

Dougiello Softball Field 520 Hoydens Lane, Fairfield, CT

# **Investigation Report**

Town of Fairfield September 2022

# Tighe&Bond

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September 20, 2022

Jade Barber Department of Energy and Environmental Protection Bureau of Water Protection and Land Reuse Remediation Division 79 Elm Street Hartford, CT 06106-5127

#### Re: Dougiello Softball Field – 520 Hoydens Lane Investigation Report Julian Fill Projects, Fairfield, CT

Dear Ms. Barber:

On behalf of the Town of Fairfield, enclosed is the Investigation Report for the investigation of Julian Fill at Dougiello Softball Field located at 520 Hoydens Lane in Fairfield, CT. This report is being submitted in accordance with the requirements of Consent Order 2020002DEEP, dated October 26, 2020 between the Town of Fairfield and the CT Department of Energy and Environmental Protection (CTDEEP).

If you have any questions or comments, please contact me at (860)704-4761 or <u>jtolsen@tighebond.com</u>.

Very truly yours,

TIGHE & BOND, INC.

ant. Oh

James T. Olsen, PG, LEP#178 Project Director, LEP of Record

cc: Brenda Kupchick, First Selectwoman – Town of Fairfield Thomas Bremer – Chief Administration Officer – Town of Fairfield Michael Miller – Wiggin & Dana

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# Section 1 Introduction

By way of background, in 2019, the Town of Fairfield Health Department began its evaluation of the potential use of "Julian Fill"<sup>1</sup> at locations within the Town's municipal boundaries during 2013 – 2016. Town Health Department staff gathered relevant information from communications with staff from the Town Public Schools and Parks and Recreation, Public Works, Conservation and Engineering Departments. In addition, Town Health Department staff obtained and reviewed over 180 invoices / tickets purportedly showing the removal of "Julian Fill" from the Town's former Reclamation Yard, then operated by Julian Development, LLC d/b/a Julian Enterprises, to identify locations within the Town's municipal boundaries where Julian Fill potentially was placed during the relevant time. Town Health Department staff also gleaned information from certain Town resident inquiries about various projects occurring in Town rights of way and easements during this time. From these sources of information, Town Health Department staff developed and now maintains a list of locations where it is believed that Julian Fill could have been improperly placed. The left field area of Dougiello Softball Field was identified as a location where Julian Fill was potentially placed.

The following is the Investigation Report summarizing investigation of "Julian Fill" at Dougiello Softball Field in Fairfield, Connecticut (Site). According to the Town of Fairfield, Julian Fill was used to level the left field area of Dougiello Softball Field prior to topsoil and grass in approximately 2013. The investigation of the Site was completed in August 2019. On October 26, 2020, the Connecticut Department of Energy and Environmental Protection (CTDEEP) and the Town executed Consent Order 2020002DEEP to address violations associated with the Julian Fill used throughout Fairfield. Although the investigations were completed prior to the execution of the Consent Order, prevailing standards and guidelines were followed to determine the nature, extent, and degree of the Julian Fill. The investigations at Dougiello Softball Field were completed in accordance with the requirements of the Consent Order. Based on the results of the Julian Fill investigation, the soil at Dougiello Softball Field met the definition of "clean fill" and remediation of the Julian Fill was not required.

<sup>&</sup>lt;sup>1</sup> This term refers to the materials that were processed by Julian Development, LLC d/b/a Julian Enterprises at the Town's former Reclamation Yard, located at 1 Richard White Way, Fairfield, Connecticut, circa 2013-2016 and improperly placed at certain Town locations.

# Section 2 Site Description

# 2.1 Site Location, Improvements, and History

The Site is located at Dougiello Softball Field at 520 Hoydens Lane in Fairfield, Connecticut and consists of a portion of the left field. A Site location map is provided as Figure 1 (Appendix A). The real property comprising the Site is approximately 9.42 acres. A Site plan is provided as Figure 2.

Based upon the investigation described in Section 1 above, an unknown volume of Julian Fill was used to level the left field area of Dougiello Softball Field prior to topsoil and grass in approximately 2013.

# 2.2 Groundwater Quality Classification

According to the CTDEEP Water Quality Classifications Map of Fairfield, Connecticut (October 2018), groundwater at Dougiello Softball Field is classified as GAA/GAAs. Groundwater classified as GAA/GAAs is presumed suitable for drinking without treatment and may also contribute to an existing or potential public water supply.

# 2.3 Julian Fill Usage

Based on research conducted by the Town, information provided by Town personnel (including George Kaczegowicz, General Supervisor of Streets), field observations conducted by Tighe & Bond, and confirmatory sampling performed by Tighe & Bond, an unknown volume of Julian Fill was used to level the left field area of Dougiello Softball Field in approximately 2013. The location at the Site where the Julian Fill was placed is shown in Figure 2.

# Section 3 Site Investigations

# 3.1 Sampling Protocols

Tighe & Bond conducted the investigation at Dougiello Softball Field in August 2019. This investigation was completed prior to the issuance of the Consent Order; however, prevailing standards and guidelines were followed. Three samples were collected from the reported area of Julian Fill use at approximately 20-foot spacing, as shown on Figure 3. A total of 7 hand test pits were advanced as part of this investigation.

The 7 test pits were inspected for indications of Julian Fill, including potential asbestos containing materials (PACMs), which were not identified. Soil samples were collected from 3 of the 7 test pits and analyzed for COCs known to be present in Julian Fill including extractable total petroleum hydrocarbons (ETPH), polycyclic aromatic hydrocarbons (PAHs), arsenic, lead, polychlorinated biphenyls (PCBs), and asbestos in soil. All samples were collected from within the reported Julian Fill use location.

Soil samples were collected in accordance with CTDEEP guidance and Tighe & Bond standard operating procedures (SOPs) and submitted under proper chain-of-custody to the receiving laboratory. Hand test pit equipment was decontaminated between sampling locations. All samples were collected with dedicated nitrile gloves and placed into appropriate laboratory-supplied containers, chilled on ice, and were extracted and analyzed within the method specific holding time. Duplicate samples were not collected as less than 20 samples were collected from the Site. A discussion of Quality Control/Quality Assurance for sampling and laboratory analyses is provided in Section 7.

After collection, sampling points were located in the field using a field tablet and R1 GPS locating unit. This data was subsequently uploaded into Tighe & Bond's GIS program for mapping and presentation.

# **3.2 Laboratory Analyses**

Laboratory analyses were conducted in accordance with CTDEEP's Reasonable Confidence Protocols (RCPs) by Phoenix Environmental Laboratory (Phoenix) of Manchester, CT. Asbestos in soil samples were submitted to Eastern Analytical Services, Inc. (EAS) of Elmsford, NY for analysis. Analytical methods that were followed are listed on Table 1 (Appendix B) for each COC. A Data Quality Assessment / Data Usability Evaluation (DQA/DUE) was completed for the data to ensure that Quality Control / Quality Assurance (QA/QC) was maintained and is presented in Section 7.

Laboratory data was received from the laboratory in electronic data deliverable (EDD) format for direct upload into Tighe & Bond's EnviroData data management program for data post processing, comparison to cleanup criteria, and export to the GIS mapping program.

# Section 4 **Regulatory Criteria**

The Remediation Standard Regulations (RSRs) are set forth in Sections 22a-133k-1 through 22a-133k-3 of the RCSA, adopted January 1, 1996 and amended on June 27, 2013 and February 16, 2021. The RSRs contain criteria for the remediation of soil and groundwater. Further, in accordance with the Consent Order, Julian Fill that is determined to meet the definition of "solid waste" must be removed to satisfy Connecticut's Solid Waste Management requirements, Chapter 446d of the General Statutes and RCSA §§ 22a-209-1, et seq. If the material is determined to be "clean fill," however, Connecticut's Solid Waste Management requirements do not apply to the location that is the subject of investigation – that is, because the material that was identified to be Julian Fill is not in fact "solid waste."

The CTDEEP soil remediation criteria integrate two risk-based goals:

- Direct Exposure Criteria (DEC) to protect human health and the environment from risks associated with direct exposure (ingestion) to contaminated soil.
- Pollutant Mobility Criteria (PMC) to protect groundwater quality from contaminants that migrate or leach from the soil to groundwater. Soils to which both criteria apply must be remediated to a level, which is equal to the more stringent criteria.

# 4.1 Direct Exposure Criteria

CTDEEP has established specific numeric exposure criteria for a broad range of contaminants in soil. The DEC applies to accessible soil to a depth of 15 feet. The DEC for substances other than PCBs does not apply to inaccessible soil at a release area, provided that, if such inaccessible soil is less than 15 feet below the ground surface, an environmental use restriction  $(EUR)^2$  is in effect with respect to the subject release area in accordance with the RSRs. For PCBs, a maximum concentration of 10 milligrams per kilogram (mg/Kg) can remain in soils to be considered inaccessible, provided that an ELUR is in effect the subject area complies with the other applicable DEC provisions in the RSRs. Inaccessible soil generally means polluted soil, which is the following:

- More than 4 feet below the ground surface;
- More than 2 feet below a paved surface comprised of a minimum of three inches of bituminous pavement or concrete;
- Beneath a paved surface comprised of a minimum of three inches of bituminous • concrete or concrete polluted only with concentrations of semi-volatile substances or petroleum hydrocarbons, normal constituents of bituminous concrete, in excess of applicable DEC and metals concentrations that are less than two times the applicable DEC;
- Beneath an existing building;

<sup>&</sup>lt;sup>2</sup> "Environmental Use Restriction" is defined to include both a Notice of Activity and Use Limitation (NAUL) and an Environmental Land Use Restriction (ELUR). Conn. Gen. Stat. § 22a-133n. Investigation Report, Dougiello Softball Field

- Beneath another permanent structure(s) approved by the CTDEEP Commissioner; or
- Buildings can be constructed and/or clean fill can be placed over contaminated soils rendering them inaccessible.

CTDEEP has established two sets of DEC using exposure assumptions appropriate for residential land use (RES DEC) or for industrial and certain commercial land use (I/C DEC). In general, all locations to which the RSRs apply are required to be remediated to the residential criteria. If the industrial/commercial land use criteria are applicable and used, an EUR (NAUL or ELUR) is required to be in effect in accordance with the RSRs.

# 4.2 Pollutant Mobility Criteria

The PMC that apply to remediation of a site depends on the groundwater classification of the site. The purpose of these criteria is to prevent contamination to groundwater in "GA" classified areas (including GAA or GAAs), and to prevent unacceptable further degradation to groundwater in "GB" classified areas.

The applicable PMC for the Site is the PMC for a "GA" classified area. The PMC generally applies to all soil within the unsaturated zone, which represents the soil located from the ground surface to the seasonal low-water table in "GA" classified areas. The criteria do not apply to environmentally isolated soils that are polluted with substances other than VOCs provided an EUR is recorded for the release area which ensures that such soils will not be exposed (unless approved in writing by the CTDEEP Commissioner). Environmentally isolated soils are defined as certain contaminated soils, which are above the seasonal high-water table, beneath an existing building and not a source of on-going contamination. An EUR must be recorded for the site, which ensures that such soils will not be exposed as a result of building demolition or other activities. Buildings can be constructed over contaminated soils rendering them environmentally isolated.

Remediation based upon the listed PMC requires that a substance in soil, other than an inorganic substance or PCBs, be remediated to at least that concentration at which the results of a mass analysis of soil for such substances does not exceed the PMC applicable to the groundwater classification (i.e., GA or GB) of the area in which the soil is located (default PMC). An inorganic substance (metals) or PCBs in soil must be remediated to at least that concentration at which the analytical results of leachate produced from either the Toxicity Characteristic Leaching Procedure (TCLP) or the Synthetic Precipitation Leaching Procedure (SPLP) does not exceed the PMC applicable to the groundwater classification of the area in which the soil is located.

In addition, the RSRs provide an alternate method for compliance with the PMC. For polluted soils within a GA groundwater area, an SPLP or TCLP concentration of a substance in soil may be remediated to the groundwater protection criteria (GWPC) or ten-times the GWPC in certain GA areas.

# Section 5 Investigation Results

A summary of the results from the investigation of the Julian Fill at Dougiello Softball Field in August 2019 is as follows:

- ETPH was not detected at concentrations above the laboratory reporting limits in all samples analyzed.
- Arsenic was detected at concentrations ranging from 3.14 mg/Kg to 3.27 mg/Kg, which are all below the RES DEC of 10 mg/Kg.
- Lead was detected at concentrations ranging from 9.56 mg/Kg to 14.4 mg/Kg, which are all below the RES DEC of 400 mg/Kg.
- PCBs were not detected at concentrations above the laboratory reporting limits in all samples analyzed.
- PAHs were not detected at concentrations above the laboratory reporting limits in all samples analyzed.
- PACMs were not identified, and asbestos was not detected in the soil samples.

A summary of investigation soil sampling analytical data is provided in Table 1, along with a comparison of soil data to the RSRs described in the previous section. Laboratory data reports are provided in Appendix D. The locations of the soil samples are provided on Figures 3.

Based on the Town's research and Tighe & Bond's investigation, the extent of Julian Fill is shown on Figures 2 and 3 and includes the left field area of Dougiello Softball Field. The Julian Fill consists of brown sand and some silt. Representative photographs are provided in Appendix C.

The results of the Julian Fill investigation samples complied with the RSRs, and as such met the definition of "clean fill". Remediation of the area where Julian Fill was reportedly used was not required.

# Section 6 Conceptual Site Model

An initial conceptual site model (CSM) was submitted to CTDEEP by Tighe & Bond on April 16, 2020 describing COCs that are expected to be encountered during investigation and remediation of locations where Julian Fill was placed. The CSM provided below is intended to supplement the April 16, 2020 CSM, and a similar CSM will be presented for each Julian Fill location as additional data is gathered through investigation and remediation activities required in connection with Consent Order 2020002DEEP. The following CSM is specifically tailored for the Site-specific conditions at Dougiello Softball Field.

# 6.1 Description of the Site, Environments, and AOCs

A description of the Site, environments, and AOCs is provided in Section 2. There is one AOC, the area where Julian Fill was reportedly used to level the left field area of Dougiello Softball Field prior to topsoil and grass in approximately 2013.

# 6.2 Nature and Extent of Contamination at the Site

As discussed in Section 2.3, based on the Town's research, an unknown volume of Julian Fill was used to level the left field area of Dougiello Softball Field in approximately 2013. The investigation completed at the Site indicated that Julian Fill did not contain concentrations of COCs above applicable RSR criteria; as such, there is no risk posed with human exposure to Julian Fill at the Site and remediation was not required.

## 6.3 Potential Release Mechanisms and Migration Pathways at the Site

Tighe & Bond has investigated the locations where Julian Fill was reportedly used at Dougiello Softball Field. Soil samples collected from the Site did not contain concentrations of COCs above applicable RSR criteria. In addition, Tighe & Bond did not observe any migration pathways due to soil erosion or overland flow.

# Section 7 Quality Assurance / Quality Control

During the investigation activities conducted by Tighe & Bond, sufficient Quality Assurance/Quality Control (QA/QC) procedures were followed to conduct a Data Quality Assessment (DQA) and Data Usability Evaluation (DUE), as required by the CTDEEP Laboratory QA/QC DQA & DUE Guidance Document, dated May 2009, revised December 2010. The following provides a discussion of the DQA/DUE conducted for the data obtained by Tighe & Bond.

Based on the information provided in this section, it is Tighe & Bond's opinion that the site-specific Data Quality Objectives (DQOs) have been met.

A summary of results from QA/QC samples, including duplicate samples are included in the sections below.

# 7.1 Data Quality Objectives

DQOs for the environmental investigation activities were developed to ensure that a sufficient quantity and quality of analytical data were obtained in order to:

- Determine if a release has taken place;
- Determine if contamination is present in the environment at concentrations exceeding the applicable RSR criteria; and
- Support a defensible conclusion that the horizontal and vertical extent of contamination has been adequately delineated.

The soil samples obtained during Tighe & Bond's investigation activities were analyzed per the RCP methods to demonstrate sufficient quality of data.

## **7.2 DQA/DUE for Investigation Results**

The investigation data was provided within one laboratory report from Phoenix. Investigation samples were collected in August 2019. These samples were analyzed using the RCP methods. The RCP Case Narrative of the laboratory report indicates that minor QA/QC nonconformities were identified and are summarized below. Laboratory data reports are provided in Appendix D. The following briefly summarizes the findings of the DUE; see Table 2 for details:

- The QA/QC Certification Forms for the laboratory report indicate that the report met the requirements for "Reasonable Confidence"; however, only the PAH constituents and limited metals were reported as requested on the chain-of custody which is not in accordance with Reasonable Confidence methods.
- Proper Chain of Custody protocols were utilized for the laboratory report, including recordation of signatures, dates, and times documenting custody changes.
- All samples were received by the laboratory below 6°C.
- All reporting limits were met.

- All samples were analyzed within holding times for the various parameters.
- COCs associated with the site were not detected in any of the laboratory blanks.
- All laboratory control samples (LCS) were within the method specific limits for COCs associated with the Site except for the following:
  - The LCS/LCSD recovery or RPD values were outside method criteria for CTETPH and PCBs. Based on other QC data and lack of detections, no significant bias is suspected.
- All surrogates were within acceptable limits for the various parameters except for:
  - The LCS/LCSD RPD for PCB surrogates exceeded method criteria. Based on other QC data and lack of detections, no significant bias is suspected.
- Matrix spike and matrix spike duplicates were within method specific limits for COCs associated with the Site.
- Other significant QA/QC non-conformities were not noted.

Potential asbestos containing soil samples were provided within one laboratory report from August 2019, samples were analyzed by Eastern Analytical Services, Inc., CT NVLAP Lab Code 101646-0. The analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method.

### 7.3 Duplicate Samples

Field duplicate samples are collected to provide information on data reproducibility. The duplicate samples were obtained by collecting two identical sets of soil samples from a single sample location. The respective duplicate samples were analyzed for the same parameters analyzed in the original sample. The comparison is a measurement of analytical precision, measured as Relative Percent Difference (RPD) as defined within the CTDEEP Laboratory Quality Assurance and Quality Control Guidance Document, dated May 2009, revised December 2010. In accordance with the Guidance Document, duplicate samples were collected at a frequency of one duplicate sample per 20 samples collected.

During the Julian Fill investigation activities, a total of three soil samples were collected. In accordance with the Guidance Document, no duplicate samples were collected.

# Section 8 LEP Opinion

Tighe & Bond conducted investigations of the locations where Julian Fill was reportedly used and underlying soil at the Site in accordance with prevailing standards and guidelines. The COCs associated with the Julian Fill have been identified and the extent and degree of contamination from Julian Fill and associated impacts to underlying soil has been defined.

Based on the Town's research, an unknown volume of Julian Fill was used to level the left field area of Dougiello Softball Field prior to topsoil and grass in approximately 2013. The investigation completed at the Site indicated that the Julian Fill did not contain concentrations of COCs above applicable RSR criteria and therefore met the definition of "clean fill". As such, no remediation was necessary for the areas where Julian Fill was used at the Site.

It is the opinion of this LEP that the investigation of the above-described areas of the Site where Julian Fill was previously placed has been completed in accordance with prevailing standards and guidelines and the requirements of Consent Order 2020002DEEP.

James T. Olsen, PG, LEP#178 Project Director, LEP of Record



9/20/22

Date

# Section 9 Certification

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law.

Honorable Brenda Kupchick First Selectwoman – Town of Fairfield

9-19-22 Date

J:\F\F0439 Fairfield Target Client Business Development\20 Fill Investigation, Management & Remedial Planning\Sites\Dougiello Softball\Investigation Report\Dougiello Softball Field IR.docx

Investigation Report, Dougiello Softball Field

# **Tighe&Bond**

**APPENDIX A** 





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# FIGURE 3 JULIAN FILL INVESTIGATION SAMPLING LOCATION LEGEND + Investigation Sample Location Reported Area of Julian Fill Usage Approximate Site Parcel Approximate Parcel Boundary According to Town of Fairfield research, an unknown volume of Julian Fill was used to level out left field prior to topsoil and grass in approximately 2013. LOCUS MAP Feet 1 " = 50 ' NOTES 1. Based on 2016 Statewide Orthophotography, Courtesty of CTECO. Dougiello Softball Field 520 Hoydens Lane Fairfield, Connecticut June 2022

# **Tighe&Bond**

**APPENDIX B** 

#### TABLE 1

Summary of Julian Fill Investigation Analytical Data Dougiello Softball Field Fairfield, Connecticut Last Updated: 07/19/2022 (JLL)

Sample ID	CTDEE	P RSR	US EPA	DSF-S1	DSF-S2	DSF-S3
Sample Depth	Crit	eria		0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft
Sample Date	RES	GA		8/23/19	8/23/19	8/23/19
Lab Sample ID	DEC	PMC		CD91946	CD91947	CD91948
Asbestos PLM 198.1 <sup>2</sup>						
% Amosite	NA	NA	NA	0.0%	0.0%	0.0%
% Chrysotile	NA	NA	NA	0.0%	0.0%	0.0%
% Other	NA	NA	NA	0.0%	0.0%	0.0%
% Total Asbestos	NA	NA	1%	0.0%	0.0%	0.0%
Metals 6010D (mg/kg)						
Arsenic	10	NA	NA	3.27	3.19	3.14
Lead	400	NA	NA	13.5	9.56	14.4
CTETPH 8015D (mg/Kg)	500	500	NA	<63	<64	<64
PCBs 8082A (mg/Kg)						
PCBs (Total)	1	NA	NA	<0.43	<0.42	<0.41
PAHs 8270D (mg/Kg)						
Acenaphthene	1,000	8.4	NA	<0.3	<0.3	<0.29
Acenaphthylene	1,000	8.4	NA	<0.3	<0.3	<0.29
Anthracene	1,000	40	NA	<0.3	<0.3	<0.29
Benz(a)anthracene	1	1	NA	<0.3	<0.3	<0.29
Benzo(a)pyrene	1	1	NA	<0.3	<0.3	<0.29
Benzo(b)fluoranthene	1	1	NA	<0.3	<0.3	<0.29
Benzo(ghi)perylene	8.4	1	NA	<0.3	<0.3	<0.29
Benzo(k)fluoranthene	8.4	1	NA	<0.3	<0.3	<0.29
Chrysene	84	1	NA	<0.3	<0.3	<0.29
Dibenz(a,h)anthracene	1	1	NA	<0.3	<0.3	<0.29
Fluoranthene	1,000	5.6	NA	<0.3	<0.3	<0.29
Fluorene	1,000	5.6	NA	<0.3	<0.3	<0.29
Indeno(1,2,3-cd)pyrene	1	1	NA	<0.3	<0.3	<0.29
Methylnaphthalene, 2-	270	0.56	NA	<0.3	<0.3	<0.29
Naphthalene	1,000	5.6	NA	<0.3	<0.3	<0.29
Phenanthrene	1,000	4	NA	<0.3	<0.3	<0.29
Pyrene	1,000	4	NA	<0.3	<0.3	<0.29

CTDEEP RSRs - Connecticut Department of Energy and Environmental Protection Remediation Stan Regulations (June 27, 2013) and CTDEEP Additional Polluting Substances (September 20, 2018)

RES DEC -Residential Direct Exposure Criteria

GA PMC - Pollutant Mobility Criteria in a GA groundwater area

NA - Not Applicable

CT ETPH - Connecticut Department of Public Health Extractable Total Petroleum Hydrocarbons

PAHs - Polycyclic Aromatic Hydrocarbons

PCBs - Polychlorinated Biphenyls

<xx indicates compound was not detected. Detection limit is provided.

Boxed values indicate exceedances of RES DEC

Grey shade indicate exceedances of GA PMC

 <sup>2</sup> - Asbestos analysis of Bulk Materials via 40 CFR Part 763, Sub. E, App. E/NYS-DOH 198.1 (PLM) by Eastern Analytical Services, Inc.

#### TABLE 2

Summary of Data Usability Evaluation Dougiello Softball Field Fairfield, Connecticut Last Updated: 07/19/2022 (JLL)

Laboratory Report ID	Sample Date	Batch Group	Lab	Lab Sample ID	Sample ID	Media	Compound	QA/QC Description	Result Bias	Target Range	Result %	Detected in Sample	DUE Consideration	
GCD91946	8/23/2010	946 8/23/2019	493800	Phoenix	CD91946, CD91947, CD91948	DSF-S1, DSF-S2, DSF-S3	Soil	СТ ЕТРН	Low LCS/LCSD Recovery	Low	60-120	51/48	No	The Batch MS/MSD recovery is acceptable. The LCS/LCSD RPD is acceptable. No significant bias is suspected.
		493898	Phoenix	CD91948	DSF-S3	Soil	Aroclor-1016; Aroclor-1260; Decachlorobiphenyl; Tetrachloro-m-xylene	High LCS/LCSD RPD	Variability	30	44.6, 45.2, 40.9, 52.3	No, No (SUR)	These analytes were not reported in the sample. No significant variability is suspected.	

LCS - Laboratory Control Sample LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike MSD - Matrix Spike Duplicate SUR - Surrogate

# **Tighe&Bond**

**APPENDIX C** 

# Appendix C - Photographic Log



Job Number: <u>15-0439</u>

Client: Town of Fairfield

Dougiello Softball Field Site: Fairfield, CT

Photograph No.: 1	Date: 8/23/2019	Direction Taken: Facing Northwest						
Description: DSF S1 Sa	Description: DSF S1 Sampling Location							

Photograph No.: 2	Date: 8/23/2019	Direction Taken: Facing Southeast						
Description: DSF S1 Sampling Location								

# Appendix C - Photographic Log



Job Number: <u>15-0439</u>

Client: Town of Fairfield

Dougiello Softball Field Site: Fairfield, CT

Photograph No.: 3	Date: 8/23/2019	Direction Taken: Not Applicable						
Description: DSF S2 Sa	Description: DSF S2 Sampling Location							

Photograph No.: 4	Date: 8/23/2019	Direction Taken: Facing East					
Description: DSF S2 Sampling Location							

# Appendix C - Photographic Log



Job Number: <u>15-0439</u>

#### Client: Town of Fairfield

Dougiello Softball Field Site: Fairfield, CT

Photograph No.: 5	Date: 8/23/2019	Direction Taken: Facing South						
Description: DSF S3 Sa	Description: DSF S3 Sampling Location							

Photograph No.: 6	Date: 8/23/2019	Direction Taken: Not Applicable
Description: DSF S3 Sa	mpling Location	

# **Tighe&Bond**

**APPENDIX D** 



# Eastern Analytical Services, Inc.

Phone (914) 592-8380

4 Westchester Plaza Elmsford, New York 10523-1610 http://www.EASInc.com Fax (914) 592-8956

August 26, 2019

Mr. James T. Olsen Tighe & Bond 53 Southampton Road Westfield, MA 01085

RE: CPN 150439020 - Dougiello Softball Field EAS Batch No. 1906974

Dear Mr. Olsen:

Enclosed please find the laboratory results for the 3 bulk sample(s) received by Eastern Analytical Services, Inc. August 23, 2019. The analysis was performed in accordance with EPA/600/R-93/116 and NYS-DOH Item 198.1.

Thank you for allowing EAS, Inc. to provide Tighe & Bond with professional analytical services. If you have any questions or require additional information or assistance, please feel free to contact me at the number above or e-mail Lab@EASInc.com.

Sincerely,

EASTERN ANALYTICAL SERVICES, INC.

Paul Stascavage Laboratory Director

PS:om

Enclosures

Electronically Transmitted August 23, 2019

EAS Batch No.	1906974	Eastern RE: CPN 1	Analytical Servic Bulk Sample Results 50439020 - Dougiello Sof	<b>es, Inc.</b> tball Field
Date Collected Collected By : Date Received Date Analyzed Analyzed By : Signature : Analytical Me NVLAP Lab C NYS Lab No.	d: 08/23/2019 Brian Sirowia 1: 08/23/2019 d: 08/23/2019 Ghayath Elia: thod : 40 CFR Part Code : 101646-0 10851	s 763, Sub. E, App. E/N	Client: YS-DOH 198.1 (PLM)	Tighe & Bond 53 Southampton Ro Westfield, MA 010
Sample ID Nu	mber	DSF S1	DSF S2	DSF S3
Layer Number				
Lab ID Numbe	er	2639705	2639706	2639707
Sample Locati	on	Not Given	Not Given	Not Given
Sample Descri	ption	Not Given	Not Given	Not Given
Method of Qua	antification	Visual Estimation	Visual Estimation	Visual Estimation
Appearance	Layered Homogenous Fibrous Color	No No Yes Brown	No No Yes Brown	No No Yes Brown
Sample Treatm	nent	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite % Chrysotile % Other % Total Asbestos	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0
Other Fibrous Materials Present	% Fibrous Glass % Cellulose % Other	0.0 5.0	0.0 5.0	0.0 5.0
11000111	% Unidentified	0.0	0.0	0.0
Non-Fibrous Materials Present	% Silicates % Carbonates % Other	15.0 20.0 0.0	15.0 20.0 0.0	15.0 20.0 0.0

à á

4 Westchester Plaza

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government. These Results Can Not Be Used To Claim That NOB Items Tested Are Non-Asbestos Containing. Overall Lab Accuracy ± 17%. Samples received in acceptable condition unless otherwise noted. AIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Page 1 of 1

### Eastern Analytical Services, Inc. Chain of Custody Form

EAS Client:	Tighe & Bond	EAS Batch No.	1906974
	53 Southampton Road Westfield, MA 01085	Turn-Around:	12 Hr
		Shipped Via:	Walk In
Analyte:	% Asb	State of Origin:	СТ
No. of Samples	3	Sample Disposition:	Standard x
Received:			Return
No. of Samples Analyzed:	3		
Client Project Number/Name:	RE: CPN 150439020 - Dougiello Softball Field		

Lab ID Numbers: 2639705-2639707

Collected By:	Brian Sirowich	Signature	Date: 08/23/2019	
Received By:	Damien Warner Ghayath Elias	JE MA	Date: 08/23/2019	Time: 1329
Logged In By:	Ghayath Elias		Date: 08/23/2019	
Prepped By:	Ghayath Elias	A.C.	Date: 08/23/2019	
Analyzed By :	Ghayath Elias		Date: 08/23/2019	Time: 1800
Re-Analyzed By:			Date:	
Checked By:	Damien Warner	QE 116	Date: 08/23/2019	
E-Transmitted By:	Damien Warner	QE.116	Date: 08/23/2019	Time: 2036
Logged Out By:			Date:	

4 Westchester Plaza - Elmsford, NY 10523         www.RSM.scorn         914-592-8380         OSF S1 2639706         OSF S2 2639707         OSF S3 2639707         S3 2639707         S3 2639707         OSF S3 2639707         S4 2011         S5 2639707         S5 263707         Time		Eastern Analytic	al Services, In	с.	
914-592-8380       DSF       S1       2639705         CHAIN OF CUSTODY       ØSF       S2       2639705         955       92       2639705       Science       95         955       92       2639705       Science       Science       Science         955       92       2639705       Science       Scien		4 Westchester Plaza - www.EA	Elmsford, NY 10523		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		914-59	2-8380 P	SF 51 2639705	
EAS Client:       Trap & Bond       No. of Samples:       3         0.3       0.3       0.3       0.3       0.3         0.4       0.4       0.4       0.4       0.4         0.4       0.4       0.4       0.4       0.4       0.4         0.4       0.4       0.4       0.4       0.4       0.4       0.4         0.4		CHAIN OF	CUSTODY DS	St S2 2639706 St S3 2639707	
5.5       Son thomeson Rights       Turn-Around       Control Son thomeson Rights         Weekfied & TDA       01085       Turn-Around       Control Son thomeson Rights         Analyte:       Ashestos       Lead       Fungi       Son thomeson Rights         Analyte:       Ashestos       Lead       Fungi       Son thomeson Rights         Nob PLM Only       Dust       Tape Lift       Via:       FedEx       US Exp         NOB TEM Only       Air       Other       Drop Box       Other       Other         NOB TEM Only       Air       Other       Analyte       Analyte       Origin:       RI       DR EMAPA         NOB TEM Only       Air       Other       Analyte       Analyte       Other       Other       Other         NOB TEM PLM       Other       Analyte       State of       NY ØCT       NI DA       MA         Air 7400 (rem)       Pb Only       Sample       Image       Image	EAS Client: Tighe 4	Bond	No. of Samples:	3.	
Analyte:       Asjestos       Lead       Fungi         Mail       Solid       Spore Trap       Shipped       US Mail       Walk In         NOB PLM Only       Dust       Tape Lift       Via:       PredEx       US Exp         NOB TEM Only       Air       Tope Lift       Via:       PredEx       US Exp         NOB TEM/PLM       Other       Analyte       Drop Box       Other       Other         NOB TEM/PLM       Other       Analyte       Drop Box       Other       Analyte         Air AtERA remo       Origin:       RI       ME       VT       Other         Air AtERA remo       Origin:       RI       ME       VT       Other         Air AtERA remo       Origin:       RI       ME       VT       Other         Other       B RCRA       Disposition       (Reun)       (Reun)         Client Project       Name (Mumber:       150434020       Pougleto       Separatre       Bl23]19         Name (Mumber:       150434020       Name (Mume Type)       Separatre       Bl23]19       Date         Submitted By:       Image (Parter Type)       Separatre       Bl23]19       Date         Comments:       emage (Parter Type)	63 westfied	EMA 01085	Turn- 🗖 03Hr 🛙 Around 🗍 48Hr 🚺	□06Hr □12Hr □2 □72Hr □96Hr □5	4Hr <b>D</b> 30Hr Day <b>D</b> Other
Client Project Name/Number: 150439020 - Daugiello Softball Field Sampled By: Sampled By: Logged-Out By: 150439020 - Daugiello Softball Field Signature Signature Signature Signature Signature Signature Signature Signature Date Time Date Time Date Time Checked By: Logged-Out By:	Analyte: Asbestos PLM PLM NOB PLI NOB TEI NOB TEI NOB TEI Air 7400 Air AHE Air 7402 Water (TE Other	Lead     Fungi       Solid     Spore Trap       M Only     Dust     Tape Lift       M Only     Air       M/TEM     Water     Other       M/PLM     Other     Analyte       (PCM)     Other     Analyte       (RA (TEM)     TCLP       M)     Pb Only        8 RCRA	Shipped Via: US Ma FedEx UPS Drop I State of Origin: Sample Disposition	ail US US Box Othe CT NJ PA ME VT Othe (Std.)	k In Exp rier er A D MA her (Retum)
Sampled By:       Size Size Size Size Size Size Size Size	Client Project Name/Number:	50439020 - Dougiello So	Aball Field		
Submitted By:       Ian       Adomeit       Ian       Adomeit       Ian       Bl23]19         Name (Print or Type)       Signature       Bignature       Bl23]19         Comments:       email       results       to j tolsen@tignebood.com       Date         Account Number:       FOR LABORATORY USE ONLY       All6 23'19_13:29_         Received By:       Name (Print)       Signature       Date         Variance (Print)       Signature       Date       Time         Prepped By:	Sampled By: <u>Br</u>	Name (Print or Type)	Signature		8123119 Date
Comments:       email       results       to jtolsen@tignebond.com,       bsirowich@tighebond.com         Account Number:       FOR LABORATORY USE ONLY         Account Number:       Aug 23'19-13:29_         Received By:       Date         Logged-In By:       Date         Prepped By:	Submitted By:	Name (Print or Type)	Signature	m	8123119 Date
Account Number:       FOR LABORATORY USE ONLY         Account Number:       AUG 23'19_13:29_         Received By:       Date         Logged-In By:       Date         Prepped By:	Comments:	nail results to itolsene.	ighebond.com, bsi	rowich etighebo	<u>nà.con</u>
FOR LABORATORY USE ONLY         Account Number:	<u> </u>	2 JLLIDby Ctighebord.	<u>0m</u>		
Received By:       Aug 23'19-13:29_         Logged-In By:       Date         Prepped By:	Account Number:	FOR LABORATO	DRY USE ONLY		
Indeceived By:       Date       Time         Name (Print)       Signature       Date       Time         Prepped By:	Received By: X			AUG 23'19-13	29_
Prepped By:   Analyzed By:   Re-Analyzed By:   Checked By:   Logged-Out By:	Logged-In By:	Vame (Print) Sig	naturc	Date	Time
Analyzed By:	Prepped By:				
Re-Analyzed By:	Analyzed By:				
Checked By:	Re-Analyzed By:				
Logged-Out By:	Checked By:	······			
	Logged-Out By:				

coc.fr:	n
04/17/201	4



Wednesday, August 28, 2019

Attn: Brian Sirowich Tighe & Bond 213 Court St, Suite 1100 Middletown, CT 06457

Project ID: 150439020- DOUGIELLO SOFTBALL FIELD SDG ID: GCD91946 Sample ID#s: CD91946 - CD91948

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

 $\lambda = 0$ 

Phyllis/Shiller Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301



# Sample Id Cross Reference

August 28, 2019

SDG I.D.: GCD91946

Project ID: 150439020- DOUGIELLO SOFTBALL FIELD

Client Id	Lab Id	Matrix	
DSF-S1	CD91946	SOIL	
DSF-S2	CD91947	SOIL	
DSF-S3	CD91948	SOIL	



# Analysis Report

FOR: Attn: Brian Sirowich Tighe & Bond 213 Court St, Suite 1100 Middletown, CT 06457

August 28, 2019

Sample Information		Custody Inform	Date	<u>Time</u>	
Matrix:	SOIL	Collected by:		08/23/19	12:05
Location Code:	TIGHE-DAS	Received by:	CP	08/23/19	16:45
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					000040

# Laboratory Data

150439020- DOUGIELLO SOFTBALL FIELD

SDG ID: GCD91946 Phoenix ID: CD91946

Project ID:	
Client ID:	

DSF-S1

Parameter	Result	RL/ POI	Units	Dilution	Date/Time	Bv	Reference
	rtooun		01110	Dilution		By	
Arsenic	3.27	0.77	mg/Kg	1	08/24/19	EK	SW6010D
Lead	13.5	0.39	mg/Kg	1	08/24/19	EK	SW6010D
Percent Solid	78		%		08/23/19	VT	SW846-%Solid
Soil Extraction SVOA PAH	Completed				08/23/19	NM/NT/L	∨SW3545A
Extraction of CT ETPH	Completed				08/23/19	NM/G/VI	L SW3545A
Extraction for PCB	Completed				08/23/19	BX/VT/J	s SW3540C
Total Metals Digest	Completed				08/23/19	JJ/AG/BI	F SW3050B
TPH by GC (Extractable	Products	5)					
Ext. Petroleum H.C. (C9-C36)	ND	63	mg/Kg	1	08/26/19	KCA	CTETPH 8015D
Identification	ND		mg/Kg	1	08/26/19	KCA	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	89		%	1	08/26/19	KCA	50 - 150 %
PCB (Soxhlet SW3540C	)						
PCB-1016	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1221	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1232	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1242	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1248	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1254	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1260	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1262	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1268	ND	430	ug/Kg	10	08/25/19	SC	SW8082A
QA/QC Surrogates							
% DCBP	67		%	10	08/25/19	SC	30 - 150 %
% DCBP (Confirmation)	62		%	10	08/25/19	SC	30 - 150 %
% TCMX	66		%	10	08/25/19	SC	30 - 150 %

#### Project ID: 150439020- DOUGIELLO SOFTBALL FIELD Client ID: DSF-S1

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
% TCMX (Confirmation)	58		%	10	08/25/19	SC	30 - 150 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Acenaphthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Anthracene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benz(a)anthracene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(a)pyrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(b)fluoranthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(ghi)perylene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(k)fluoranthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Chrysene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Fluoranthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Fluorene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Naphthalene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Phenanthrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Pyrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	55		%	1	08/24/19	WB	30 - 130 %
% Nitrobenzene-d5	54		%	1	08/24/19	WB	30 - 130 %
% Terphenyl-d14	50		%	1	08/24/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

#### Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director August 28, 2019 Reviewed and Released by: Greg Lawrence, Assistant Lab Director



# Analysis Report

FOR: Attn: Brian Sirowich Tighe & Bond 213 Court St, Suite 1100 Middletown, CT 06457

August 28, 2019

Sample Information		Custody Inform	Date	<u>Time</u>	
Matrix:	SOIL	Collected by:		08/23/19	12:10
Location Code:	TIGHE-DAS	Received by:	CP	08/23/19	16:45
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					000040

# Laboratory Data

150439020- DOUGIELLO SOFTBALL FIELD

**DI** /

SDG ID: GCD91946 Phoenix ID: CD91947

Project ID:	
Client ID:	

DSF-S2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	3.19	0.84	mg/Kg	1	08/24/19	EK	SW6010D
Lead	9.56	0.42	mg/Kg	1	08/24/19	ΕK	SW6010D
Percent Solid	77		%		08/23/19	VT	SW846-%Solid
Soil Extraction SVOA PAH	Completed				08/23/19	NM/NT/L	vSW3545A
Extraction of CT ETPH	Completed				08/23/19	NM/G/VI	L SW3545A
Extraction for PCB	Completed				08/23/19	BX/VT/J	s SW3540C
Total Metals Digest	Completed				08/23/19	JJ/AG/B	F SW3050B
TPH by GC (Extractable	Products	<u>;)</u>					
Ext. Petroleum H.C. (C9-C36)	ND	64	mg/Kg	1	08/24/19	KCA	CTETPH 8015D
Identification	ND		mg/Kg	1	08/24/19	KCA	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	66		%	1	08/24/19	KCA	50 - 150 %
PCB (Soxhlet SW3540C	;)						
PCB-1016	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1221	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1232	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1242	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1248	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1254	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1260	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1262	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
PCB-1268	ND	420	ug/Kg	10	08/25/19	SC	SW8082A
QA/QC Surrogates							
% DCBP	90		%	10	08/25/19	SC	30 - 150 %
% DCBP (Confirmation)	82		%	10	08/25/19	SC	30 - 150 %
% TCMX	83		%	10	08/25/19	SC	30 - 150 %

#### Project ID: 150439020- DOUGIELLO SOFTBALL FIELD Client ID: DSF-S2

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
% TCMX (Confirmation)	78		%	10	08/25/19	SC	30 - 150 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Acenaphthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Anthracene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benz(a)anthracene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(a)pyrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(b)fluoranthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(ghi)perylene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(k)fluoranthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Chrysene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Fluoranthene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Fluorene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Naphthalene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Phenanthrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
Pyrene	ND	300	ug/Kg	1	08/24/19	WB	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	57		%	1	08/24/19	WB	30 - 130 %
% Nitrobenzene-d5	56		%	1	08/24/19	WB	30 - 130 %
% Terphenyl-d14	62		%	1	08/24/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

#### Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director August 28, 2019 Reviewed and Released by: Greg Lawrence, Assistant Lab Director



# Analysis Report

FOR: Attn: Brian Sirowich Tighe & Bond 213 Court St, Suite 1100 Middletown, CT 06457

August 28, 2019

Sample Informa	ation	Custody Inform	Date	<u>Time</u>	
Matrix:	SOIL	Collected by:		08/23/19	12:15
Location Code:	TIGHE-DAS	Received by:	CP	08/23/19	16:45
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					000040

# Laboratory Data

150439020- DOUGIELLO SOFTBALL FIELD

SDG ID: GCD91946 Phoenix ID: CD91948

Project ID:	
Client ID:	

DSF-S3

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	3.14	0.77	mg/Kg	1	08/24/19	EK	SW6010D
Lead	14.4	0.39	mg/Kg	1	08/24/19	EK	SW6010D
Percent Solid	80		%		08/23/19	VT	SW846-%Solid
Soil Extraction SVOA PAH	Completed				08/23/19	NM/NT/L	∨SW3545A
Extraction of CT ETPH	Completed				08/23/19	NM/G/V	L SW3545A
Extraction for PCB	Completed				08/25/19	PX/KL/V	T SW3540C
Total Metals Digest	Completed				08/23/19	JJ/AG/B	F SW3050B
TPH by GC (Extractable	Products						
Ext. Petroleum H.C. (C9-C36)	ND	62	mg/Kg	1	08/26/19	KCA	CTETPH 8015D
Identification	ND		mg/Kg	1	08/26/19	KCA	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	91		%	1	08/26/19	KCA	50 - 150 %
PCB (Soxhlet SW3540C	<u>;)</u>						
PCB-1016	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1221	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1232	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1242	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1248	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1254	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1260	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1262	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
PCB-1268	ND	410	ug/Kg	10	08/26/19	SC	SW8082A
QA/QC Surrogates							
% DCBP	79		%	10	08/26/19	SC	30 - 150 %
% DCBP (Confirmation)	77		%	10	08/26/19	SC	30 - 150 %
% TCMX	76		%	10	08/26/19	SC	30 - 150 %

#### Project ID: 150439020- DOUGIELLO SOFTBALL FIELD Client ID: DSF-S3

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
% TCMX (Confirmation)	76		%	10	08/26/19	SC	30 - 150 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Acenaphthene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Acenaphthylene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Anthracene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Benz(a)anthracene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(a)pyrene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(b)fluoranthene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(ghi)perylene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Benzo(k)fluoranthene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Chrysene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Fluoranthene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Fluorene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Naphthalene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Phenanthrene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
Pyrene	ND	290	ug/Kg	1	08/24/19	WB	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	61		%	1	08/24/19	WB	30 - 130 %
% Nitrobenzene-d5	63		%	1	08/24/19	WB	30 - 130 %
% Terphenyl-d14	62		%	1	08/24/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

#### Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director August 28, 2019 Reviewed and Released by: Greg Lawrence, Assistant Lab Director



# QA/QC Report August 28, 2019

# QA/QC Data

SDG I.D.: GCD91946

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 493809 (mg/kg), 0 ICP Metals - Soil	QC Sam	ple No:	CD91704	4 (CD919	946, CE	91947	, CD919	48)					
Arsenic	BRL	0.67	7.93	7.76	2.20	95.6	103	7.5	95.2			75 - 125	30
Lead	BKL	0.33	19.8	88.5	10.3	88.6	95.3	1.3	91.2			/5 - 125	30



Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

August 28, 2019

### QA/QC Data

SDG I.D.: GCD91946

% % Blk LCS LCSD LCS MS MSD MS Rec RPD Blank RL RPD RPD Limits % % % I imits Parameter % QA/QC Batch 493800 (mg/Kg), QC Sample No: CD91942 (CD91946, CD91947, CD91948) TPH by GC (Extractable Products) - Soil Ext. Petroleum H.C. (C9-C36) ND 50 51 48 69 2.9 60 - 120 30 6.1 67 Т 50 - 150 % n-Pentacosane 60 % 55 52 5.6 63 63 0.0 30 Comment<sup>.</sup> Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration. QA/QC Batch 493898 (ug/Kg), QC Sample No: CD86758 10X (CD91948) Polychlorinated Biphenyls - Soil PCB-1016 ND 170 85 44.6 105 54 102 29 40 - 140 30 r PCB-1221 ND 170 40 - 140 30 ND 170 PCB-1232 40 - 140 30 PCB-1242 ND 170 40 - 140 30 PCB-1248 ND 170 40 - 140 30 ND 40 - 140 PCB-1254 170 30 ND 170 60 95 45.2 83 91 9.2 40 - 140 PCB-1260 30 r PCB-1262 ND 170 40 - 140 30 ND 170 PCB-1268 40 - 140 30 % DCBP (Surrogate Rec) 95 % 68 103 40.9 79 78 1.3 30 - 150 30 r % DCBP (Surrogate Rec) (Confirm 81 % 64 97 41.0 83 83 0.0 30 - 150 30 r % TCMX (Surrogate Rec) 74 % 41 70 97 102 30 - 150 30 52.3 50 r % TCMX (Surrogate Rec) (Confirm 70 % 44 74 50.8 80 88 9.5 30 - 150 30 r QA/QC Batch 493816 (ug/Kg), QC Sample No: CD89954 10X (CD91946, CD91947) Polychlorinated Biphenyls - Soil PCB-1016 ND 170 91 77 16.7 40 - 140 30 PCB-1221 ND 170 40 - 140 30 PCB-1232 ND 170 30 40 - 140 ND PCB-1242 170 40 - 140 30 PCB-1248 ND 170 40 - 140 30 PCB-1254 ND 170 40 - 140 30 PCB-1260 ND 170 112 96 15.4 40 - 140 30 PCB-1262 ND 170 40 - 140 30 ND 170 PCB-1268 40 - 140 30 97 17.8 % DCBP (Surrogate Rec) 114 % 116 30 - 150 30 % DCBP (Surrogate Rec) (Confirm % 92 109 118 24.8 30 - 150 30 % TCMX (Surrogate Rec) 91 % 89 76 15.8 30 - 150 30 % TCMX (Surrogate Rec) (Confirm 97 94 % 81 18.0 30 - 150 30 Comment:

Due to PCB in the unspiked sample, MS/MSD could not be reported.

QA/QC Data

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 493766 (ug/kg	g), QC Sam	ole No: CD8	8896 (CD91946, C	D91947	, CD919	48)						
Polynuclear Aromatic	HC - Soil											
2-Methylnaphthalene	ND	230		63	61	3.2	67	60	11.0	30 - 130	30	
Acenaphthene	ND	230		66	64	3.1	71	65	8.8	30 - 130	30	
Acenaphthylene	ND	230		64	63	1.6	70	64	9.0	30 - 130	30	
Anthracene	ND	230		69	68	1.5	74	69	7.0	30 - 130	30	
Benz(a)anthracene	ND	230		64	62	3.2	68	63	7.6	30 - 130	30	
Benzo(a)pyrene	ND	230		66	64	3.1	71	66	7.3	30 - 130	30	
Benzo(b)fluoranthene	ND	230		65	65	0.0	72	67	7.2	30 - 130	30	
Benzo(ghi)perylene	ND	230		67	64	4.6	72	68	5.7	30 - 130	30	
Benzo(k)fluoranthene	ND	230		66	63	4.7	69	65	6.0	30 - 130	30	
Chrysene	ND	230		62	60	3.3	67	62	7.8	30 - 130	30	
Dibenz(a,h)anthracene	ND	230		72	72	0.0	79	74	6.5	30 - 130	30	
Fluoranthene	ND	230		69	69	0.0	75	70	6.9	30 - 130	30	
Fluorene	ND	230		67	66	1.5	73	67	8.6	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230		74	74	0.0	80	75	6.5	30 - 130	30	
Naphthalene	ND	230		60	58	3.4	66	59	11.2	30 - 130	30	
Phenanthrene	ND	230		67	65	3.0	72	67	7.2	30 - 130	30	
Pyrene	ND	230		71	70	1.4	78	71	9.4	30 - 130	30	
% 2-Fluorobiphenyl	54	%		60	58	3.4	65	59	9.7	30 - 130	30	
% Nitrobenzene-d5	54	%		58	56	3.5	61	57	6.8	30 - 130	30	
% Terphenyl-d14 Comment:	55	%		60	59	1.7	65	61	6.3	30 - 130	30	

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

I = This parameter is outside laboratory LCS/LCSD specified recovery limits. r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

**RPD** - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

this

Phyllis/Shiller, Laboratory Director August 28, 2019

Wednesday	, August 28, 2019		Sample Cri	Sample Criteria Exceedances Report							
Criteria:	CT: GAM, RC		Gampie en	GCD91946 - TIGHE-DAS							
State:	СТ		U					RL	Analysis		
SampNo	Acode	Phoenix Analyte	Criteria		Result	RL	Criteria	Criteria	Units		
*** No Data	to Display ***										

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



# REASONABLE CONFIDENCE PROTOCOL LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name:	Phoenix Environmental Labs, Inc.	Client:	Tighe & l	Bond
Project Location:	150439020- DOUGIELLO SOFTBALL F	Project N	umber:	
Laboratory Sample	<i>ID</i> ( <i>s</i> ): CD91946-CD91948	Sampling	g Date(s):	8/23/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 8082, 8270, ETPH

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	✓ Yes □ No
1A	Were the method specified preservation and holding time requirements met?	✓ Yes □ No
1B	VPH and EPH methods only:Was the VPH or EPH method conducted withoutsignificant modifications (see section 11.3 of respective RCP methods)	□ Yes □ No ✓ NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	✓ Yes □ No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	✓ Yes □ No □ NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Sections: ETPH Narration, PCB Narration.	🗆 Yes 🗹 No
5	a) Were reporting limits specified or referenced on the chain-of-custody?	✓ Yes □ No
	b) Were these reporting limits met?	✓ Yes □ No
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	🗌 Yes 🗹 No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	🗆 Yes 🗹 No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalt knowledge and belief and based upon my personal in information contained in this analytical report, such	ies of perjury that, to the best of my quiry of those responsible for providing the information is accurate and complete.			
Authorized Signature:	Position: Assistant Lab Director			
Printed Name: Greg Lawrence	Date: Wednesday, August 28, 2019			
Name of Laboratory         Phoenix Environmental Labs, Inc.	2			

#### This certification form is to be used for RCP methods only.

CTDEP RCP Laboratory Analysis QA/QC Certification Form - November 2007 Laboratory Quality Assurance and Quality Control Guidance Reasonable Confidence Protocols





# **RCP** Certification Report

August 28, 2019

SDG I.D.: GCD91946

#### SDG Comments

#### Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only Arsenic and Lead are reported as requested on the chain of custody.

8270 Semi-volatile Organics:

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-ofcustody.

#### ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

#### QC Batch 493800 (Samples: CD91946, CD91947, CD91948): -----

The LCS/LCSD recovery is below the method criteria. The Batch MS/MSD recovery is acceptable. A slight low bias is possible. (Ext. Petroleum H.C. (C9-C36))

#### Instrument:

AU-FID1 08/25/19-1

Keith Aloisa, Chemist 08/25/19

#### CD91946, CD91948

The initial calibration (ETPH808I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (825A003\_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

#### AU-FID11 08/23/19-1

Jeff Bucko, Chemist 08/23/19

#### CD91947

The initial calibration (ETPH807I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (823A003\_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

#### QC (Batch Specific):

#### Batch 493800 (CD91942)

#### CD91946, CD91947, CD91948

All LCS recoveries were within 60 - 120 with the following exceptions: Ext. Petroleum H.C. (C9-C36)(51%)

All LCSD recoveries were within 60 - 120 with the following exceptions: Ext. Petroleum H.C. (C9-C36)(48%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

#### **ICP Metals Narration**

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

#### Instrument:

#### ARCOS 08/24/19 08:05

Emily Kolominskaya, Chemist 08/24/19

CD91946, CD91947, CD91948

Additional criteria for CCV and ICSAB:

Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB). The linear range is defined daily by the calibration range.





# **Certification Report**

August 28, 2019

SDG I.D.: GCD91946

#### **ICP Metals Narration**

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None. The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None. The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

#### QC (Batch Specific):

#### Batch 493809 (CD91704)

CD91946, CD91947, CD91948

All LCS recoveries were within 75 - 125 with the following exceptions: None. All LCSD recoveries were within 75 - 125 with the following exceptions: None. All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

#### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 493898 (Samples: CD91948): -----

The LCS/LCSD RPD exceeds the method criteria. The Batch MS/MSD RPD is acceptable. These analytes were not reported in the sample(s). No significant variability is suspected. (PCB-1016, PCB-1260, % DCBP (Surrogate Rec), % DCBP (Surrogate Rec) (Confirmation), % TCMX (Surrogate Rec), % TCMX (Surrogate Rec) (Confirmation)) Instrument:

#### AU-ECD24 08/24/19-1

Adam Werner, Chemist 08/24/19

CD91947

The initial calibration (PC719AI) RSD for the compound list was less than 20% except for the following compounds: None. The initial calibration (PC719BI) RSD for the compound list was less than 20% except for the following compounds: None. The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

#### AU-ECD8 08/23/19-1

Saadia Chudary, Chemist 08/23/19

#### CD91946

The initial calibration (PC730AI) RSD for the compound list was less than 20% except for the following compounds: None. The initial calibration (PC730BI) RSD for the compound list was less than 20% except for the following compounds: None. The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

#### AU-ECD8 08/26/19-1

Saadia Chudary, Chemist 08/26/19

#### CD91948

The initial calibration (PC730AI) RSD for the compound list was less than 20% except for the following compounds: None. The initial calibration (PC730BI) RSD for the compound list was less than 20% except for the following compounds: None. The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

#### QC (Batch Specific):

#### Batch 493816 (CD89954)

#### CD91946, CD91947

All LCS recoveries were within 40 - 140 with the following exceptions: None. All LCSD recoveries were within 40 - 140 with the following exceptions: None. All LCS/LCSD RPDs were less than 30% with the following exceptions: None. Due to PCB in the unspiked sample, MS/MSD could not be reported.





# **RCP** Certification Report

August 28, 2019

SDG I.D.: GCD91946

#### PCB Narration

#### Batch 493898 (CD86758)

CD91948

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: % DCBP (Surrogate Rec)(40.9%), % DCBP (Surrogate Rec) (Confirmation)(41.0%), % TCMX (Surrogate Rec)(52.3%), % TCMX (Surrogate Rec) (Confirmation)(50.8%), PCB-1016(44.6%), PCB-1260(45.2%)

#### **SVOA Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

#### CHEM06 08/24/19-1

Matt Richard, Chemist 08/24/19

CD91946, CD91947, CD91948

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6\_bn\_0820):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/0824\_03-6\_bn\_0820):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

100% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

#### QC (Batch Specific):

#### Batch 493766 (CD88896)

CD91946, CD91947, CD91948

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

#### Temperature Narration

The samples were received at 4.6C with cooling initiated. (Note acceptance criteria for relevant matrices is above freezing up to 6°C)

CHAIN OF CUSTODY RECORD       CHAIN OF CUSTODY RECORD         Doration Line       End (de l'umplae, P.O. Box 370, Manchester, CT 0604)       End         E BRO       Softwart (and l'umplae, P.O. Box 370, Manchester, CT 0604)       End         Lessen       Frage       Boro (and l'umplae, P.O. Box 370, Manchester, CT 0604)       End         Lessen       Project:       15.0 H 37.02.0.00x(j.alto)       Softwart Fall         Low       Control       Report to: 8.io. sitewice, Till Hisp. Tim. 0184       Analysis         Low       Date:       Analysis       Analysis       Analysis       Analysis         Low       Softwart Fall       Analysis       Analysis       Analysis       Analy	Temp <b>Y-U</b> C Pg of Data Delivery/Contact Options:	Project P.O: This section MUST be completed with Bottle Quantities	1000 1000	204 126 - 2-20 - 2-2 - 2			Data Format       Data Format       PDF       PDF       PDF       Construction       CT       CT       CT       CT
CHAIN OF CUSTO         Service       Service       Constraining promistance         Durt       Service       Services       Services	DY RECORD 370, Manchester, CT 06040 Fax: 860) 645-0823 0) 645-8726	0439020-Dougiellu suftaal Feld F 1 Sirewich, Jill Libby Jim 01sen ghe & Band	Contraction of the second seco	X 20 20 20 20 20 20 20 20 20 20 20 20 20			CT     MA       Exposure     Cret     MA       ential)     GW Protection     GW-1       GW Protection     GW-1     GW-3       SW Protection     GW-1     SY -1 GW-3       MA     GM Mobility     S-1 GW-1     S-1 GW-3       Residential DEC     S-3 GW-1     S-3 GW-1     S-3 GW-1       Ivc DEC     MWRA eSMART     Other     State where samples were collected:
FX     And       Poratories, Inc.       Poratories	CHAIN OF CUSTOI 587 East Middle Turnpike, P.O. Box 3 Email: info@phoenixlabs.com Client Services (86)	Project:         15.0           00         Report to:         8ia.,           7         Invoice to:         7.1	X     Analysis       Request     Request       aste Water     Mipe OLL=Oil	Time         OC         OF         Solution           3         12:65         X         X         X         X	12:15		Date:     Time:     RI       Standard     C, C, C, S.     Direct E       Reside     C, C, C, S.     Direct E       Reside     C     C       Standard     C     C
	IX Soratories, Inc.	& Band Durt 57 Suite 11 Hown CT 0645	le Anformation - Identification Date: d Water SW=Surface Water WW=W tL=Sludge S=Soil SD=Solid W=V	ification Matrix Sample Date	53 53 \$3		Accepted by: Hung Kung Mugn s or Regulations:

www.tighebond.com

