 12/18/2018 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Krzysztof Trafalski
Laboratory Manager

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Barton & Loguidice, P.C.	**Date:**	*02-Jan-19*
Project:	Amphenol Slab Sampling		
Lab Order:	181218069		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:	ND : Not Detected at reporting limit	C: CCV below acceptable Limits
	J: Analyte detected below quantitation limit	C+: CCV above acceptable Limits
	B: Analyte detected in Blank	S: LCS Spike recovery is below acceptable limits
	X : Exceeds maximum contamination limit	S+: LCS Spike recovery is above acceptable limits
	H: Hold time exceeded	Z: Duplication outside acceptable limits
	N: Matrix Spike below acceptable limits	T : Tentatively Identified Compound-Estimated
	N+: Matrix Spike is above acceptable limits	E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *02-Jan-19*

CLIENT: Barton & Loguidice, P.C.
Project: Amphenol Slab Sampling
PCB Analysis

LabWork Order: **181218069**
PO#:

Lab SampleID: 181218069-001 **Collection Date:** 12/18/2018
Client Sample ID: B1-SW-P-S3 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 12/19/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1221	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1232	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1242	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1248	**60000**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1254	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1260	**ND**	3600	S	µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1262	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Aroclor 1268	**ND**	3600		µg/Kg-dry	100	12/19/2018 4:07:43 PM
Surr: Decachlorobiphenyl	**100**	48.1-152		%REC	100	12/19/2018 4:07:43 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**7.8**	0.1		wt%	1	12/28/2018

Lab SampleID: 181218069-002 **Collection Date:** 12/18/2018
Client Sample ID: B1-SE-P-S1 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 12/19/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1221	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1232	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1242	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1248	**4700**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1254	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1260	**ND**	360	S	µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1262	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Aroclor 1268	**ND**	360		µg/Kg-dry	10	12/19/2018 5:13:04 PM
Surr: Decachlorobiphenyl	**76.0**	48.1-152		%REC	10	12/19/2018 5:13:04 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**7.3**	0.1		wt%	1	12/28/2018

Adirondack Environmental Services, Inc

Date: *02-Jan-19*

CLIENT: Barton & Loguidice, P.C.
Project: Amphenol Slab Sampling
PCB Analysis

LabWork Order: **181218069**
PO#:

Lab SampleID: 181218069-003 **Collection Date:** 12/18/2018
Client Sample ID: B-1-S3 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 12/19/2018)						Analyst: **KF**
Aroclor 1016	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1221	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1232	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1242	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1248	**22000**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1254	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1260	**ND**	3500	S	µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1262	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Aroclor 1268	**ND**	3500		µg/Kg-dry	100	12/19/2018 4:46:54 PM
Surr: Decachlorobiphenyl	**120**	48.1-152		%REC	100	12/19/2018 4:46:54 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**5.0**	0.1		wt%	1	12/28/2018

Lab SampleID: 181218069-004 **Collection Date:** 12/18/2018
Client Sample ID: B-1-S4 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A (Prep: SW3545A - 12/19/2018)						Analyst: **KF**
Aroclor 1016	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1221	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1232	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1242	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1248	**18000**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1254	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1260	**ND**	370	S	µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1262	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Aroclor 1268	**ND**	370		µg/Kg-dry	10	12/19/2018 4:59:59 PM
Surr: Decachlorobiphenyl	**72.0**	48.1-152		%REC	10	12/19/2018 4:59:59 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**11.0**	0.1		wt%	1	12/28/2018

Adirondack Environmental Services, Inc

Date: *02-Jan-19*

CLIENT: Barton & Loguidice, P.C.
Project: Amphenol Slab Sampling
PCB Analysis

LabWork Order: **181218069**
PO#:

Lab SampleID: 181218069-005 **Collection Date:** 12/18/2018
Client Sample ID: B-1-S5 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 12/19/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1221	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1232	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1242	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1248	**3500**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1254	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1260	**ND**	400	S	µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1262	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Aroclor 1268	**ND**	400		µg/Kg-dry	10	12/19/2018 5:47:38 PM
Surr: Decachlorobiphenyl	**60.0**	48.1-152		%REC	10	12/19/2018 5:47:38 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**16.7**	0.1		wt%	1	12/28/2018

Lab SampleID: 181218069-006 **Collection Date:** 12/18/2018
Client Sample ID: B-1-S6 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 12/19/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1221	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1232	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1242	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1248	**1200**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1254	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1260	**ND**	360	S	µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1262	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Aroclor 1268	**ND**	360		µg/Kg-dry	10	12/19/2018 6:36:01 PM
Surr: Decachlorobiphenyl	**96.0**	48.1-152		%REC	10	12/19/2018 6:36:01 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**7.8**	0.1		wt%	1	12/28/2018

Adirondack Environmental Services, Inc

Date: *02-Jan-19*

CLIENT: Barton & Loguidice, P.C.
Project: Amphenol Slab Sampling
PCB Analysis

LabWork Order: **181218069**
PO#:

Lab SampleID: 181218069-007 **Collection Date:** 12/18/2018
Client Sample ID: B-1-S7 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 12/19/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1221	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1232	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1242	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1248	**1500**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1254	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1260	**ND**	340	S	µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1262	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Aroclor 1268	**ND**	340		µg/Kg-dry	10	12/19/2018 6:49:04 PM
Surr: Decachlorobiphenyl	**52.0**	48.1-152		%REC	10	12/19/2018 6:49:04 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**3.3**	0.1		wt%	1	12/28/2018

Lab SampleID: 181218069-008 **Collection Date:** 12/18/2018
Client Sample ID: B-1-S8 **Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS - EPA 8082A **(Prep: SW3545A - 12/19/2018)**						Analyst: **KF**
Aroclor 1016	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1221	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1232	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1242	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1248	**2500**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1254	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1260	**ND**	340	S	µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1262	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Aroclor 1268	**ND**	340		µg/Kg-dry	10	12/20/2018 3:36:07 PM
Surr: Decachlorobiphenyl	**56.0**	48.1-152		%REC	10	12/20/2018 3:36:07 PM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**4.1**	0.1		wt%	1	12/28/2018

Adirondack Environmental Services Inc.

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Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order # 181218069

A full service analytical research laboratory offering solutions to environmental concerns

Client Name:	Address:	
Barton + Loguidice	443 Electronics Pkwy, Liverpool, NY 13088	
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**
Matt Strodel / Scott Nostrand	Amphenol Slab Sampling	Matt Strodel, Jack Williams
Client Phone No:	**Client Email:**	**PO Number:**
315-457-5200	MStrodel@BartonandLoguidice.com; SNostrand@BartonandLoguidice.com	1153.010.001
		Samplers: (Signature)

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	B1-SW-P-53	12/18/18	9:44 A	Soil	—		1	PCBs
002	B1-SE-P-51		12:10 P					
003	B-1-53		10:46 A					
004	B-1-54		11:12 A					
005	B-1-55		11:30 A					
006	B-1-56		11:15 A					
007	B-1-57		11:35 A					
008	B-1-58		12:13 P					

Shipment Arrived Via:
FedEx UPS Client (AES) Other:_____

CC Report To / Special Instructions/Remarks:
Please "CC" results to
Jim Mickam - jmickam@jtmllc.com

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day
Note: Samples received after 3:30 pm are considered next business day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time 12/18/18
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time 12/15/18 4:54

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or (Chilled)	Y ☒ N ☐	(Y) N	(Y) N
Notes: 4°C		Notes:	

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Service

Demo
181218069

Adirondack Environmental Services Inc.
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314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

www.alphalab.com

Alpha Analytical

Laboratory Code: 11148

SDG Number: L1906025

Table of Contents

Project Name: AMPHENOL CONCRETE
Project Number: 1153.010.001

Lab Number: L1906025
Report Date: 02/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1906025-01	B-1 4-5"	SOLID	SIDNEY, NY	02/14/19 10:15	02/14/19
L1906025-02	B-5 5-6"	SOLID	SIDNEY, NY	02/14/19 10:30	02/14/19
L1906025-03	B-5-EO 4-5"	SOLID	SIDNEY, NY	02/14/19 10:45	02/14/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1906025-01, -02, and -03: The sample was received in an inappropriate container for the PCB analysis.

PCBs

L1906025-01, -02, and -03: The surrogate recoveries are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (0%) and decachlorobiphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom Report Date: 02/18/19

Title: Technical Director/Representative

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total'

Report Format: DU Report with 'J' Qualifiers

result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L1906025

Account Name : Barton & Loguidice, P.C
Project Number : 1153.010.001
Project Name : AMPHENOL CONCRETE

Received : 14-FEB-2019
Reviewer : Wendy Morency

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	4.4	

Condition Information

1) All samples on COC received? **YES**

2) Extra samples received? **NO**

3) Are there any sample container discrepancies? **YES**
L1906025-01A (NYTCL-8082-CNCRT) was received in inappropriate container.
L1906025-02A (NYTCL-8082-CNCRT) was received in inappropriate container.
L1906025-03A (NYTCL-8082-CNCRT) was received in inappropriate container.

4) Are there any discrepancies between sample labels & COC? **NO**

5) Are samples in appropriate containers for requested analysis? **NO**
Please refer to information noted in Question 3 above.

6) Are samples properly preserved for requested analysis? **YES**

7) Are samples within holding time for requested analysis? **YES**

8) All sampling equipment returned? **NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client? **NA**

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Feb 18 2019, 12:40 pm

Login Number: L1906025
Account: BARTON2 Barton & Loguidice, P.CProject: 1153.010.001
Received: 14FEB19 Due Date: 18FEB19

Sample #	Client ID	Mat	PR	Collected
L1906025-01	B-1 4-5"	4	1B	14FEB19 10:15
| ASP-A Package Due Date: 02/18/19				
ASP-A,NYTCL-8082-CNCRT,SIZEREDUX,TS				
L1906025-02	B-5 5-6"	4	1B	14FEB19 10:30
| Package Due Date: 02/18/19				
NYTCL-8082-CNCRT,SIZEREDUX,TS				
L1906025-03	B-5-EO 4-5"	4	1B	14FEB19 10:45
| Package Due Date: 02/18/19				
NYTCL-8082-CNCRT,SIZEREDUX,TS				

Logged By: Candace Fox

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Page 1 of 1

Date Rec'd in Lab: 2/14/19

ALPHA Job #: L1906025

Project Information

Project Name: Amphenol Concrete
Project Location: Sidney, NY
Project # 1153.010.001
(Use Project name as Project #) ☐
Project Manager: Matthew Strobel
ALPHAQuote #:

Turn-Around Time

Standard ☐ Due Date: Monday 02/18/19
Rush (only if pre approved) ☑ # of Days: 2

Client Information

Client: B+L
Address: 443 Electronics Pkwy, Liverpool NY 13088
Phone: 315 457 5200
Fax:
Email: MStrobel@bartonandloguidice.com

Deliverables

☑ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☑ Same as Client Info
PO # 1153.010.001

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS: PCBs

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCBs	Sample Specific Comments	Total Bottles
06025 -01	B-1 4-5"	02/13/19	10:15	Concrete		✓	Lab to pulverize samples for analysis	1
~~06025~~ -02	B-5 5-6"	↓	10:30	↓		✓		1
-03	B-5-EO 4-5"	↓	10:45	↓		✓		1

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type: O
Preservative: A

Relinquished By:	Date/Time	Received By: AAL	Date/Time
[signature]	2/14/19 13:50	[signature]	2/14/19 1540
[signature]	2/14/19 1540	Wendy Moreno	2/14/19 01:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Organics

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

Aroclor Sample Data

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-01D	**Date Collected**	: 02/14/19 10:15
Client ID	: B-1 4-5"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/17/19 18:33
Sample Matrix	: SOLID	**Date Extracted**	: 02/15/19
Analytical Method	: 1,8082A	**Dilution Factor**	: 20
Lab File ID	: 19190217a-07	**Analyst**	: HT
Sample Amount	: 5.74 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 97
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	1800	160.	U
11104-28-2	Aroclor 1221	ND	1800	180.	U
11141-16-5	Aroclor 1232	ND	1800	382.	U
53469-21-9	Aroclor 1242	ND	1800	243.	U
11097-69-1	Aroclor 1254	ND	1800	197.	U
11096-82-5	Aroclor 1260	ND	1800	332.	U
37324-23-5	Aroclor 1262	ND	1800	228.	U
11100-14-4	Aroclor 1268	ND	1800	186.	U

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-01D	**Date Collected**	: 02/14/19 10:15
Client ID	: B-1 4-5"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/17/19 18:33
Sample Matrix	: SOLID	**Date Extracted**	: 02/15/19
Analytical Method	: 1,8082A	**Dilution Factor**	: 20
Lab File ID	: 19190217a-07	**Analyst**	: HT
Sample Amount	: 5.74 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 97
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12672-29-6	Aroclor 1248	16500	1800	270.	
1336-36-3	PCBs, Total	16500	1800	160.	

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-02D	**Date Collected**	: 02/14/19 10:30
Client ID	: B-5 5-6"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/17/19 18:45
Sample Matrix	: SOLID	**Date Extracted**	: 02/15/19
Analytical Method	: 1,8082A	**Dilution Factor**	: 50
Lab File ID	: 19190217a-08	**Analyst**	: HT
Sample Amount	: 5.45 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	5040	448.	U
11104-28-2	Aroclor 1221	ND	5040	505.	U
11141-16-5	Aroclor 1232	ND	5040	1070	U
53469-21-9	Aroclor 1242	ND	5040	680.	U
11097-69-1	Aroclor 1254	ND	5040	551.	U
11096-82-5	Aroclor 1260	ND	5040	932.	U
37324-23-5	Aroclor 1262	ND	5040	640.	U
11100-14-4	Aroclor 1268	ND	5040	522.	U

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-02D	**Date Collected**	: 02/14/19 10:30
Client ID	: B-5 5-6"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/17/19 18:45
Sample Matrix	: SOLID	**Date Extracted**	: 02/15/19
Analytical Method	: 1,8082A	**Dilution Factor**	: 50
Lab File ID	: 19190217a-08	**Analyst**	: HT
Sample Amount	: 5.45 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12672-29-6	Aroclor 1248	37000	5040	756.	
1336-36-3	PCBs, Total	37000	5040	448.	

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-03D	**Date Collected**	: 02/14/19 10:45
Client ID	: B-5-EO 4-5"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/17/19 20:52
Sample Matrix	: SOLID	**Date Extracted**	: 02/15/19
Analytical Method	: 1,8082A	**Dilution Factor**	: 1000
Lab File ID	: 19190217a-11	**Analyst**	: HT
Sample Amount	: 5.63 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 96
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	92600	8220	U
11104-28-2	Aroclor 1221	ND	92600	9280	U
11141-16-5	Aroclor 1232	ND	92600	19600	U
53469-21-9	Aroclor 1242	ND	92600	12500	U
11097-69-1	Aroclor 1254	ND	92600	10100	U
11096-82-5	Aroclor 1260	ND	92600	17100	U
37324-23-5	Aroclor 1262	ND	92600	11800	U
11100-14-4	Aroclor 1268	ND	92600	9590	U
1336-36-3	PCBs, Total	1060000	92600	8220	

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-03D	**Date Collected**	: 02/14/19 10:45
Client ID	: B-5-EO 4-5"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/17/19 20:52
Sample Matrix	: SOLID	**Date Extracted**	: 02/15/19
Analytical Method	: 1,8082A	**Dilution Factor**	: 1000
Lab File ID	: 19190217a-11	**Analyst**	: HT
Sample Amount	: 5.63 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 96
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12672-29-6	Aroclor 1248	1060000	92600	13900	

Form 1
GC Organics

Client	: Barton & Loguidice, P.C	Lab Number	: L1906025
Project Name	: AMPHENOL CONCRETE	Project Number	: 1153.010.001
Lab ID	: WG1206964-1	Date Collected	: NA
Client ID	: WG1206964-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 02/17/19 17:31
Sample Matrix	: SOLID	Date Extracted	: 02/15/19
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 19190217a-02	Analyst	: HT
Sample Amount	: 5.91 g	Instrument ID	: PEST19
Extraction Method	: EPA 3540C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: NA
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
12674-11-2	Aroclor 1016	ND	84.6	7.51	U
11104-28-2	Aroclor 1221	ND	84.6	8.48	U
11141-16-5	Aroclor 1232	ND	84.6	17.9	U
53469-21-9	Aroclor 1242	ND	84.6	11.4	U
12672-29-6	Aroclor 1248	ND	84.6	12.7	U
11097-69-1	Aroclor 1254	ND	84.6	9.26	U
11096-82-5	Aroclor 1260	ND	84.6	15.6	U
37324-23-5	Aroclor 1262	ND	84.6	10.7	U
11100-14-4	Aroclor 1268	ND	84.6	8.76	U
1336-36-3	PCBs, Total	ND	84.6	7.51	U

Wet Chemistry

Total Solids / Percent Moisture Analysis

Results

Form 1
WETCHEM

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-01	**Date Collected**	: 02/14/19 10:15
Client ID	: B-1 4-5"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/15/19 10:34
Sample Matrix	: SOLID	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1207064.pdf	**Instrument ID**	: BALANCE#47
Sample Amount	:	**%Solids**	: 97
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**96.8**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-02	**Date Collected**	: 02/14/19 10:30
Client ID	: B-5 5-6"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/15/19 10:34
Sample Matrix	: SOLID	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1207064.pdf	**Instrument ID**	: BALANCE#47
Sample Amount	:	**%Solids**	: 91
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**91.0**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: L1906025-03	**Date Collected**	: 02/14/19 10:45
Client ID	: B-5-EO 4-5"	**Date Received**	: 02/14/19
Sample Location	: SIDNEY, NY	**Date Analyzed**	: 02/15/19 10:34
Sample Matrix	: SOLID	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1207064.pdf	**Instrument ID**	: BALANCE#47
Sample Amount	:	**%Solids**	: 96
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**95.9**	**0.100**	**NA**	

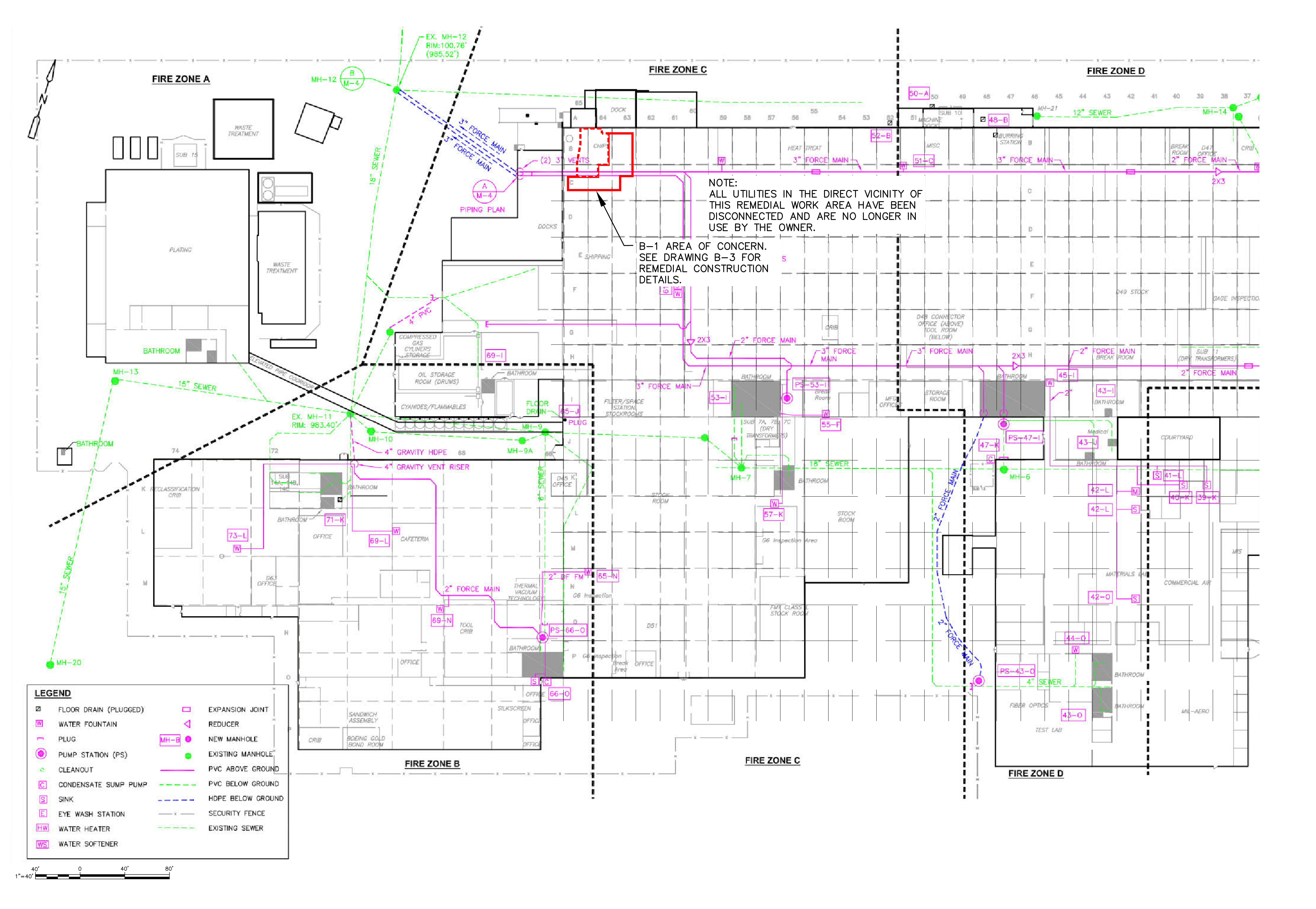
Form 1
WETCHEM

Client	: Barton & Loguidice, P.C	**Lab Number**	: L1906025
Project Name	: AMPHENOL CONCRETE	**Project Number**	: 1153.010.001
Lab ID	: WG1207064-1	**Date Collected**	: 02/14/19 00:00
Client ID	: WG1207064-1 DUP	**Date Received**	: 02/14/19
Sample Location	:	**Date Analyzed**	: 02/15/19 10:34
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1207064.pdf	**Instrument ID**	: BALANCE#47
Sample Amount	:	**%Solids**	: 92
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**92.1**	**0.100**	**NA**	

Appendix B

PCB Concrete Remedial Design



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS

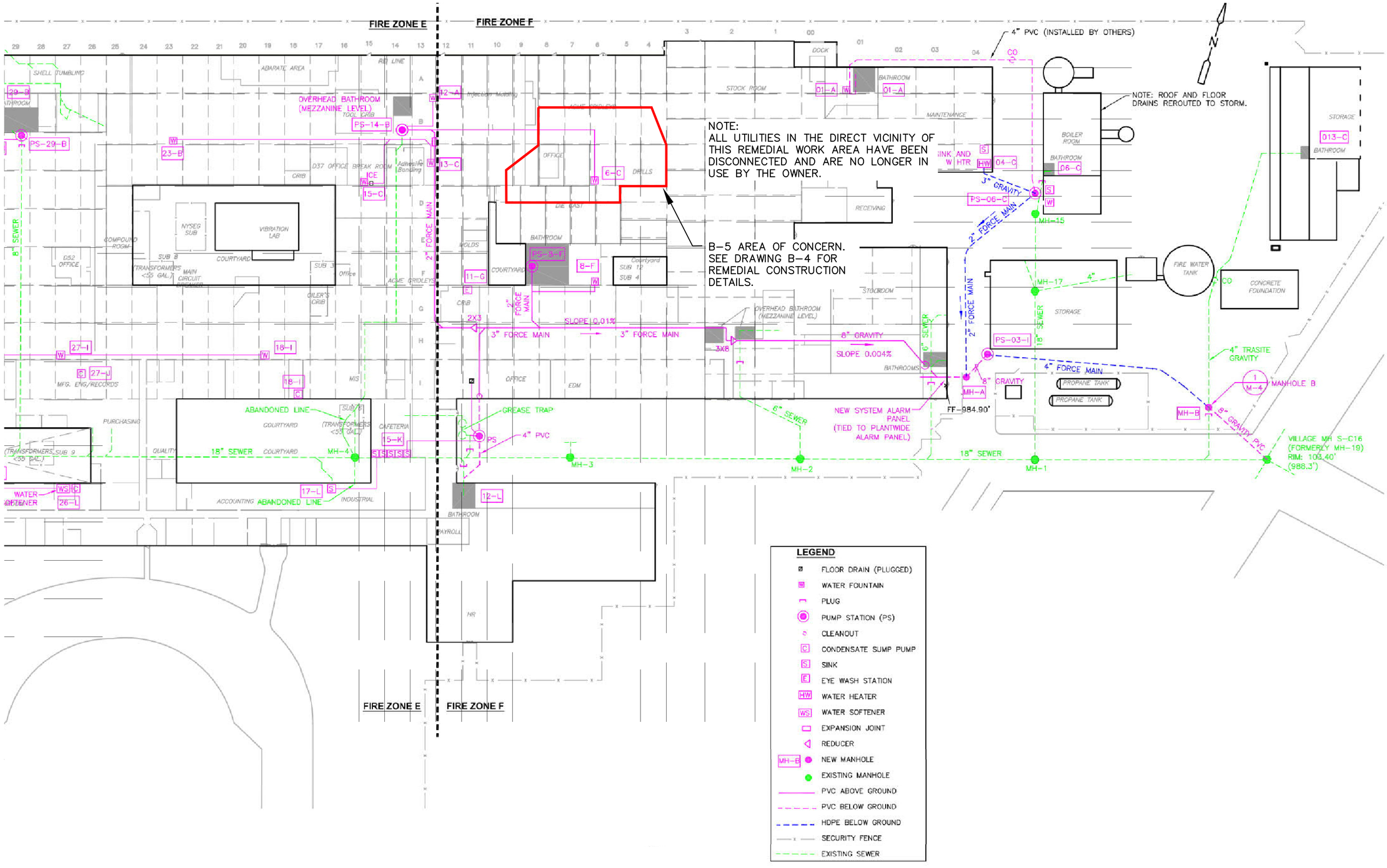
AMPHENOL AEROSPACE
AMPHENOL-DEMOLITION WORK PLAN

AREA B-1 LOCATION PLAN

TOWN OF SYDNEY DELAWARE COUNTY, NEW YORK

Barton & Loguidice

Date: JANUARY 2019
Scale: 1" = 40'
Sheet Number: B-1
Project Number: 1153.010.001



REVISIONS

AMPHENOL AEROSPACE
AMPHENOL-DEMOLITION WORK PLAN

AREA B-5 LOCATION PLAN

DELAWARE COUNTY, NEW YORK
TOWN OF SYDNEY

Barton & Loguidice

STATE OF NEW YORK
SCOTT D. NOSTRAND
No. 075454
LICENSED PROFESSIONAL ENGINEER

Date
JANUARY 2019

Scale
1" = 40'

Sheet Number
B-2

Project Number
1153.010.001

In charge of SDN
Designed by
Drawn by WBG
Checked by

Plotted: Jan 14, 2019 - 4:17PM SYR By: WBG
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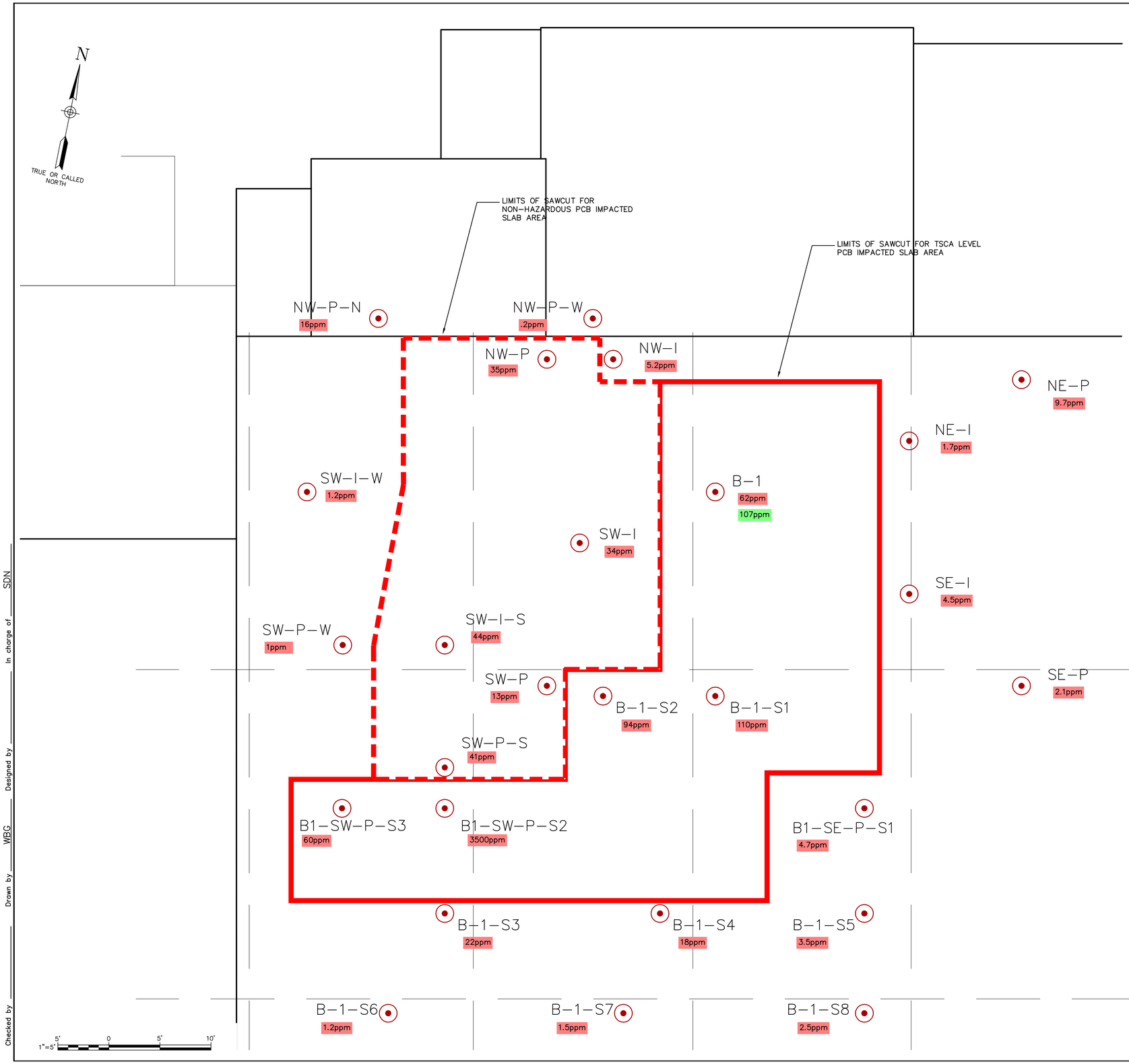
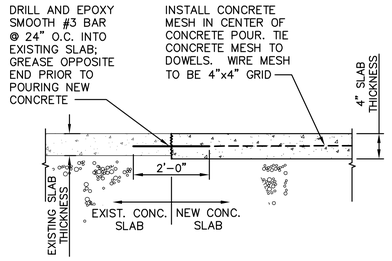


LEGEND

- APPROXIMATE REMEDIATION BOUNDARY – HAZARDOUS AREA – TSCA LEVEL PCB IMPACTED CONCRETE
- APPROXIMATE REMEDIATION BOUNDARY – NON-HAZARDOUS AREA
- ##ppm — CORE SAMPLE RESULTS (SAMPLE COLLECTED FROM 1" TO 2" DEPTH)
- ##ppm — HAND DRILL SAMPLE RESULTS (SAMPLE COLLECTED FROM CONCRETE SURFACE TO APPROXIMATELY 1.5" DEEP)



TYP. CONNECTION DETAIL FOR NEW/EXISTING CONCRETE

NOT TO SCALE

NOTES:

1. CONCRETE SLAB DEMOLITION SHALL BE IN ACCORDANCE WITH THE PROCEDURES IDENTIFIED IN THE REMEDIAL DESIGN PLANS, SPECIFICATIONS, AND IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
2. THE CONTRACTOR SHALL PROTECT THE EXISTING CONCRETE SLAB FROM DAMAGE DURING THE COURSE OF CONSTRUCTION. DAMAGE TO SLAB AREAS OUTSIDE OF THE DEMOLITION LIMITS WILL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
3. ALL SAW CUTTING OR DEMOLITION OF CONCRETE WILL REQUIRE THE USE OF WATER TO ELIMINATE DUST GENERATION.
4. ALL EQUIPMENT SHALL BE MANAGED AND DECONTAMINATED TO THE SATISFACTION OF THE ENGINEER TO PREVENT THE IMPROPER REMOVAL OF CONTAMINATED MATERIAL OFF-SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE HANDLING, TESTING, AND DISPOSAL OF DECONTAMINATION WATER AS OUTLINED IN SPECIFICATION 02050.
5. A DECONTAMINATION PAD WILL BE CONSTRUCTED BY THE CONTRACTOR SUCH THAT ALL DECONTAMINATION WATER IS CAPTURED IN A SUMP AREA AND COLLECTED AND PLACED IN 55 GALLON DRUMS FOR DISPOSAL. DECON PAD TO BE INSTALLED IMMEDIATELY ADJACENT TO THE AREA OF WORK IN ACCORDANCE WITH SPECIFICATION 02050.
6. CONCRETE DEMOLITION LIMITS ARE APPROXIMATE AND WILL BE CONFIRMED IN THE FIELD BY THE ENGINEER.
7. PCB CONTAMINATED CONCRETE WILL BE DEMOLISHED AND PLACED IN A DUMP TRUCK FOR TRANSPORT AND DISPOSAL AT A PERMITTED LANDFILLING FACILITY. PCB CONCRETE WASTE WILL BE HANDLED BY A CONTRACTOR WITH A CURRENT NYSDEC PART 364 WASTE TRANSPORTER PERMIT.
8. REPLACEMENT CONCRETE WILL CONSIST OF CLASS D CONCRETE WITH A 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI. CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTION OF A CONCRETE SAMPLE AND TESTING IN ACCORDANCE WITH SPECIFICATION 03300, CAST-IN-PLACE CONCRETE.
9. CONCRETE POUR AND PREPARATION OF PLACEMENT AREA WILL BE IN ACCORDANCE WITH SPECIFICATION 03300.
10. CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION OF REBAR DOWELS. DOWELS WILL BE INSTALLED INTO EXISTING CONCRETE. THE TOP OF THE DOWEL SHALL BE APPROXIMATELY 2-INCHES BELOW THE EXISTING CONCRETE SURFACE. SEE DETAIL THIS SHEET.
11. CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION AND COMPACTION OF 2-INCHES OF GRANULAR FILL IN THE CONCRETE REMOVAL AREAS SUBBASE MATERIAL IN ACCORDANCE WITH SPECIFICATION 02222.
12. CONTRACTOR WILL INSTALL SAWCUT CONTROL JOINTS FOR PREFERENTIAL CRACKING ON FINISHED SURFACE OF CONCRETE NO FURTHER THAN 16 FEET APART.

REVISIONS

AMPHENOL AEROSPACE
AMPHENOL-DEMOLITION WORK PLAN

AREA B-1 PCB REMEDIATION SLAB REMOVAL PLAN

TOWN OF SYDNEY — DELAWARE COUNTY, NEW YORK

Barton & Loguidice

STATE OF NEW YORK — SCOTT D. NOSTRAND — LICENSED PROFESSIONAL ENGINEER — No. 075483

Date: JANUARY 2019
Scale: 1" = 5'
Sheet Number: B-3
Project Number: 1153.010.001

Checked by ____ Drawn by WBG Designed by ____ In charge of SDN

Plotted: Jan 14, 2019 - 4:17PM By: WBG SYR
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LEGEND

APPROXIMATE REMEDIATION BOUNDARY – HAZARDOUS AREA – TSCA LEVEL PCB IMPACTED CONCRETE

##ppm — CORE SAMPLE RESULTS (SAMPLE COLLECTED FROM 1" TO 2" DEPTH)

##ppm — HAND DRILL SAMPLE RESULTS (SAMPLE COLLECTED FROM CONCRETE SURFACE TO APPROXIMATELY 1.5" DEEP)

N

TRUE OR CALLED NORTH

NOTES:

1. CONCRETE SLAB DEMOLITION SHALL BE IN ACCORDANCE WITH THE PROCEDURES IDENTIFIED IN THE REMEDIAL DESIGN PLANS, SPECIFICATIONS, AND IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
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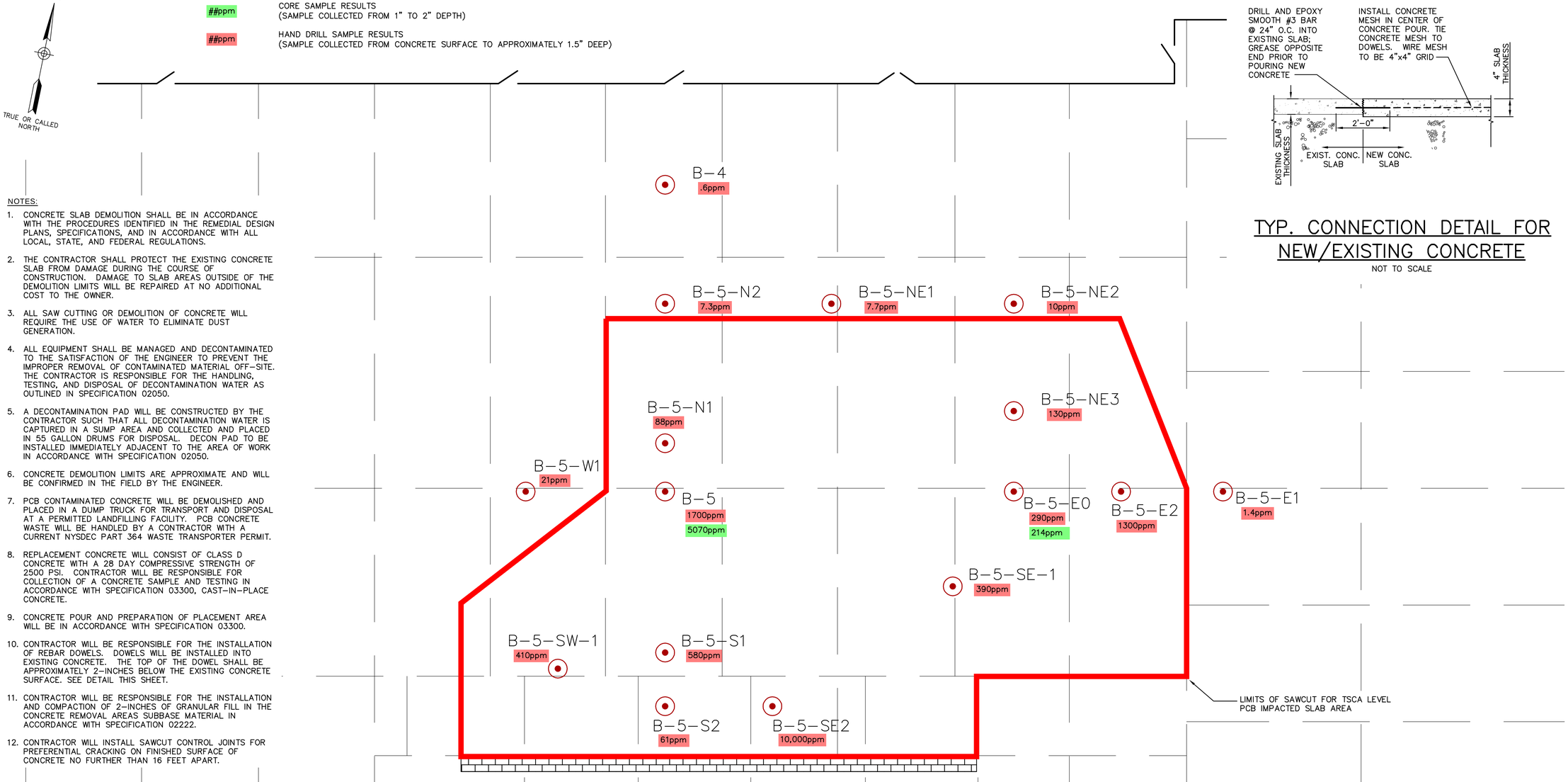
12. CONTRACTOR WILL INSTALL SAWCUT CONTROL JOINTS FOR PREFERENTIAL CRACKING ON FINISHED SURFACE OF CONCRETE NO FURTHER THAN 16 FEET APART.



TYP. CONNECTION DETAIL FOR NEW/EXISTING CONCRETE

NOT TO SCALE

1"=10' 10' 0 10' 20'

In charge of SDN | Designed by WBG | Drawn by SYR | Checked by

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REVISIONS

AMPHENOL AEROSPACE
AMPHENOL-DEMOLITION WORK PLAN

AREA B-5 PCB REMEDIATION SLAB REMOVAL PLAN

DELAWARE COUNTY, NEW YORK
TOWN OF SYDNEY

Barton & Loguidice

STATE OF NEW YORK · SCOTT D. NOSTRAND · LICENSED PROFESSIONAL ENGINEER · No. 075693

Date: JANUARY 2019
Scale: 1" = 10'
Sheet Number: B-4
Project Number: 1153.010.001

SECTION 02004

HEALTH AND SAFETY PLAN

PART 1 - GENERAL

1.1 DESCRIPTION:

1.1.1 Under this Item, the Contractor shall furnish all labor, materials, and equipment required to develop and implement a Health and Safety Plan in accordance with the Contract Specifications.

1.2 REFERENCES: The publications listed below and their latest revisions form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1.2.1 Occupational Safety and Health Administration (OSHA) Regulations:

29 CFR Part 1926	Regulations for Construction
29 CFR 1910.120	Health and Safety at Hazardous Waste Operations

1.3 SUBMITTALS: The Contractor shall submit a complete Health and Safety Plan prior to initiating on-site work. The plan shall conform to the general requirements of 29 CFR 1910.120, Health and Safety at Hazardous Waste Operations, and may include items such as:

- Health and Safety Risk Evaluation
- Employee training and qualifications
- Medical Surveillance
- Engineering and Work Practice Controls
- Provision of Personal Protective Equipment required by Contractor, Subcontractor, Engineer, Owner and Oversight Personnel
- Frequency and Types of Monitoring
- Site Control Measures
- Decontamination Procedures
- Site Standard Operating Procedures
- Confined Space Operations (when applicable)
- Spill Containment (when applicable)
- Emergency Response Plan
- Fire Prevention and Protection
- Mold and Respiratory Health Control
- Unsafe Buildings Access Procedures
- Asbestos Operations
- PCB Handling and Precautionary Measures

SECTION 02004

HEALTH AND SAFETY PLAN

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.1 HEALTH AND SAFETY PLAN: The Contractor shall prepare and submit a completed Health and Safety Plan as identified in Section 1.3.

PART 4 – MEASUREMENT & PAYMENT

4.1 MEASUREMENT – HEALTH AND SAFETY PLAN:

4.1.1 Health and Safety Plan: Measurement for Health and Safety Plan preparation shall include the cost of all materials, labor and submittals required to complete the work.

4.2 PAYMENT - HEALTH AND SAFETY PLAN:

4.2.1 For Health and Safety Plan preparation not included in other unit or lump sum price items, payment for Health and Safety Plan preparation will be made at the applicable price stated in the Bid.

END OF SECTION

SECTION 02050

DEMOLITION AND REMOVAL

PART 1 - GENERAL

1.1 DESCRIPTION:

1.1.1 Under this Section, the Contractor shall furnish all labor, materials and equipment for Demolition and Removal, as shown on the Plans, as specified and/or directed.

1.2 REFERENCES: The publications listed below and their latest revisions form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1.2.1 American National Standards Institute, Inc. (ANSI) Publications:

A10.4	Safety Requirements for Personnel Hoists and Employee Elevators for Construction and Demolition Operations
A10.6	Demolition Operations - Safety Requirements

1.2.2 National Fire Protection Association (NFPA) Publication:

241	Safeguarding Construction, Alteration and Demolition Operations

1.2.3 New York Code Rule and Regulations/Department of Labor:

12 NYCRR Part 23	Protection in Construction, Demolition and Excavation Operations

1.2.4 Occupational Safety and Health Administration (OSHA) Regulations:

29 CFR Part 1926	Regulations for Construction

1.3 GENERAL REQUIREMENTS: Do not begin demolition until authorization is received from the Engineer. Remove rubbish and debris from the project site daily; do not allow accumulations in the work area. Store materials that cannot be removed daily shall be staged in areas specified by the Engineer and Owner.

1.4 REGULATORY AND SAFETY REQUIREMENTS: Comply with Federal, State, and local hauling and disposal regulations. In addition to the requirements of the "General Requirements", safety requirements shall conform with ANSI A10.4, ANSI A10.6, NFPA 241, 12 NYCRR Part 23, OSHA 29 CFR Part 1926.

1.4.1 The Contractor shall conduct work in a manner to ensure compliance with all applicable codes, rules, and regulations including but not limited to:

a. Worker Protection

29 CFR 1926.59, Hazard Communication
29 CFR 1910.134, Respiratory Protection Standard
29 CFR 1926.20, General Safety and Health Provisions
29 CFR 1910.94 and 1926.57, Ventilation

b. Ambient Air Quality

40 CFR 50.6 National Primary and Secondary Ambient Air Quality Standards for Particulate Matter

c. Water Quality

40 CFR 122, Administered Permit Programs; The National Pollutant Discharge Elimination System

d. Waste Disposal

40 CFR 261, Identification and Listing of Hazardous Waste
40 CFR 262, Standards Applicable to Generators of Hazardous Waste
40 CFR 263, Standards Application to Transporters of Hazardous Waste
New York State Department of Environmental Conservation (NYSDEC), Title 6, Part 360-7, 364, and 370-374

The above listing may not be exhaustive. The Contractor is responsible for compliance with all applicable laws, rules and regulations whether or not they have been listed above.

1.5 DUST AND DEBRIS CONTROL: Prevent the spread of dust and debris to occupied properties located adjacent to the construction area and avoid the creation of a nuisance or hazard in the surrounding area. The use water will be required to minimize or eliminate the discharge of dust during saw cutting and demolition of concrete.

PART 2 - PRODUCTS

2.1 Materials: Furnish the following for the temporary on-site storage of contaminated concrete

2.1.1 Demolished concrete shall be live loaded into dump trucks for disposal. If material requires temporary staging, the contractor shall be required to place a 12 mil thick polyethylene barrier over the surface of the staging area to prevent cross-contamination. Staging of material will be located immediately adjacent to the work area.

2.1.2 PCB contaminated concrete staged overnight shall require the installation of 6 mil ply sheeting over the stockpiled material at the end of each day. Contractor shall secure the poly sheeting to prevent removal by wind.

PART 3 - EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED:

3.1.1 Utilities: Remove existing utilities (if encountered) and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Engineer. If utility lines are encountered that are not shown on drawings, contact the Engineer for further instructions.

3.1.2 Concrete: For concrete slab sections classified as PCB contaminated, neat sawcuts to a depth of not less than 2 inches shall be made to delineate the contaminated area as indicated on the drawings. Upon demolition of concrete structures, concrete debris shall be handled as indicated on the Plans.

3.3 DISPOSITION OF MATERIAL:

3.3.1 Title to Materials: Except where specified in other sections, all materials removed shall become the property of the Contractor and shall be removed from Owner's property.

3.4 CLEANUP:

3.4.1 Debris and Rubbish: Remove and transport debris and rubbish in a manner that will prevent spillage on streets and into nearby waterways or adjacent areas. Clean up spillage from pavements, streets and adjacent areas.

3.4.2 Decontamination: All equipment that comes in contact with PCB contaminated concrete shall be properly decontaminated. A decontamination pad shall be constructed by the Contractor such that all decontamination water can be captured in a sump area and collected and placed into 55 gallon drums for disposal. The decontamination pad shall be installed immediately adjacent to the area of work. All equipment shall be properly decontaminated before leaving the site to eliminate the possibility of contaminating off-site areas. Wastewater from decontamination procedures will be captured by the contractor for subsequent testing and disposal.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT - DEMOLITION AND REMOVAL:

4.1.1 Measurement for Demolition and Removal shall include the cost of all materials, equipment, labor, decontamination, decontamination water testing and disposal, and submittals for the work indicated in this Section.

4.2 PAYMENT - DEMOLITION AND REMOVAL:

4.2.1 For Demolition and Removal, not included in other unit or lump sum price items, payment for Demolition and Removal will be made at the applicable price stated in the Bid.

END OF SECTION

SECTION 02060

REMOVAL AND HANDLING OF MATERIALS

PART 1 – GENERAL

1.1 SUMMARY OF WORK:

1.1.1 Under this Section, the Contractor shall furnish all labor, materials and equipment for Polychlorinated Biphenyl (PCB) demolition, excavation, transportation, and disposal, as shown on the Plans, or as specified. Prior to removing and disposing of materials from the site, Contractor shall classify materials in accordance with applicable Federal, State, and local regulations. Copies of laboratory reports for Contractor use in characterizing PCB waste for proper disposal have been provided in Appendix A of the PCB Contaminated Concrete Slab Remedial Work Plan. If additional testing is required by the PCB disposal facility, the Contractor will be responsible to perform the necessary composite material sampling at no additional cost to the Owner.

1.1.2 Investigation and proper disposal shall also be required for any unknown materials encountered during demolition activities.

1.1.3 The Contractor will be responsible for verifying disposal requirements in accordance with the proposed disposal facility and applicable regulations. If the disposal facility requires additional material testing, the Contractor shall be responsible for collecting additional samples at no cost to the Owner.

1.1.4 Amounts of material to be removed from the site shall be determined by the Contractor at the time of bidding. The Contractor must satisfy himself as to the quantity of waste requiring removal and disposal and base his bid accordingly.

1.2 REFERENCES: The publications listed below and their latest revisions form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only. The publications are identified for information only, and do not represent all regulations, codes, or standards which may apply to this work.

1.2.1 New York State Department of Environmental Conservation (NYSDEC) Publications:

6 NYCRR Part 370	Hazardous Waste Management System: General
6 NYCRR Part 371	Identification and Listing of Hazardous Wastes
6 NYCRR Part 372	Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
6 NYCRR Part 373	Hazardous Waste Management Facilities
6 NYCRR Part 374	Management of Specific Hazardous Waste

SECTION 02060

REMOVAL AND HANDLING OF MATERIALS

1.2.2 American Petroleum Institute (API) Publications:

Publ. 2015	Cleaning Petroleum Storage Tanks
Publ. 2217A	Guidelines for Work in Inert Confined Spaces in the Petroleum Industry
Publ. 2219	Safe Operating Guidelines for Vacuum Trucks in Petroleum Service

1.2.3 Occupational Safety and Health Administration (OSHA) Regulations:

29 CFR Part 1910.146	Permit-Required Confined Spaces
29 CFR Part 1910.134	Respiratory Protection

1.2.4 National Fire Protection Association, Inc. (NFPA) Publications:

30	Flammable and Combustible Liquids Code
69	Standard on Explosion Prevention Systems
77	Recommended Practice on Static Electricity
327	Standard Procedures for Cleaning or Safeguarding Small Tanks and Containers Without Entry

1.2.5 United States Environmental Protection Agency (USEPA) Publications:

40 CFR Part 82	Protection of Stratospheric Ozone
40 CFR Part 261	Identification and Listing of Hazardous Waste
40 CFR Part 262	Standards Applicable to Generators of Hazardous Waste
40 CFR Part 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR Part 273	Universal Waste
40 CFR Part 761	PCBs Manufacturing, Processing, Distribution in Commerce, and use Prohibitions

1.3 SUBMITTALS:

1.3.1 Work Plan: Contractor shall submit a brief description identifying detailed aspects of how the Contractor will identify, handle, containerize, transport, and dispose of materials.

1.3.2 Disposal: Submit documentation that all required permits, disposal site locations, and arrangements for transportation and disposal of waste have been obtained. Submit a written description and blank log forms for Contractor’s waste manifest system.

1.3.3 Manifests and Bills of Lading (BOLs): The Contractor shall submit to the Owner and Engineer, within 30 days of transport, copies of all required manifests and BOLs for transport and disposal of waste materials. Manifests and BOLs must include the signature and receipts for acceptance of the waste materials at the designated disposal facilities. No payment requests will be processed for this Item until the manifests have been received and approved.

1.4 REGULATORY AND SAFETY REQUIREMENTS:

1.4.1 Comply with Federal, State, and local regulations governing the handling, transport, and disposal of drums, petroleum, and chemical products and non-hazardous and hazardous wastes.

PART 2 – PRODUCTS

2.1 MATERIALS:

2.1.1 PCB contaminated concrete will be transported and disposed of in accordance with applicable regulations.

PART 3 – EXECUTION

3.1 HAZARD DETERMINATION (LABORATORY ANALYSIS):

3.1.1 Analytical results from concrete samples collected to delineate the extent of PCB impacts have been included in Appendix A of the Remedial Work Plan. Should additional characterization be required by the selected disposal facility, the cost and effort to complete the sampling shall be the responsibility of the Contractor.

3.2 PCB DETERMINATION (LABORATORY ANALYSIS):

3.2.1 All possible polychlorinated biphenyl (PCB) containing materials (concrete and or decontamination water) shall be properly disposed of based on the analytical results. The selected contractor shall be responsible for proper handling, staging, testing (if required), transportation and disposal.

3.3 SITE PREPARATION: If needed, the Contractor shall prepare a staging area to be used for the temporary storage of excavated or demolished materials. The staging area shall include a liner system composed of 12 mil poly sheeting for concrete material and covered at the end of each day with 6 mil poly sheeting.

SECTION 02060

REMOVAL AND HANDLING OF MATERIALS

3.4 HANDLING AND DISPOSAL OF MATERIALS:

3.4.1 Contractor shall follow all Federal, State, and local regulations for waste handling, containerizing, transporting, and disposing of non-hazardous and hazardous waste.

a. All containers holding hazardous wastes shall be labeled as such, and also include other marks identifying the contents (Hazardous, Universal, etc.), including the date. Labeling shall be in accordance with applicable regulations.

b. Containers must be compatible with the stored material.

c. Any spills or leaks from any containers will be the responsibility of the Contractor to clean and dispose of in accordance with applicable regulatory requirements.

d. Mixing of non-hazardous and hazardous waste is not permitted.

e. Contractor is responsible for providing all waste receptacles required for disposal. All waste temporarily stored on-site shall be secured to prevent against unauthorized entry and vandalism. Contractor is responsible for all testing to properly classify the waste.

f. The Contractor shall establish a manifest system that meets Federal and State regulations and accounts for all waste at all times.

g. The transporter must possess an approved EPA identification number. The appropriate NYS Hazardous Waste Manifest must be completed by the Contractor.

h. The Contractor shall provide the Hazardous Waste Management Unit with copies of the EPA ID number of the transporter, NYSDEC manifest form, and written acknowledgement from the landfill that they are authorized by the EPA and the State where they are located, to accept and dispose of hazardous waste.

i. Final Manifest and receipts must be provided to the Owner and/or Owner’s Representative within ten (10) days of receipt by the Contractor.

3.4.2 PCB Waste > 50 PPM: Contractor shall remove and dispose all PCB contaminated concrete with concentrations >50ppm as TSCA waste. All handling and disposal operations shall be in accordance with Federal, State, and local regulations.

3.4.3 PCB Waste >25 PPM and <50 PPM: Contractor shall remove and dispose all PCB contaminated concrete in excess of 25 ppm but less than 50 ppm as non-TSCA waste. All handling and disposal operations shall be in accordance with Federal, State, and local regulations.

PART 4 – MEASUREMENT & PAYMENT

4.1 TSCA WASTE HANDLING, REMOVAL AND DISPOSAL – LIQUID OR SOLID:

4.1.1 Measurement for PCB Waste > 50 PPM Handling, Removal and Disposal – Liquid or Solid shall include the cost of materials, equipment, labor, submittals, packaging, transport, and disposal for the work indicated in this Section and shall be based on the quantity of full 55-gallon drums, tons, or cubic yards of material removed from the Site and properly disposed. Payment shall be made at the applicable unit price stated in the Bid.

4.2 NON-TSCA WASTE HANDLING, REMOVAL AND DISPOSAL – LIQUID OR SOLID:

4.2.1 Measurement for PCB Waste >25 PPM and <50 PPM Handling, Removal and Disposal – Liquid or Solid shall include the cost of materials, equipment, labor, submittals, packaging, transport, and disposal for the work indicated in this Section and shall be based on the quantity of full 55-gallon drums, tons, or cubic yards of material removed from the Site and properly disposed. Payment shall be made at the applicable unit price stated in the Bid.

END OF SECTION

SECTION 02221

EXCAVATING, BACKFILLING AND COMPACTING

PART 1 - GENERAL

1.1 DESCRIPTION:

1.1.1 Under this Section, the Contractor shall furnish all labor, materials and equipment for Excavating, Backfilling and Compacting, as shown on the Plans, specified, and/or directed.

1.1.2 Excavation, in open cut, includes the loosening, removing, transporting, storage and disposal of all materials necessary to be removed for the construction and completion of all work under the Contract. Excavations shall be made to the widths and depths shown on the Plans, specified or directed.

1.1.3 The Contractor shall be responsible for maintaining the stability of any excavations and for any damage or injury to any persons property or structures as a result.

1.1.4 Where rock is encountered, the excavations shall be done in accordance with the applicable provisions hereof.

1.2 REFERENCES: The publications listed below and their latest revisions form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1.2.1 American Society for Testing and Materials (ASTM) Publications. Reference to standard Specifications is intended to specify minimum standards for quality of materials and performance of workmanship, and for standard test methods.

1.3 DEFINITIONS:

1.3.1 The term "excavation" and the term "trenching" where used, shall be deemed and understood to cover the following described work, and the price bid for any and all items including "excavation", or "trenching" shall be deemed to include and cover all of the several following detailed operations:

- The loosening, removing, transporting, storage and rehandling of all materials;
- All sheeting, sheetpiling, bracing and shoring, and the placing, driving, cutting off and removing of the same;
- All ditching, pumping, well-pointing, bailing, dewatering and draining or otherwise disposing of water (surface and subsurface);
- The refilling of trenches, excavations and pits, and the furnishing and placing of material over trenches, excavations and pits to the original surface of the ground or to other grades as may be shown or directed;
- The compacting of all materials used in filling or refilling by rolling, ramming, watering, puddling, etc., as may be required;

- The removing and disposing of all surplus materials from all excavations in the manner specified;
- The maintenance, accommodation and protection of travel;
- All temporary bridging and fencing and the removing of same, the temporary paving of roads or driveways;
- The removing and clearing away of all construction rubbish, refuse, unused materials, plant and tools from the site.

1.3.2 "Earth" includes all materials, such as sand, gravel, clay loam, pavements, ashes, cinders, muck, roots, or pieces of timber, soft or disintegrated rock, not requiring barring or wedging from their original beds, and specifically excludes all ledge or bed rock, and individual boulders or masonry larger than one-half cubic yard in volume.

1.3.3 "Backfill" includes selected materials for the backfilling or refilling of all excavations and trenches up to the original surface of the ground or to other grades as may be shown or directed.

1.3.4 "Lining" includes selected materials utilized for the embedment of underground piping for the purpose of structural support and/or protection of the piping installed.

1.3.5 "Spoil" includes surplus excavated materials not required or not suitable for backfills or embankments.

1.3.6 "Embankments" include fills constructed of selected materials above the original surface of the ground.

1.3.7 "Rock" includes ledge or bedrock requiring barring or wedging from their original beds and individual boulders or masonry larger than one-half cubic yard in volume.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS: Where used for general site fill or suitable backfill, soil material shall be free of debris, roots, wood, scrap material, vegetative matter, refuse, soft unsound particles, frozen, deleterious, or objectionable materials.

2.2 CONTROLLED FILL: Controlled fill material shall be granular fill as specified in Section 02222.

PART 3 - EXECUTION

3.1 EXCAVATION FOR STRUCTURES:

3.1.1 Excavation shall be of sufficient size, and only of sufficient size, to give suitable room for the proper construction of structures and appurtenances, including allowances for sheeting, dewatering, and other similar work necessary for completion of the Contract.

3.1.2 Where excavation below subgrade is ordered, it shall be thoroughly compacted and consolidated granular fill as directed and as specified in Section 02222. It shall be sufficiently stable to remain firm and intact during the surfacing of subgrade, laying reinforcing steel and placing concrete thereon.

3.2 BACKFILLING AROUND STRUCTURES:

3.2.1 Backfilling around structures shall not be commenced until all lumber, refuse, rubbish and other similar materials are removed from the excavated area. Backfill around structures may be placed by machine, provided the work shall be done carefully to prevent damage to the structure. In no case shall backfill materials be allowed to fall directly on a structure, until at least twelve (12) inches of hand-placed material has been placed thereon and compacted.

3.2.2 Backfill around structures shall be deposited in horizontal layers not more than eight (8) inches in thickness and shall be thoroughly compacted. Compaction shall be by a vibrating tamper or other approved method and shall be to a minimum dry density of ninety-five (95) percent of the maximum dry weight density in pounds per cubic foot as determined by the Modified Proctor Compaction Test (ASTM D1557). Compact adjacent areas, beyond five (5) feet of a slab or structure, to ninety (90) percent of ASTM D1557.

3.2.3 Backfilling shall be done immediately after work has been inspected and approved. No frozen material shall be used, nor shall backfilling be placed on or against frozen earth, debris or other deleterious matter not conducive to proper compaction.

3.2.4 Backfilling against free standing walls shall be made against both sides at the same time. If backfill is required on one side only, the wall shall be adequately braced on the opposite side until properly cured to full strength.

3.2.5 Contractor shall take every necessary precaution during compaction of fill adjacent to foundations, walls, etc., that such items are not displaced from their proper location or damaged by compacting equipment. In the event damage or displacement occurs during or resulting from compaction of fill as specified above, the Contractor shall be responsible for correcting the same, to approval of the Engineer and at no expense to the Owner.

3.2.6 Controlled fill within building lines, under concrete slabs and aprons shall be granular fill as specified in Section 02222. Areas of completed fill which are to receive slabs, pavements

and structures, etc., shall be kept free of standing water or otherwise protected from any loss of compaction density.

3.3 REMOVAL OF WATER:

3.3.1 The Contractor shall at all times during construction provide and maintain proper and satisfactory means and devices for the removal of all water entering the excavations, and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work or the proper placing of pipe, masonry, concrete, structures, or other work.

3.3.2 Removal of water includes the construction and removal of sheeting and bracing, the furnishing of materials, equipment and labor necessary therefore, the excavation and maintenance of ditches and sluice-ways and the furnishing and operation of pumps, wellpoints, and appliances needed to maintain thorough drainage of the work in a satisfactory manner.

3.3.3 Water shall not be allowed to rise over or come in contact with any masonry, concrete or mortar, until at least twenty-four (24) hours after placement, and no stream of water shall be allowed to flow over such work until such time as the Engineer may permit.

3.3.4 Unless otherwise specified, all excavations which extend down to below the groundwater elevation at the sites of structures shall be dewatered by lowering and maintaining the groundwater beneath such excavations at an elevation not less than that specified herein at all times when work thereon is in progress, during subgrade preparation and the placing of the structures or pipe thereon.

3.3.5 Where an upward pressure or flow of water in combination with a fine-grained subsurface material causes a quick condition, the Contractor shall install wellpoints to stabilize the subgrade. Where wellpoints are used, the groundwater table shall be continuously (day and night) maintained to an elevation of not less than twenty-four (24) inches below the excavation and when subgrade is reached the groundwater shall be maintained not less than twenty-four (24) inches below the subgrade. Unless otherwise permitted by the Engineer, the groundwater shall be maintained not less than twenty-four (24) inches below the subgrade until completion of the backfilling to an elevation at least twelve (12) inches above natural groundwater level. Wellpoint headers, points, and other pertinent equipment shall not be placed within the limits of the excavation in such a manner or location as to interfere with the laying of pipe or trenching operations or with the excavation for and construction of other structures.

3.3.6 In areas where groundwater enters the excavation but does not cause a quick condition, the groundwater may be removed by any practical method which does not damage the subgrade, cause the same to become unstable or interferes with construction operations.

3.3.7 The groundwater control requirements specified for wellpointing operations apply to other dewatering methods.

3.3.8 Suitable stand-by pumping equipment shall be provided to insure the maintenance of the specified lowering of the water table.

3.3.9 Water pumped or drained from excavations, or any sewers, drains, or water courses encountered in the work, shall be disposed of in a suitable and environmental manner without injury to adjacent property, the work under construction, or to pavements, roads, and drives. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.

3.3.10 Any damage caused by improper handling of water shall be repaired by the Contractor at his own expense.

3.4 SHEETING & BRACING:

3.4.1 The Contractor shall furnish, place and maintain such sheeting, bracing and shoring as may be required to support the sides and ends of excavations in such manner as to prevent any movement which could, in any way, injure the pipe, sewers, masonry, or other work; diminish the width necessary; otherwise damage or delay the work; or endanger existing structures, pipes or pavements; cause the excavation limits to exceed the right-of-way limits; or to occasion a hazard to persons engaged on the project or to the general public.

3.4.2 In no case will bracing be permitted against pipes or structures in trenches or other excavations.

3.4.3 The Contractor shall be solely responsible for the safety and adequacy of all sheeting and bracing. He shall make good any damage resulting from failure of supports with no additional cost to Owner.

3.4.4 Removal of Sheeting & Bracing:

3.4.4.1 In general, all sheeting and bracing, whether of steel, timber or other material, used to support the sides of trenches or other open excavations, shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a pipe or sewer shall be withdrawn, unless directed, before more than six (6) inches of earth is placed above the top of the pipe or sewer and before any bracing is removed. The voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose, or otherwise as may be approved.

3.4.4.2 The Engineer may order the Contractor to delay the removal of sheeting and bracing, if in his judgement the installed work has not attained the necessary strength to permit placing of backfill.

3.4.5 Sheeting & Bracing Left In Place:

3.4.5.1 If, to serve any purpose of his own, the Contractor files a written request for permission to leave sheeting or bracing in the trench or excavation, the Engineer may grant such

permission, in writing, on condition that the cost of such sheeting and bracing be assumed and paid by the Contractor.

3.4.5.2 The Contractor shall leave in place all sheeting, shoring and bracing which are shown on the Drawings or specified to be left in place or which the Engineer may order, in writing, to be left in place. All shoring, sheeting, and bracing shown or ordered to be left in place will be paid for under the appropriate item of the Contract. No payment allowance will be made for wasted ends or for portions above the proposed cut-off level which are driven down instead of cut-off.

3.4.5.3 In case sheeting is left in place, it shall be cut off or driven down as directed so that no portion of the same shall remain within twelve (12) inches of the finished street or ground surface.

3.4.5.4 All timber sheeting and bracing to be left in place and paid for under an item of the Contract shall be new, sound and straight, free from cracks, shakes and large or loose knots, and shall otherwise conform with National Design Specifications for Stress Grade Lumber for lumber of a minimum fiber stress of 1,200 pounds per square inch.

3.4.5.5 Steel sheeting and bracing left in place and paid for under an item of the Contract shall be new and shall conform with ASTM Des: A7, with a minimum thickness of 3/8-inch.

3.4.5.6 Sheeting and bracing left in place and paid for under an item of the Contract shall be driven as the excavation progresses and in such manner as to maintain pressure against the original ground at all times. The sheeting shall be driven vertical with the edges tight together, and all bracing shall be of such design and strength as to maintain the sheeting in its proper position.

3.5 STORAGE OF MATERIAL:

3.5.1 All excavation materials shall be stored in locations so as not to endanger the work, and so that easy access may be had at all times to all parts of the excavation. Stored materials shall be kept neatly piled and trimmed. All stockpiled fill material shall be stored only in those fill areas as approved by the Engineer and the New York State Department of Environmental Conservation.

3.6 ADDITIONAL EXCAVATION:

3.6.1 In case the materials encountered at the locations and grades shown on the Plans or specified are not suitable, or in case it is found desirable or necessary to excavate additional materials to secure good support for the structure or pipeline, the excavation shall be carried to such additional limits as the Engineer may direct. The Contractor shall refill such additional excavated space with either granular fill, Class "D" or "E" concrete or other material, as the Engineer may direct. Additional excavation, backfill material, concrete or other materials so ordered, will be paid for under the appropriate items of the Contract.

3.7 UNAUTHORIZED EXCAVATION:

3.7.1 Whenever excavations are carried beyond or below the lines and grades shown on the Plans, or as given or directed by the Engineer, all such excavated space shall be refilled with granular fill, concrete or other materials as directed by the Engineer. All refilling of unauthorized excavations shall be at the Contractor's own expense.

3.7.2 All material which slides, falls or caves into the established limits of excavations due to any cause whatsoever shall be removed and disposed of at the Contractor's own expense, and no extra compensation will be paid the Contractor for any materials ordered for refilling the void areas left by the slide, fall or cave-in.

3.8 DISPOSAL OF MATERIALS:

3.8.1 All “clean” as deemed by the Engineer and New York State Department of Environmental Conservation shall be transported and placed on the site of the work at the locations and to the elevations and grades shown on the Plans or as directed by the Engineer. If spoil areas are not shown, all spoil materials shall be disposed off the Site at appropriate locations selected and obtained by the Contractor and approved by the Engineer and the New York State Department of Environmental Conservation. No environmental sensitive areas shall be used for spoil areas. A copy of the signed agreement between the property owner and the Contractor granting permission to deposit spoil shall be given to the Engineer prior to placement.

3.8.2 The surface of all spoil placed on the Site shall be graded and dressed, and no unsightly mounds or heaps shall be left on completion of the work.]

PART 4 - MEASUREMENT & PAYMENT

4.1 MEASUREMENT - EXCAVATING

4.1.1 Measurement for Excavating shall be the volume of material (including rocks) required to complete the indicated work; the maximum limits of such volumes shall not exceed those defined by the drawings, specified or ordered.

4.2 PAYMENT - EXCAVATING:

4.2.1 For Excavating not included in other unit or lump sum price items, will be made at the applicable price stated in the Bid and shall include the cost of all the several detailed operations incidental to the excavation. No additional payment will be made for excavation of rock, boulders, masonry or concrete encountered in the work.

4.3 MEASUREMENT – BACKFILLING AND COMPACTING:

4.3.1 The quantity of Backfilling and Compacting for which payment will be made shall be the number of cubic yards actually placed, measured as the volume of the void filled.

4.4 PAYMENT – BACKFILLING AND COMPACTING

4.4.1 For Backfilling and Compacting, not included in other unit or lump sum price items, payment for Backfilling and Compacting will be made at the applicable price stated in the Bid and shall include the cost of all the several detailed operations incidental to the excavation.

END OF SECTION

SECTION 02222

GRANULAR FILL

PART 1 - GENERAL

1.1 DESCRIPTION:

1.1.1 Under this Section, the Contractor shall furnish all labor, materials and equipment for Granular Fill, as shown on the Plans, as specified, and/or directed.

PART 2 - PRODUCTS

2.1 GRANULAR FILL:

2.1.1 For pipe and structure backfill, the Granular Fill shall consist of crushed stone, well graded from coarse to fine, conforming to New York State Department of Transportation Standard Specifications Item 304.12 or Item 304.14 (Subbase Course Type 2 or 4).

2.1.2 The Contractor shall submit to the Engineer for approval a certified sieve analysis and Modified Proctor Compaction Test for each source of granular fill, at no cost to the Owner.

PART 3 - EXECUTION

3.1 PLACING:

3.1.1 The Granular Fill shall be spread in horizontal layers so that the maximum thickness of any layer after compaction shall not exceed eight (8) inches. Compaction shall be by traveling vibrators or other approved method and shall be to a minimum dry density of ninety percent (90%) of the maximum dry density or ninety-five percent (95%) around structures as determined by the Modified Proctor Test, ASTM D1557 unless otherwise specified. Each layer shall be thoroughly compacted before placement of overlying layers.

3.2 COMPACTION TEST:

3.2.1 NOT REQUIRED

SECTION 02222

GRANULAR FILL

PART 4 – MEASUREMENT & PAYMENT

4.1 MEASUREMENT – GRANULAR FILL:

4.1.1 The quantity of Granular Fill allowed for payment shall be computed by using the product of the length, depth as directed, and the actual width, but not to exceed the Maximum Payment Width as shown on the Contract Drawings, less the volume occupied by the pipe or structure, if any.

4.2 PAYMENT – GRANULAR FILL:

4.2.1 For Granular Fill, not included in other unit or lump sum price items, payment for Granular Fill will be made at the applicable price stated in the Proposal.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 DESCRIPTION:

1.1.1 Under this Section, the Contractor shall furnish all labor, materials and equipment for plain and reinforced Cast-In-Place Concrete work including accessory items of work herein described, as shown on the Plans, as specified, and/or directed.

1.2 REFERENCES:

1.2.1 Reference to standard specifications for the following organizations is intended to specify minimum standards for quality of materials and performance of workmanship, and for standard test methods.

a. American Society for Testing and Materials (ASTM) Publications, Latest Edition.

b. American Concrete Institute (ACI) Standards, Latest Edition.

c. Standard Specifications - Construction and Materials, New York State Department of Transportation (NYSDOT), Latest Edition, including Addenda thereto.

1.3 QUALITY ASSURANCE:

1.3.1 Perform work in accordance with ACI 301 and ACI 302.

1.3.2 Acquire cement and aggregate from same source for all work.

1.3.3 Conform to ACI 305R when concreting during hot weather, except as herein modified.

1.3.4 Conform to ACI 306R when concreting during cold weather, except as herein modified.

1.4 SUBMITTALS, SAMPLES AND TESTS:

1.4.1 Product Data: Provide data on joint devices, attachment accessories and admixtures.

1.4.2 Concrete:

1.4.2.1 Samples and tests of all materials to be incorporated in the concrete shall be submitted in ample time for testing before delivery. All materials are subject to inspection and testing by a commercial testing laboratory approved by the Engineer at the Contractor's expense. All materials are subject to approval by the Engineer prior to their delivery to the site.

1.4.2.2 The Contractor shall obtain from the manufacturer, prior to the actual delivery of the concrete, a statement giving the sources, specific gravities, and sieve analyses of the aggregates and the dry weights of cement and saturated-surface-dry weights of fine and coarse aggregate and quantities, type and name of admixture (if any) and of water per cubic yard of concrete that will be used in the manufacture of each class of concrete to be provided. This data shall be sent to the Engineer for review and approval.

a. Aggregates shall be tested for gradation, purity and accelerated soundness. Tests shall comply with ASTM C33, C136, ASTM C40, and ASTM C88. The source of the material shall not be changed without retesting.

b. Cement shall have representative mill test reports on physical and chemical requirements. All cement stored at job site or at concrete supplier's place for over 60 days shall be tested for compliance with ASTM C150.

1.4.2.3 Contractor shall submit concrete mix design to be reviewed by the Engineer.

1.4.2.4 Tests of other materials may be required by the Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS:

2.1.1 All materials shown, specified or required to be incorporated in cast-in-place concrete shall be of finest quality, and shall be delivered, stored and handled so as to prevent damage. Damaged or inferior materials will be rejected. Approved brands or sources must be used, without change for the entire project. All materials shall be proportioned to produce a well graded mixture of high density and maximum workability.

2.1.2 Portland Cement shall be a standard brand in compliance with ASTM C150 Type I. Only one brand shall be used for exposed work. Generally, Type I cement shall be used; however, Types II or III may be employed with the approval of the Engineer or if shown, or specified.

2.1.3 Fine Aggregates shall be clean, sharp, natural sand, free from loam, clay, organic impurities or frozen materials and shall conform to ASTM C33 in all respects. Sand shall be tested for impurities in accordance with ASTM C40.

2.1.4 Coarse Aggregates shall consist of strong, clean, crushed limestone or crushed gravel, free from harmful material and meeting all of the requirements of ASTM C33. Coarse aggregate shall also comply with New York State Department of Transportation Material Designation 703-02. Crushed limestone and crushed gravel shall meet the Physical Requirements (Testing) Designation 703-0201 and 703-0202, respectively.

2.1.5 Water used in mixing concrete shall be clean and free from all acid, alkali or organic matter and shall be obtained from a public water supply unless specifically permitted otherwise by the Engineer.

2.1.6 Ready Mix Concrete shall comply with ASTM Specification C94, this Specification, and used subject to the Engineer's approval.

2.1.7 Admixtures, where shown or specified, shall be as follows:

a. Air entraining agent shall be "Daravair" or "Darex AEA" as manufactured by W.R. Grace Co., or Master Builder's "MBVR", or equal meeting the requirements of ASTM C260.

b. Water reducing agent shall be Sika "Plastiment", Master Builder's "Pozzolith", W.R. Grace's "WRDA", or equal meeting the requirements of ASTM C494.

c. High range water reducers or superplasticizers shall be Sika "Sikament-FF", W.R. Grace's "Daracem-100" or "WRDA-19", or equal meeting the requirements of ASTM C494.

2.1.8 Bonding Agent, where shown or specified, shall be "Dural 104" bonding compound manufactured by Dural International Corporation, "Sikadur 32 Hi Mod" by Sika Corporation, or equal.

2.1.9 Anchorage Items, where shown or specified, shall be as follows:

a. Inserts for fastening shelf angles shall be malleable iron adjustable wedge type, with bolt and washer, if required, as manufactured by Hohman & Barnard, Inc., Richmond Screw Anchor Co., Inc., or equal.

b. Threaded inserts for fastening of soffits of concrete beams shall malleable iron, as manufactured by Hohman & Barnard, Inc., Richmond Screw Anchor Co., Inc., or equal.

c. Ceiling hanger inserts shall be standard type wire as manufactured by Hohman & Barnard, Inc., Heckman Building Products, Inc., or equal.

d. Masonry anchor slots shall be galvanized sheet metal, felt filled, as manufactured by Hohman & Barnard, Inc., Heckman Building Products, Inc., or equal.

e. Flashing reglets shall be O'Keefe's Inc., PVC "Watertite Type P", or equal to size and shape shown.

2.1.10 Flexible Sleeve, where shown or specified, shall be of resilient rubber with a flanged, serrated waterstop and shall be cast directly into the walls of the concrete structure as shown on the Contract Documents. Flexible sleeve shall conform to the following physical requirements:

PROPERTY	ASTM TEST REQUIREMENTS		
	METHOD	MIN.	MAX.
Tensile Strength, psi	D412	1500	-
Ultimate Elongation, percent	D412	450	-
Hardness, Type A durometer	D2240	45	55

2.1.10.1 Flexible sleeve must permit a minimum of 10 degrees deflection in all directions. Flexible sleeve shall be "Lockjoint Flexible Manhole Sleeve" as manufactured by Chardon Rubber Company, or equal.

2.1.11 Forms shall be wood, metal, or other approved materials as follows:

a. Plywood shall be Commercial Standard Douglas Fir, moisture resistant, concrete form plywood, at least 5-ply 5/8" thick.

b. Metal forms shall be as approved, and must produce surfaces equal to those specified for wood forms.

c. Form oil shall be an approved non-staining mineral oil, such as "Duogaurd II" by W.R. Meadows, or equal.

d. Form ties shall be of approved design, adjustable length and free of devices that will leave hole or depression larger than 7/8" diameter. When forms are removed no metal shall be left within 1" of finished surface.

2.1.12 Waterstops, where shown or specified, shall be minimum 3/8-inch thick across their entire section, heavy duty, serrated type manufactured from virgin polyvinyl chloride compound, "Model RB6-38H" as manufactured by Vinylex Corporation, or equal. They shall have a tensile strength of minimum 1800 psi and an elongation of minimum 200%.

2.1.12.1 Waterstops shall be open bulb type, 6-inch wide unless otherwise shown or directed by the Engineer. The waterstops shall be supported during concrete placement to prevent dislodgement and to insure that the ends remain at right angles to the joint. Field joints shall be butt welded with an electric iron in accordance with the manufacturer's instructions.

2.1.12.2 Sample of the waterstops to be used shall be submitted to the Engineer for approval.

2.1.13 Premolded Joint Filler, where shown or specified, shall be premolded, resilient, non-extruding type, 1/2-inch thick unless shown otherwise, full depth of concrete section as manufactured by Celotex Corporation, "Fibre Expansion Joint Filler" by W.R. Meadows, or equal.

2.1.13.1 Sample of the premolded filler proposed to be used shall be submitted to the Engineer for approval.

2.1.14 Joint Sealant, where shown or specified, shall be elastomeric polyurethane sealant material, black in unexposed locations, and grey in exposed locations, and have balanced properties of elongation recovery and tensile strength, and shall be Sonneborn "Sonolastic NP1", Sika "Sikaflex 1A", or equal.

2.1.15 Protective Covering for concrete finish slabs, where shown or specified, shall be "Orange Label Sisalkraft", Polyethylene Film as manufactured by Fortifiber Corp., or equal.

2.1.16 Non-Shrink Grout, where shown or specified, shall be premixed compound consisting of non-metallic aggregate, natural aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days; such as "Masterflow" as manufactured by Master Builders, "SikaGrout 212" as manufactured by Sika, or approved equal.

2.1.16.1 Non-Shrink grout shall be used under structural steel column baseplates and all equipment baseplates. All work shall be done in strict accordance with the manufacturer's recommendations. At the request of the Engineer, the manufacturer's representative shall be called to the job site for consultation regarding detailed use of the grout.

2.1.17 Grout for fillets, channels, or other non-structural applications shall consist of one (1) part cement (Portland Cement Type 2) and three (3) parts fine aggregate (sand) with sufficient mixing water for the intended application.

2.1.18 Cementitious Coating Materials, where shown or specified, shall be "Thoroseal" with "Acryle 60" bonding agent, as manufactured by Thoro System Products, "Anchor Masonry Surfacer" as manufactured by Anti Hydro Waterproofing Company, or equal.

2.1.19 Curing Compound shall be acrylic based "Kure-N-Seal" as manufactured by Sonneborn, acrylic based "CS-309", or water based "VOCOMP-20" as manufactured by W.R. Meadows, or equal.

2.1.20 Vapor Retarder, where shown or specified, shall be "Moistop" as manufactured by Fortifiber Corp. Vapor Barrier shall be "Premoulded Membrane Vaporseal" as manufactured by W.R. Meadows, or equal.

2.1.21 Perimeter Insulation, where shown or specified, shall be "Styrofoam Square Edge" as manufactured by the Dow Chemical Corporation, "Foamular 250" as manufactured by UC Industries, or equal.

2.1.22 Penetrating Sealer, where shown or specified, shall be two components, 50% solids penetrating epoxy sealer. The penetrating sealer shall be fully compatible with the types of form oil, curing compound and joint sealant used.

2.1.22.1 Concrete surfaces to be treated must be dry, cured for a minimum of 21 days, free from surface accumulations of dust, dirt, oil, debris, concrete curing compounds, bond breakers, or other compounds which would prevent penetration and intimate contact between the concrete surface and the penetrating sealer. Concrete surfaces require preparation per manufacturer's directions prior to sealer installation.

2.1.22.2 Penetrating sealer shall be "Spec-Seal" as manufactured by Conspec, Inc., or equal.

2.1.23 Metal Slab Joints, where shown or specified, shall be keyed type, minimum 18 gauge, galvanized steel by Heckmann Building Products, or equal.

2.1.24 Vapor Barrier: 6 mil (0.5 mm) thick clear polyethylene film type recommended for below grade application.

2.2 CONCRETE MIX DESIGN:

2.2.1 The Contractor shall submit concrete mix designs to be reviewed by the Engineer. The mix designs shall be confirmed by making and testing trial mixes for each class of concrete to be incorporated in the work. All testing shall be made by an approved testing laboratory at the expense of the Contractor. Mix designs shall conform to the ACI 301, except as may be modified in the Plans and/or Specifications.

2.2.2 No job concrete shall be poured until the mix design for that concrete has been approved by the Engineer. Once the mix has been approved, it shall not be changed, except when requested by the Engineer, or if requested by the Contractor and approved by the Engineer.

2.2.3 Ready-mixed concrete from an established company will be approved, if conforming to ASTM C94, and to this specification. All concrete shall be batched, mixed, delivered to the site, and shall conform to these requirements and be controlled in a manner to assure uniform concrete for the quality specified.

2.2.4 Water/cement ratios of all mixes shall be determined from w/c curve plotted from tests of the cement and aggregates used on the job. If necessary to increase the water content of the mix due to field conditions, sufficient cement must be added to maintain the design water/cement ratio. Accelerating or retarding admixtures may be permitted by the Engineer if requested by the Contractor to compensate for adverse weather conditions.

2.2.4.1 The various classes of concrete shall be designated as follows:

MAXIMUM PERMISSIBLE WATER-CEMENT RATIOS FOR CONCRETE (WHEN STRENGTH DATA FROM TRIAL BATCHES OR FIELD EXPERIENCE ARE NOT AVAILABLE)
Maximum permissible water-cement ratio

CLASS	MIN. 28-DAY COMPRESSIVE STRENGTH IN PSI*	NON-AIR-ENTRAINED CONCRETE		AIR-ENTRAINED CONCRETE	
		ABSOLUTE RATIO BY WEIGHT	US GAL. PER 94-LB. BAG OF CEMENT	ABSOLUTE RATIO BY WEIGHT	US GAL. PER 94-LB. BAG OF CEMENT
A	5,000	**	**	**	**
B	4,000	0.44	5.0	0.35	4.0
C	3,000	0.58	6.6	0.46	5.2
D	2,500	0.67	7.6	0.54	6.1
E	2,000	0.71	8.0	-	-

*28-day strength. With most materials, water/cement ratios shown will provide average strengths greater than indicated in Section 5.4 of ACI 318R as being required.
**For strength above 4,500 psi (non-air-entrained concrete) and 4,000 psi (air-entrained concrete) proportions shall be established by methods of Section 5.3 of ACI 318R.

Unless otherwise specified, all concrete shall be Class "B", non-air-entrained except exposed concrete which shall be air-entrained. When foundation walls or grade beams are exposed to weather above grade, the entire wall shall be considered exposed concrete.

2.2.4.2 Maximum size aggregates shall be used as follows unless otherwise designated by the Engineer.

1-1/2"	general work
3/4"	thin sections; heavy reinforcing
3/4"	columns, beams and slabs
Over 1-1/2"	massive structures, with approval
3/8"	floor toppings

2.2.4.3 Slump - Maximum:

Reinforced concrete - general	4"
Reinforced concrete - thin walls, columns	5"
Non-reinforced concrete	3"
Pavements, including sidewalks	3"
Heavy mass concrete	3"

2.2.4.4 Air Content: Use an approved air entraining admixture. The entrained content shall be controlled between 4% - 6%. See Plans for concrete work requiring air entrainment.

2.2.4.4.1 For mixes containing coarse aggregate with a top size of 3/4" or smaller and for exposed concrete subject to frost and salt action, air contents shall be increased to the range of 5% - 7%.

2.2.4.5 Should the Contractor feel it advantageous to employ concrete additives to improve workmanship or facilitate his work, he shall obtain the approval of the Engineer prior to his use of additives.

2.2.4.6 Use of accelerating admixtures in cold weather will not relax cold weather placement requirements.

2.3 STORAGE OF MATERIALS:

2.3.1 Portland Cement shall be stored in a weather-tight structure. No cement that has taken a warehouse set shall be used and any stored over sixty (60) days shall be rejected unless tested for soundness and setting time under ASTM C150. Such tests shall be at the Contractor's expense.

2.3.2 Fine and coarse aggregates shall be kept separated and free from deleterious substances. All topsoil shall be removed from the storage area. Materials shall be stockpiled in layers to prevent segregation; however, re-mixing may be required if gradation is not maintained. Care shall be taken not to inter-mix materials in the area with the aggregates.

2.3.3 Any materials that have deteriorated or become contaminated will be rejected for use in the concrete and must be promptly disposed of by the Contractor.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL:

3.1.1 Before each pour, forms and reinforcing shall be inspected and approved by the Engineer. The Contractor shall give at least 24 hours notice before such an inspection is required. No pour shall be started until the Engineer has given approval. No concreting may be done in the absence of the Engineer without written permission of the Engineer.

3.1.2 Concrete Batch Ticket:

3.1.2.1 The Contractor shall require the manufacturer of the concrete to furnish to the Engineer with each batch of concrete before unloading at the site, a delivery ticket on which is printed, stamped, or written, information concerning said concrete as follows:

- Name of ready-mix batch plant
- Serial number of ticket
- Date
- Truck number
- Name of purchaser
- Specific designation of job (name and location)
- Designation of the concrete by compressive strength
- Amount of concrete in cubic yards
- Time loaded or of first mixing of cement and aggregates
- Reading of revolution counter at the first addition of water
- Type and brand, and amount of cement
- Type and brand, and amount of admixtures
- Total water added by producer (and W/C ratio)
- Water added at job site (upon approval of the Engineer)
- Maximum size of aggregate
- Weights of fine and coarse aggregate
- Ingredients certified as being previously approved
- Signature or initials of ready-mix representative

3.1.3 Concrete Testing:

3.1.3.1 The Contractor shall employ an approved commercial testing laboratory at his own expense to provide field sampling, testing and inspection of all concrete. Continuous inspection by the approved testing laboratory shall be provided during all concrete pours. The Contractor

shall maintain a record set of plans at the site showing date and amount of each pour, test results and temperature. If any portion of the work shows low test results, the Engineer may require batch plant inspection, additional testing, load tests, cored samples, and/or replacement of the faulty work, etc., at the Contractor's expense.

3.1.3.2 The Contractor, through its approved testing laboratory, shall make all laboratory or field tests as required and shall furnish all necessary equipment. The Contractor, through its approved testing laboratory, shall transport all test cylinders from the site to the laboratory.

3.1.3.3 Field concrete inspection: The Contractor, through its approved testing laboratory, shall provide a competent field concrete inspector whose minimum duties shall be as follows:

- Check each truck on arrival to make sure that the concrete is not retempered.
- Make necessary slump tests for uniformity control.
- Make air tests and yield tests as required.
- Make any and all test cylinders as may be required in the Specifications.
- Notify the Engineers and/or his representative if any test results vary from the specified limits.

3.1.3.4 Tests:

a. Concrete shall be tested by an approved testing laboratory as follows:

- Standard 6" x 12" compression cylinders shall be in compliance with ASTM C39 in sets of four and shall be moist cured. Break 2 at 7 days, and 2 at 28 days. One set shall be made for approval of each mix design, one set for first pour of 50 cubic yards or less, and one set for each additional pour of 50 cubic yards. If less than 50 cubic yards are placed in one day, one set shall be made for each day's pour.
- All test cylinders shall be cast, moist cured and broken under laboratory conditions in accordance with the ASTM C31 and ASTM C39. All four cylinders of a test shall be taken from the middle third of a single load. Each cylinder shall be properly labeled with an identifying mark, the mix proportions, air content, amount of water, slump, and the location in the structure where the concrete was

placed. Test reports shall include all this information. Distribute copies of reports as requested by the Engineer. Should any results be questionable, the Engineer shall be notified immediately so that corrective measures can be taken. Any test cylinder which has broken and fails to meet requirements shall be preserved for inspection by the Engineer.

3.1.4 Records:

3.1.4.1 Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.

3.2 BATCHING AND MIXING:

3.2.1 All Batching and Mixing shall conform to the following and the ACI 304, "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete".

3.2.2 Aggregates and bulk cement shall be measured to within 1% by weight. Cement in standard sacks need not be weighed. Water shall be measured by volume or by weight to within 1/2%. Aggregate weights shall be corrected for moisture content. Admixtures shall be added through appropriate dispensing equipment to an accuracy of 3%.

3.2.3 The complete plant assembly shall be approved by the Engineer and shall conform to the following requirements:

- Provide ready adjustment of aggregate weights for varying moisture contents.
- Provide means of accurately controlling and easily checking water-cement ratio.
- Provide accurate control of all materials with positive shut-off.
- Facilities shall be provided for prompt removal of excess materials in hoppers.
- Each specified size of aggregate shall be measured separately with a separate beam scale.
- Bulk cement shall be dropped through canvas drop chutes or telescopic flexible hose tremie.

3.2.4 Concrete mixers or mixer trucks shall not be loaded to more than the rated capacity of the truck.

3.2.5 All concrete shall be mixed not less than 60 revolutions in the drum of a modern power mixer, at the rated speed of rotation. Mix not less than an additional 30 revolutions after the addition of any further water to the mix.

3.2.6 Do not add raw materials to the drum until all of the preceding batch has been discharged. For transit mixers, the wash water shall be discharged and not used as part of the mix water for the next batch.

3.2.7 Transit-mixed concrete shall be transported to the job site unmixed and only after arrival at the job site shall mixing begin. All concrete shall be unloaded from the mixer within 45 minutes after completion of mixing. All concrete still remaining in the truck shall be rejected.

3.2.8 The total time interval from the time the cement makes contact with the aggregate to the complete unloading from the mixer shall not exceed 90 minutes, unless such time is extended by the Engineer. The time may be reduced in hot weather or under unusual conditions, if unsatisfactory results are obtained.

3.3 FORMWORK:

3.3.1 The Contractor shall design and construct suitable and adequate formwork in conformance with ACI 347R. All shoring shall be properly braced to safely withstand all vertical, moving and lateral forces during the construction period. Responsibility for adequacy and safety rests with the Contractor. Materials shall be as stated in Paragraph 2.1.

3.3.2 General requirements for all forms shall be as follows:

- Forms shall be constructed of wood, plywood, or steel.

- All forms shall be set true to line, plumb, and properly braced so as to maintain the desired position and shape during and after pouring concrete. Forms shall be sufficiently tight to prevent leakage.

- All joints between sheets shall be backed up to assure that both sheets are in the same plane. Edges of abutting sheets shall be straight and true and shall be forced tightly together to minimize fins. Quality of form contact surfaces shall be subject to Engineer's approval.

- Form ties shall be designed for the specific wall thickness required, and after removal of the external portion, no metal shall remain closer than one inch (1") from the surface. Ties to be left in place shall be equipped with washers or other approved devices to prevent seepage of moisture along the tie. The removable portion shall be oil or grease coated.

- Immediately following the removal of forms, the projecting ties shall be removed and all holes filled with grout flush with the wall. Care shall be taken to use the same brand of cement and same mix proportions used in the wall to prevent color differences.

- Forms for walls and columns shall be provided with removable cleanout panels, to allow removal of chips and debris. All plywood forms must be new when first used on this job, but may be reused if kept in good condition. All forms shall be swept or flushed clean of shavings, debris, and other loose material. Loose earth and rock shall be scraped from footing trenches before pouring concrete.

- Provide 3/4" chamfer strips, unless noted otherwise on the drawings, at all exposed corners of columns, beams and walls where later finish is not to be applied.

- All forms and shores for floor and roof slabs and beams shall be "crowned" or "cambered" 1/4" for each 12 feet of span to eliminate dead load deflection. All forms shall be oiled with a non-staining mineral form oil before placing reinforcing.

- Build into forms all hangers, anchors, bolts, inserts, sleeves, etc., required to be set as part of this work, place and secure in exact position.

3.3.3 Form removal shall be as follows:

3.3.3.1 It shall be the Contractor's responsibility to determine the time at which forms may be removed without endangering the structure, subject to the following limitations, unless documentation is provided to modify these requirements:

Footing forms - 24 hours minimum; continue curing as specified.

Wall forms - 2 days minimum for ten (10) feet high. Add one (1) day for each additional five (5) feet of height; continue curing as specified.

Superstructure slabs, beams and columns shall not be stripped until the concrete attains at least 75% of its design strength as proven by test cylinders, and until a minimum of 14 days has elapsed.

Reshoring - immediately after stripping, fully reshore all slabs which are to be used to support shores for upper slabs. All forms for upper floor pours must be supported by shoring to at least two levels of full strength concrete.

3.4 JOINTS FOR CONCRETE:

3.4.1 Joints for concrete shall include all expansion joints, construction joints and contraction joints.

3.4.2 All joints shall be constructed at locations shown on the drawings, or as directed by the Engineer. Additional joints may be constructed by the Contractor subject to the approval of the Engineer.

3.4.3 Expansion Joints:

3.4.3.1 Expansion joints shall be constructed where shown and as directed. Reinforcement, corner protection angles or other fixed items embedded or bonded into concrete shall not be run continuously through expansion joints. Reinforcement shall be discontinued 2 inches from the joint face. A slightly rounded edging shall be provided to finish neatly all edges around expansion joints.

3.4.3.2 Preformed expansion joint filler material, sealant and waterstops, where shown on the drawings, shall be as specified in Paragraph 2.1.

3.4.4 Construction Joints:

3.4.4.1 The location of construction joints shall be chosen by the Contractor and shall be subject to the Engineer's approval except where specifically located on the Plans.

3.4.4.2 Horizontal construction joints in walls will not be permitted, except with the approval of the Engineer. In order to minimize shrinkage, long continuous walls shall not be poured at one time. No more than 50 feet in horizontal direction shall be poured without a construction joint, unless prior approval is obtained from the Engineer.

3.4.4.3 Reinforcing shall be discontinuous through a construction joint, unless otherwise noted on drawings. As shown or specified on the drawings, additional No. 3 reinforcing bars spaced at 12-inches on center shall be placed horizontally in each construction joint at the center of the section. These bars shall be 4-feet long and shall extend 2-feet on each side of the joint. Reinforcement projecting through joint shall be kept clean.

3.4.4.4 As indicated on the drawings, all construction joints shall be provided with a keyway and a PVC waterstop as specified in Paragraph 2.1. The joint surface of the concrete previously placed shall be cleaned of all foreign matter and laitance by means of sandblasting with steam and sharp sand, or by other approved methods, until coarse aggregate is exposed. The concrete surface shall be saturated for a period of 6 hours and excess water then removed.

3.4.4.5 The new concrete shall be preceded by about 1/2-inch of soft mortar of the same proportions as that in the concrete. When accessible, this shall be scrubbed into the surface of the joint with wire brooms. When waterproofing is required, the entire joint shall be parged with a grout of approved mixture as recommended by the manufacturer of the waterproofing admixture, or one composed of one part integral waterproofing, three parts water and sufficient Portland Cement to form a thick, creamy mixture. This grout shall be fresh when followed by the new concrete. In column forms and deep narrow forms, the concrete placement shall be started with an oversanded mix with 5/8-inch maximum aggregate, and extra sack of cement per cubic yard, and a 5-inch slump. This mix shall be placed maximum 2 inches deep on the construction joint. A mortar layer shall not be used.

3.4.4.6 As indicated on drawings, a metal keyed floor slab joint may be used in lieu of above method.

3.4.5 Contraction (Control) Joints:

3.4.5.1 Contraction joints shall be located as shown on the drawings or as directed. Reinforcement through the joint shall be continuous as shown on the drawings and/or as directed by the Engineer.

3.4.5.2 Sawcut contraction joints (Type "A") shall be made by cutting the concrete surface and filling with the sealant material as specified under paragraph 2.1. Cutting shall be done after the surface is firm enough not to be damaged by the cutting blade. Time of cutting shall be approved by the Engineer.

3.4.5.3 Formed contraction joints (Type "B") shall be made by tooling with a 1/4-inch radius edging tool and filled with the sealant material as specified under paragraph 2.1.

3.4.5.4 Premolded Contraction Joints (Type AC@) shall be "Kold-Seal Zipper Strip" by Vinylex or "Zip Cap Control Joint" by Greenstreak Products, or equal.

3.4.5.5 As indicated on drawings, a metal keyed floor slab joint may be used in lieu of above method.

3.5 INSERTS AND SLEEVES:

3.5.1 The Contractor shall cooperate with all other Contractors in permitting the placing of all necessary sleeves, conduit, or inserts for hangers for their trades. The Contractor shall notify the trades of all pours in ample time for the responsible Contractor to place all embedded items, sleeves, slots, holes or chases.

3.5.2 Accurately set all slots, chases, anchor bolts, opening, etc. All inserts for hanging mechanical equipment shall be provided and set by the Contractor for the trade involved. All sleeves for piping passing through floors and walls shall be provided by the Contractor for the trade involved and set by the General Contractor.

3.5.3 All conduit which must be placed in concrete slabs shall be installed after, and above the bottom reinforcing, but before, and under the top reinforcing. Where conduit cross-overs are necessary, they shall be located so that reinforcing is not displaced from its specified position.

3.5.4 All anchor bolts for the structural steel shall be carefully set as shown on the fabricator's approved anchor bolt plan.

3.5.5 If, in the judgement of the Engineer, embedded items are located or grouped in a manner that will weaken the structure, the Contractor shall take the necessary corrective steps.

3.5.6 All inserts and sleeves where the outside diameter is greater than the spacing between the reinforcing steel, the reinforcing bars shall be warped around such inserts and sleeves. Unless shown otherwise on the drawings, provide, as a minimum, two #4 diagonal bars per face at 90 degrees to each other all around the inserts and sleeves.

3.5.7 Where openings are left in new concrete or are made in existing concrete for the insertion of wall castings, pipes or other fixtures, the space around these fixtures shall be made watertight by completely filling with a non-shrinking concrete containing an admixture of "SikaSet-C", "Anti-Hydro" Concrete Waterproofing Agent, or equal.

3.6 CONVEYING AND PLACING CONCRETE:

3.6.1 The placing or depositing of all concrete shall be done in accordance with ACI 304, and as modified herein.

3.6.2 Preparation Prior to Placing Concrete:

a. Prepare previously placed concrete surfaces by cleaning with steel brush and applying bonding agent in accordance with manufacturer=s instructions.

b. In locations where new concrete is dowelled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

c. Before placing concrete, all debris, water, snow and ice shall be removed from places to be occupied by concrete. Wood forms shall be wetted except in freezing weather or oiled, and the reinforcement cleaned of ice or other coatings.

3.6.3 Conveying, transporting, and placing shall be done as rapidly as practicable and without segregation, loss of ingredients, and without unnecessary rehandling. The tempering of concrete will not be permitted.

3.6.4 Concrete shall be deposited as nearly as practical to its final position to avoid segregation due to rehandling or flowing. The concreting shall be carried on at such a rate that the concrete is at all times plastic and workable and flows readily into the spaces between the reinforcing bars. No concrete that has partially hardened or been contaminated by foreign material shall be deposited on the work, nor shall retempered concrete be used. Once the concreting is started, it shall be carried on as a continuous operation until the placing of the panel or section is completed. All concrete shall be compacted by suitable means during the placing operation, and thoroughly worked around reinforcement and embedded fixtures and into corners of the forms. Tremies shall be used for deep forms, and concrete shall not be dropped more than 6'-0".

3.6.5 Vibrating:

3.6.5.1 During and immediately after depositing, all concrete shall be thoroughly compacted by vibrating the concrete internally with mechanical vibrating equipment. Care must be taken not to over-vibrate the concrete. Maintain spare vibrator(s) at the site for use in the event of breakdowns.

3.6.5.2 Spade and work the coarse aggregate away from forms, and work concrete around reinforcement to avoid air pockets, voids, and honeycombed sections. Hand spading slabs will be required in addition to mechanical vibration.

3.6.6 During concreting, check shoring frequently with level. Strengthen or adjust shoring as required. Ensure reinforcement, inserts, embedded parts and formed joints are not disturbed during concrete placement.

3.6.7 Placing of concrete in supported elements shall not be started until the concrete previously placed in columns and walls is no longer plastic and has been in place at least two hours.

3.6.8 Screed all work to level surfaces at the proper elevations. Rake surfaces to provide bond for floor finishes where specified.

3.6.9 No concrete shall be deposited under water without written permission of the Engineer and then only in accordance with his directions. Proper tremie equipment and techniques must be used, should the need arise.

3.6.10 The Contractor shall have available at all times sufficient approved materials such that, when started, concrete shall be continuous operation until placement of panel or section is complete. Should placing of concrete be suspended or unavoidably interrupted once a pour has been started, provide bulkheads and keyways at formed surface at which to stop pour.

3.6.11 All laitance shall be removed from previous pours before additional concrete is placed.

3.6.12 Place concrete continuously between predetermined expansion, control and construction joints.

3.7 PROTECTION AND CURING:

3.7.1 All concrete shall be protected against injury by sun, rain, freezing, mechanical damage, or premature drying. All concrete shall be maintained above 50^{o}F in a moist or wet condition for at least the first 7 days after placement.

3.7.2 On vertical surfaces keep forms on, or cover with burlap blankets, kept wet. When forms are exposed to the sun, minimize moisture loss by keeping the forms wet until they can be removed safety.

3.7.2.1 For the preservation of moisture, apply one of the following procedures to concrete not in contact with forms, immediately after completion of placement and finishing:

a. continuous sprinkling
b. application of absorptive mats or fabric kept continuously wet
c. application of waterproof sheet materials as specified in Part 2, herein
d. application of the curing agent specified in Part 2, herein

3.7.3 On horizontal surfaces and floors to receive later finishes, cover with wet burlap, wet sand, or curing paper and keep saturated. Cement finish floors shall be covered with protective covering material with lapped and sealed edges after the concrete has set sufficiently to carry worker's weight. Covering shall remain in place until floor is cleaned. Weight covering with planks as required to hold it in place.

3.7.4 Cold weather protection shall conform to A.C.I. 306R, except as modified herein.

3.7.4.1 Prior to pouring, it shall be the Contractor's responsibility to keep the forms free from snow, ice, mud or debris at all times, by means of covers, enclosures, live steam or heating below the forms, as necessary. Use of torches, open flames, salts, straw, hay or chemical is prohibited.

3.7.4.2 When air temperature is 40^{o}F, or less, use only heated concrete, delivered to the forms at temperatures between 65^{o}F and 85^{o}F. All portions of freshly poured concrete shall be continually maintained at a temperature of not less than 50^{o}F for seven days. Specified temperature shall be maintained by heated enclosures, insulating blankets, insulated forms, or whatever approved methods are required to attain the specified result.

3.7.4.3 Concrete shall not be poured on frozen soil. After pouring, protect against freezing and heaving of subgrade. Any frozen concrete will be rejected and removed at the Contractor's expense. Accelerating admixtures shall not be accepted in lieu of winter protection.

3.7.5 Hot weather protection shall conform to ACI 305R, except as modified herein.

3.7.5.1 During warm dry weather special care and precautions should be taken to prevent premature setting which may cause shrinkage and surface checking. No concrete shall be placed at temperatures above 90^{o}F without approval of the Engineer.

3.7.6 No water (except curing spray) shall be allowed to come in contact with the concrete or masonry surface for a minimum of 24 hours. Should the rising water place a stress on the concrete, proper bracing shall be provided. Loading shall not occur without prior approval by the Engineer, and proper safety precautions shall be the responsibility of the Contractor.

3.7.7 Curing compound may be used as specified in Paragraph 2.1 provided discoloration does not occur and application is in accordance with manufacturer's direction and is compatible with concrete finish.

3.8 FOOTINGS AND MATS:

3.8.1 Hand trim excavation to required levels.

3.8.2 Where shown on the drawings provide concrete mud mat to the thickness indicated.

3.8.3 Support reinforcing on bricks or precast blocks, or where mud mat is used, on chairs or bolsters, 3" clear of soil.

3.8.4 Columns and wall dowels shall be positioned, supported and tied in place before concrete is poured. Footing bottoms shall be inspected and approved by the Engineer before placing mud mat or footings.

3.9 SUPPORTED SLABS ON FORMS:

3.9.1 Forms shall be built to required dimensions and camber as specified above. Reinforcing shall be located as shown on approved placing plans. Support bars at specified heights with bolsters, chairs, etc., so that reinforcing will not be moved from the specified position during placing of concrete.

3.9.2 Refer to paragraph 3.5 for installation of conduits.

3.10 SLABS ON GROUND:

3.10.1 Subgrade and base to be prepared as specified in Contract Documents.

3.10.2 Form depressed ribs under partitions as required by sloping gravel, or provide permanent side forms to retain gravel.

3.10.3 Trench subgrade for electric conduit as detailed on Plans. All reinforcing shall be above electric conduit.

3.10.4 Place slabs of thickness shown on Plans, vibrate, screed, float level, and finish as specified below.

3.11 CONCRETE FINISHES - FORMED SURFACES:

3.11.1 After the forms are removed, all concrete surfaces shall be inspected, and any poor joints, voids, stone pockets or other defective areas noted by the Engineer shall be repaired immediately at the Contractor's expense by cutting away the unsound area to a minimum depth of 1 inch, and refilling with mortar mixed using the same brand of cement as the original pour. Edges of the patch shall be square with the face, with feather-edging prohibited. Obtain approval of corrective action prior to repair.

3.11.2 Care shall be taken to saturate the patched area and holes shall be filled in 1/2-inch layers with a delay for an initial set to take place before the succeeding layer is applied. If, in the opinion of the Engineer, improper consolidation is too extensive, or if the structure appears weakened by the voids, complete removal of the concrete in question may be required. Patches shall be kept moist for a minimum of three days.

3.11.3 Rubbed finishes shall be as follows:

a. Type A: Surfaces shall be rubbed until all marks are obliterated and a uniformly smooth finish is obtained.

b. Type B: Surfaces shall be rubbed until they are uniformly smooth, but the complete obliteration of all marks is not required.

c. Type C: All fins, burrs and projections shall be removed, any honey-comb or tie-holes shall be filled and patched.

3.11.4 The type of finish to be used shall be as scheduled or as noted on the Plans. Where the type of finish is not shown or scheduled, exposed faces shall be given a Type B finish and unexposed faces shall be given Type C finish.

3.11.5 Rubbing shall begin as soon as practicable after removal of forms and shall be expedited to completion as rapidly as practicable.

3.11.6 Surfaces shall be rubbed with carborundum and water until all fins, bubbles, hollows and other defects are removed. Grout or mortar shall not be used in the rubbing process, and plastering of surfaces will not be permitted. Power tools shall be used for rubbing with hand work limited to inaccessible corners or very small areas.

3.12 FLOOR AND SLAB FINISHING:

3.12.1 Finished floors and slabs shall be level to within 1/8" of finish floor elevation in ten feet. If this variation occurs, it must not be abrupt, but must taper so that the 1/8" variation takes place in not under 4 feet. Areas with drains shall have the surfaces sloped uniformly and true to the effect that no surface ponding occurs. If required by the Engineer, replace, grind or furnish underlayment to correct the variation, at the Contractor's expense. All floors and slabs shall be cured and protected as specified.

3.12.2 Trowelled Finish: Provide a floated finish, followed by a power troweling and then a hand troweling thoroughly consolidating the surface. Provide a finished surface essentially free from trowel marks and uniform in texture and appearance.

3.12.2.1 Where exposed concrete finish is specified, provide a steel trowelled finish.

3.12.2.2 Under quarry tile and ceramic tile screed to accurate lines and levels as required to receive these materials. Floors receiving tile are to be steel trowelled finished and are indicated on the Plans.

3.12.3 Float Finish: A float finish shall be applied to all exterior concrete and those areas not intended for occupancy, such as culvert inverts, bottoms of manholes and catch basins, pads, etc.

3.12.4 Broom Finish: Provide a floated finish. While the surface is still plastic, provide a textured finish by drawing a fiber bustle broom uniformly over the surface in one direction only. Provide "medium" texturing unless noted otherwise on the Contract Drawings. Sidewalks, walkways, or exterior ramps shall be given a broom finish, perpendicular to traffic, sufficient to leave marks without appreciable disturbance of the surface.

3.12.5 Dusting with dry cement or cement sand mixtures, to hasten drying, is prohibited. Dry time shall be controlled by controlling the water content and slump of the concrete when placed.

3.13 BONDING:

3.13.1 For the bonding of new and old concrete, such provisions shall be made by means of steps, dovetails, bonding agents as specified in Paragraph 2.1, or other devices as shown, or directed.

3.13.2 When placing of concrete is suspended or unavoidably interrupted, all necessary grooves for bonding future work shall be made before the concrete has attained its initial set. When the work is resumed, concrete previously placed shall be roughened, cleaned of all foreign

material and laitance by means of sandblasting with steam and sharp sand or other approved methods, until coarse aggregate is exposed, and thoroughly wetted and slushed with mortar containing the same proportion of cement and fine aggregate as used in the concrete to be placed. Follow manufacturer's preparation recommendations when using a bonding agent.

3.14 MISCELLANEOUS CONCRETE WORK:

3.14.1 Pour all sump pits, canopies, copings and provide all other miscellaneous concrete and cement work shown on the drawings. All such concrete shall be reinforced as shown. Provide all cement filled stair treads as detailed. Place bottoms and walls of pits and trenches monolithically or provide waterstops and keys.

3.14.2 Concrete Walks: Provide 4 inches thick minimum. Provide contraction joints spaced every 5 linear feet, unless otherwise indicated. Cut contraction joints 3/4-inch deep with a jointing tool after the surface has been finished. Provide 1/2-inch thick transverse expansion joints at changes in direction, where sidewalk abuts curb, steps, rigid pavement, or other similar structures. Provide a transverse slope of 1/4-inch per foot, and limit variation in cross section to 1/4-inch in 5 feet unless otherwise indicated.

3.14.3 Curbs and Gutters: Provide contraction joints spaced every 10 feet maximum, unless otherwise indicated. Cut contraction joints 3/4-inch deep with a jointing tool after the surface has been finished. Provide expansion joints 1/2-inch thick and spaced every 100 feet maximum, unless otherwise indicated. Provide a broom finish.

3.14.4 Equipment Bases: Unless otherwise shown, all equipment shall be erected on bases of Class "B" concrete. Thickness shall be as noted on the Plans, but at no time shall it measure less than 1 inch.

3.14.5 Concrete Stairs, Steps and Platforms: Stairs, steps and platforms shall be formed to required profiles shown on the Plans. Place reinforcing as required. Finish of stairs and steps shall be monolithic. Where shown on Plans, provide for nosings. Exterior stairs, steps and platforms shall have a non-slip finish. Before final troweling, embed abrasive grits, as specified in Paragraph 2.1, in the surface.

3.15 CEMENTITIOUS COATING:

3.15.1 Cementitious Coating shall be applied to all exposed exterior and interior Cast-In-Place Concrete surfaces except concrete floors and walking surfaces in accordance with the schedule shown on the Plans, or otherwise directed.

3.15.2 The surfaces to be coated shall be clean, free of all laitance, dirt, grease, curing compound, form treatments, efflorescence, paint and other foreign matter. All formed tie-rod holes and honeycombed areas shall be patched flush with the surrounding area using mortar as recommended by cementitious coating manufacturer.

3.15.3 All areas scheduled to be coated will receive two coats of cementitious coating as specified in Paragraph 2.1, applied at a minimum rate of 2 pounds per square yard per coat. The first coat shall be allowed to set before the second coat is applied. Sufficient materials shall be applied to fully seal all pores and voids. All coatings shall be done strictly in accordance with the manufacturer's recommendations.

PART 4 - MEASUREMENT & PAYMENT

4.1 MEASUREMENT - CAST-IN-PLACE CONCRETE:

4.1.1 The quantity of Cast-In-Place Concrete for which payment will be made will be the actual number of cubic yards measured in place within the lines shown, specified, or ordered.

4.2 PAYMENT - CAST-IN-PLACE CONCRETE:

4.2.1 For Cast-In-Place Concrete, not included in other unit or lump sum price items, payment for Cast-In-Place Concrete will be made at the applicable price stated in the Proposal.

END OF SECTION