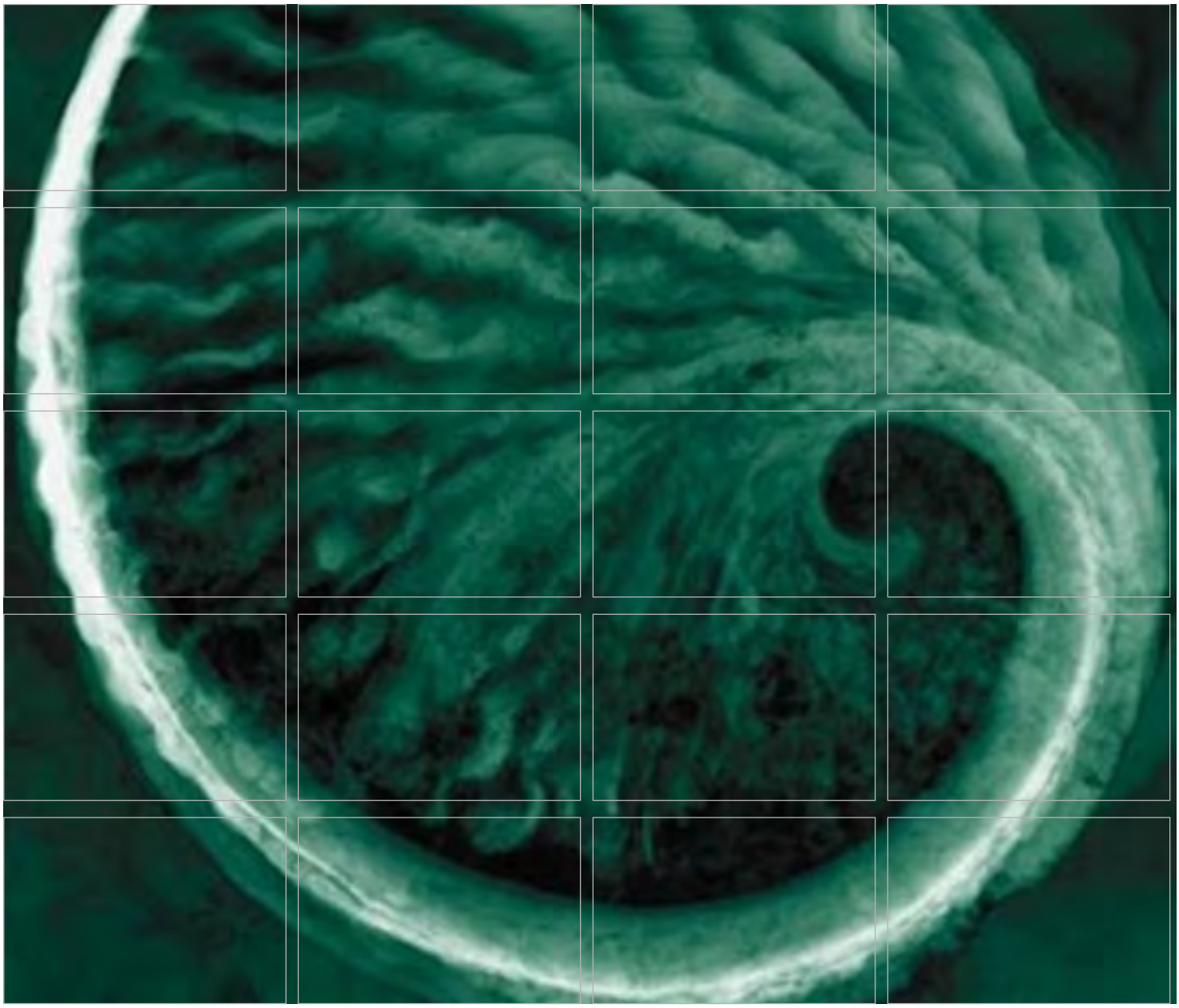

JEFFERSON ORCHARDS, INC.
P.O. Box 700 Kearneysville, WV 25430 (304) 725-9149 Fax (304) 725-2728
www.JeffersonOrchards.com

Application to Participate in Voluntary Remediation Program

Jefferson Orchards, Inc.
365 Granny Smith Lane
Kearneysville, West Virginia

June 2017

Environmental Resources Management, Inc.
204 Chase Drive
Hurricane, West Virginia 25526
(304) 757-4777
www.erm.com

The business of sustainability

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Application Instructions

Program Overview

The Voluntary Remediation Program (VRP) encourages voluntary remediation and redevelopment of contaminated or potentially contaminated sites in West Virginia by providing financial incentives and limiting liability under environmental laws and rules. The program is authorized by W.V. Code §22-22 (Voluntary Remediation and Redevelopment Act), regulated by 60CSR3 (Voluntary Remediation and Redevelopment Rule), and administered by the Office of Environmental Remediation (OER).

W.V. Code §22-22	Voluntary Remediation and Redevelopment Act http://www.legis.state.wv.us/WVCODE/ChapterEntire.cfm?chap=22&art=22
60CSR3	Voluntary Remediation and Redevelopment Rule (last revised 6/1/2014) http://apps.sos.wv.gov/adlaw/csr/readfile.aspx?DocId=25666&Format=PDF

Licensed Remediation Specialists

A Licensed Remediation Specialist (LRS) must be contracted by an applicant for preparation of an application and supervision of the remediation. A LRS is tested, certified, and licensed by WVDEP. The LRS is responsible for all remediation activities at a site and has a duty to protect the safety, health, and welfare of the public in the performance of his or her professional duties.

A list of Licensed Remediation Specialists for hire is located on OER's webpage:
https://apps.dep.wv.gov/oer/l_list4.cfm

Pre-Application Conference

All potential applicants may request a pre-application conference with WVDEP staff prior to submission of an application. The conference will include a discussion of the conditions of the site and the potential future use of the site. Brownfield applicants, as defined by the Voluntary Remediation and Redevelopment Rule §60-3-2.8, are required to participate in a pre-application conference.

To request a pre-application conference, contact the Office of Environmental Remediation (304-926-0455).

Application Fee

The application fee must be submitted at the time the application is filed in the form of a check payable to the Voluntary Remediation Administrative Fund. To determine the application fee for a site, refer to Section 7 of the application.

WITHDRAWALS: If an applicant withdraws an application prior to determination of eligibility to participate by WVDEP or if WVDEP rejects the application and the applicant does not re-submit a revised application within twenty-five (25) days, the applicant will receive a refund of one-half the application fee paid. The application fee is non-refundable if an applicant fails to enter into a Voluntary Remediation Agreement within thirty-one (31) days of the acceptance of an application.

Application Submittal

Mail two hardcopies of the completed application and required attachments with the application fee to:

Office of Environmental Remediation
West Virginia Department of Environmental Protection
601 57th Street SE
Charleston, WV 25304

Submission of an electronic copy of the completed application and required attachments is required in addition to the hardcopies. The electronic copy may be placed on CD and mailed with the hardcopies or emailed to DEPOERFileCopy@wv.gov.

Application Review and Process

After receipt of an application, WVDEP will review the application and approve, deny, or request modifications within forty-five (45) days, unless an extension of time is mutually agreed to and confirmed in writing.

Upon acceptance of an application, WVDEP will enter into a Voluntary Remediation Agreement (VRA) with the applicant within thirty-one (31) days after the application has been accepted. If an agreement has not been negotiated by this time, either party may withdraw from negotiations. However, if it becomes impractical to reach an agreement within thirty-one (31) days, the time limit may be extended by mutual agreement and confirmed in writing.

A WVDEP project manager is assigned to each project as the WVDEP designated representative at the site. The project manager will work with the applicant and LRS to properly remediate the site and ultimately issue a Certificate of Completion.

Voluntary Remediation Program Application

Section 1 – PROGRAM ELIGIBILITY

		YES	NO
1.	Has the site been listed or proposed to be listed on the National Priorities List developed by the USEPA pursuant to Title I of the Comprehensive Environmental Response, Compensation, and Liability Act?	☐	☒
2.	Is the site subject to a unilateral order issued by the USEPA pursuant to §104 through §106 of the Comprehensive Environmental Response, Compensation, and Liability Act?	☐	☒
3.	Is the site subject to a unilateral enforcement order under §3008 or §7003 of the Resource Conservation and Recovery Act?	☐	☒
4.	Is the site subject to a unilateral enforcement order for corrective action issued pursuant to any provision of Chapter 22 of the West Virginia Code?	☐	☒
5.	Was the release which is subject to remediation created through gross negligence or willful misconduct by the applicant?	☐	☒

If you answered "yes" to any of the above questions, contact the Office of Environmental Remediation (304-926-0455) for assistance.

Section 2 – APPLICANT INFORMATION

Applicant

Applicant's Legal Name
Jefferson Orchard, Inc.

Aliases or Other Names By Which Applicant Is Known or Does Business

Address	City	State	Zip Code
365 Granny Smith Lane	**Kearneysville**	**WV**	**25442**

Type of Entity
☒ Private Business ☐ Non-Profit Corporation ☐ Federal Government ☐ State Government ☐ Local Government
☐ Other:

Relationship to Property
☒ Owner ☐ Operator ☐ Prospective Purchaser ☐ Prospective Operator ☐ Other:

Contact Name	Contact Title
Ron Slonaker	**Secretary / Site Manager**

Phone	Alternate Phone	Email
304-676-0981	**304-676-0981**	

Co-Applicant 1 (if applicable)

Co-Applicant's Legal Name

Aliases or Other Names By Which Co-Applicant Is Known or Does Business

Address	City	State	Zip Code

Type of Entity
☐ Private Business ☐ Non-Profit Corporation ☐ Federal Government ☐ State Government ☐ Local Government
☐ Other:

Relationship to Property
☐ Owner ☐ Operator ☐ Prospective Purchaser ☐ Prospective Operator ☐ Other:

Contact Name	Contact Title

Phone	Alternate Phone	Email

Co-Applicant 2 (if applicable)

Co-Applicant's Legal Name

Aliases or Other Names By Which Co-Applicant Is Known or Does Business

Address	City	State	Zip Code

Type of Entity
☐ Private Business ☐ Non-Profit Corporation ☐ Federal Government ☐ State Government ☐ Local Government
☐ Other:

Relationship to Property
☐ Owner ☐ Operator ☐ Prospective Purchaser ☐ Prospective Operator ☐ Other:

Contact Name	Contact Title

Phone	Alternate Phone	Email

Billable Party

Billable Party's Name	Phone
Environmental Resources Management	**304-757-4777**

Address	City	State	Zip Code
204 Chase Drive	**Hurricane**	**WV**	**25526**

Contact Name	Contact Title
David Connelly	**Licensed Remediation Specialist**

Legal Right to Perform Work Required

One or more of the following forms of proof of the applicant's legal right to perform the work required is attached to the application:

☒ Property Deed ☐ Property Access Agreement

Financial Capabilities

Provide a brief description of the applicant's financial capabilities to successfully complete the voluntary remediation and satisfy any contractual obligations entered into by the applicant that relate to the voluntary remediation.

See attached Letter of Credit

One or more of the following forms of proof of the applicant's financial capability is attached to the application.

☐ Annual Report or Prospectus for a Publicly Held Company
☐ Letter of Credit from a Financial Institution
☐ Grant Award
☒ Other: Financial Assurance Letter

Is a party other than the applicant providing the proof of financial capability?

☐ No	
☒ Yes	Demonstrate the relationship to the applicant. **Environmental Consultant working with Applicant**

Confidentiality Claim

Information obtained by WVDEP for the Voluntary Remediation Program is available to the public unless the applicant demonstrates that the information or parts thereof, if made public, would divulge methods, processes, or activities entitled to protection as trade secrets (any information protected from disclosure under WV Code §29B-1-4(1)).

☐ Applicant asserts a confidentiality claim.
☒ Applicant does not assert a confidentiality claim.

If asserting a confidentiality claim, specify the items for which confidentiality is being claimed.

Section 3 – TECHNICAL CAPABILITIES

LRS Contact Information

LRS Name	Company	LRS Number
David Connelly	**Environmental Resources Management**	**251**

Address	City	State	Zip Code
204 Chase Drive	**Hurricane**	**WV**	**25526**

Phone	Alternate Phone	Email
304-757-4777	**304-757-4777**	**David.connelly@erm.com**

Experience

Has the LRS previously managed West Virginia Voluntary Remediation Program projects?

☒ Yes — List the three most recent projects that the LRS has managed.

VRP #	Project Name	COC Issued
12492	**Girl Scouts Black Diamond Council**	☒
13183	**SNF – ACS Terminal**	☐
17025	**WVDOH – District One Headquarters**	☐

☐ No — Provide a brief description of any experience applicable to this project.

Section 4 – SITE DESCRIPTION

Physical Location

Site Name			Size (acres)
Jefferson Orchard, Inc.			**75**
Address	**City**	**Zip Code**	**County**
365 Granny Smith Lane	**Kearneysville**	**25442**	**Jefferson**

Driving Directions (if necessary)

GIS Data

Collection Point

☒ Center of Site ☐ Main/Front Door ☐ Main Entrance/Front Gate ☐ Other:

Latitude (degrees/minutes/seconds)	Longitude (degrees/minutes/seconds)	Horizontal Datum	Accuracy (≤12.2 meters required)
39°22'34.87"N	**77°52'34.15"W**	**NAD 1983**	**1.59 meters**

Additional Locational Data

☒ At least one site map identifying site boundaries is attached to the application (required).

If necessary, provide a brief description of any other identifying information that will serve to clearly and concisely identify the property.

Legal Description

Provide tax map information for each tax map parcel within the site boundaries. Attach a legal property description for each parcel.

District	Address/Description	Map No.	Parcel No.	Deed Book	Page No.	Acres
Middleway	**365 Granny Smith Lane**	**4**	**P/O Parcel 26**	**284**	**460**	**388.36**

Survey

☐ A survey of the property has been made and is attached to the application.

Property Owner

☒ Applicant is property owner.

☐

Owner's Name				
Jefferson Orchard, Inc.				
Address	**City**	**State**	**Zip Code**	
365 Granny Smith Lane	**Kearneysville**	**WV**	**25442**	
Contact Name	**Contact Title**			
Ron Slonaker	**Secretary / Site Manager**			
Phone	**Alternate Phone**	**Email**		
304-676-0981	**304-676-0981**			

☐ The site has more than one current property owner, and additional property owner information is attached to the application.

Operator

☐ n/a ☒ Applicant is operator. ☒ Property owner is operator.

☐

Operator's Name			
Address	**City**	**State**	**Zip Code**
Contact Name	**Contact Title**		
Phone	**Alternate Phone**	**Email**	

☐ The site has more than one current operator, and additional operator information is attached to the application.

Section 5 – EXISTING ENVIRONMENTAL INFORMATION

Site Identification

List all WVDEP and USEPA identification numbers assigned to the site (solid waste, UST/LUST, CERCLIS, RCRIS, UIC, etc.).

Issuing Agency	Type	Identification Number
USEPA	**N/A**	
WVDEP	**N/A**	

Environmental Permits

List all past, present, and pending permits issued by WVDEP or USEPA relating to the site.

Issuing Agency	Type	Permit ID	Issue Date	Expiration Date
USEPA	**N/A**			
WVDEP	**N/A**			

Site Assessment

Have any environmental site assessments, sample collections, or analyses been performed on the site?

☒ Yes ☐ No

The following environmental site assessments, sample collections, or analyses have been performed and are attached to the application:

☒ Phase I ☒ Phase II ☐ Other:

Is the site assessment complete?

☐ Yes	
☒ No	State the additional site assessment work to be addressed under the Voluntary Remediation Agreement. **Surface and subsurface soil sampling**

Past Proceedings

Has the property (or any activity conducted on the property) ever been the subject of an administrative (e.g. consent order), civil, or criminal investigation related to protection of the environment?

☒ No	
☐ Yes	Provide a brief explanation and dates of actions.

Section 6 – REMEDIATION OBJECTIVES

Post-Remediation Use

Future Property Use (check all that apply)

☐ Agricultural ☐ Commercial ☒ Industrial ☐ Recreational ☐ Residential ☐ School ☐ Vacant
☐ Unknown ☐ Other:

Redevelopment

☐ In Progress ☒ Imminent ☐ n/a	Provide a brief description of redevelopment plans. **Development of an undisclosed manufacturing facility**

Section 7 – FEE CALCULATION

(A) Size of Property

Total Square Feet of Surface Area of Property (rounded to nearest 1,000 square feet)	Total Acres (total square feet divided by 43,560)
3,485,000	**80**

Determine the points for size of property:

- ☐ **< 1 acre** (10 points)
- ☐ **≥ 1 acre, but < 5 acres** (20 points)
- ☒ **≥ 5 acres** (30 points)

(B) Years of Operation

Years Property Operated for Any Non-Residential Activity (Treat partial years as complete years.)

Determine the points for years of operation:

- ☐ **≤ 10 years** (10 points)
- ☐ **> 10 years, but < 20 years** (20 points)
- ☒ **≥ 20 years** (30 points)
- ☐ **Undetermined** (30 points)

(C) NAICS Code

North American Industry Classification System (NAICS) Code(s) for Activities Conducted on the Property

Review the tables below. If more than one NIACS Code applies, use the one which results in the greatest number of points.

Table A	
316	Leather and Allied Product Manufacturing
322	Paper Manufacturing
324	Petroleum and Coal Products Manufacturing
325	Chemical Manufacturing
326	Plastics and Rubber Products Manufacturing
331	Primary Metal Manufacturing
332	Fabricated Metal Product Manufacturing
333	Machinery Manufacturing
334	Computer and Electronic Product Manufacturing
335	Electrical Equipment, Appliance, and Component Manufacturing
336	Transportation Equipment Manufacturing
339	Miscellaneous Manufacturing

Table B	
113	Forestry and Logging
211	Oil and Gas Extraction
212	Mining (except Oil and Gas)
213	Support Activities for Mining
221	Utilities
311	Food Manufacturing
312	Beverage and Tobacco Product Manufacturing
313	Textile Mills
314	Textile Product Mills
315	Apparel Manufacturing
321	Wood Product Manufacturing
323	Printing and Related Support Activities
327	Nonmetallic Mineral Product Manufacturing
337	Furniture and Related Product Manufacturing
486	Pipeline Transportation
488	Support Activities for Transportation
511	Publishing Industries (except Internet)
526	Waste Management and Remediation Services

Determine the points for NAICS Code:

- ☒ **NAICS Code not in Table A or B** (10 points)
- ☐ **NAICS Code in Table B** (20 points)
- ☐ **NAICS Code in Table A** (30 points)
- ☐ **NAICS Code undetermined** (30 points)

Total Points

Part A Points		Part B Points		Part C Points		Total Points
30	+	**30**	+	**10**	=	**70**

Determine application fee based on total score:

- ☐ **30 or 40** ($1,000.00)
- ☐ **50 or 60** ($3,000.00)
- ☒ **70, 80, or 90** ($5,000.00)

Section 8 – STATEMENT OF AFFIRMATION

I certify that I am fully authorized to act on behalf of the applicant. I affirm that the information provided in this application and its attachments, to the best of my knowledge and belief, is true, complete, and accurate. Upon approval of this application, I will execute a Voluntary Remediation Agreement (VRA) within thirty-one (31) days of the date of WVDEP's acceptance letter.

Applicant Print Name: Mark Ralston Title: President

Mark H Ralston — Signature

6/19/2017 — Date

Co-Applicant 1 Print Name: _____ Title: _____

_____ Signature

_____ Date

Co-Applicant 2 Print Name: _____ Title: _____

_____ Signature

_____ Date

I certify that I have prepared and/or approved the site assessment provided with this application.

LRS Print Name: David Connelly

Signature

6/20/2017 — Date

ATTACHMENTS

Indicate the items attached to the application.

Required Attachments

- ☒ Proof of Legal Right to Perform Work Required (Section 2)
- ☒ Proof of Financial Capability (Section 2)
- ☒ Site Map(s) (Section 4)
- ☒ Legal Property Description(s) (Section 4)
- ☒ Conceptual Site Model Worksheet

Conditional Attachments

- ☐ Survey of Property (Section 4)
- ☐ Additional Property Owner Information (Section 4)
- ☐ Additional Operator Information (Section 4)
- ☒ Environmental Site Assessments (Section 5)
- ☐ Other:
- ☐ Other:
- ☐ Other:
- ☐ Other:
- ☐ Other:

Proof of Legal Right to Perform Work Required

(Property Deed)

1084.

Malcolm M. Brown, et ux.

To: DEED OF B. & S.

Jefferson Orchards, Inc.

THIS DEED made and executed this 1st day of December, 1966, by and between Malcolm M. Brown and Lorena H. Brown, his wife, parties of the first part, and Jefferson Orchards, Inc., a West Virginia corporation, party of the second part:

WITNESSETH, That for and in consideration of the sum of $5.00, cash in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties of the first part do hereby grant, bargain, sell and convey and by these presents, have granted, bargained, sold and conveyed, to and unto the party of the second part, with general warranty, the following described real estate, situate in Middleway District of Jefferson County, West Virginia, more particularly described as follows:

"All those certain tracts or parcels of land situate in Middleway District, Jefferson County, West Virginia, together with all improvements thereon and appurtenances belonging thereto, described as follows:

FIRST PARCEL

Those three several tracts of land, which were heretofore conveyed to John W. Stewart by Charles J. Faulkner, Jr. and E. Boyd Faulkner, Trustees, by deed dated February 18, 1876, and recorded in the Office of the Clerk of the County Court of Jefferson County, West Virginia, in Deed Book D, page 104, containing in the aggregate about 208 acres, 2 roods and 30 perches, and described as follows:

TRACT NO. 1:

Beginning at a stone in the edge of James Hurst's field about 1 pole from the fence in the line of Blackborn and Paynes Patent, now James Hurst; thence with the line of said Patent, now James Hurst, and Joel Blue, S. 64° 40' E. 216.7 poles to a stone set in the ground in the line of said Patent, now Joel Blue, corner to Mrs. Ann Hunter, about 2 poles to Joel Blue's field; thence with the line of Mrs. Hunter N. 4° 3/4' E. 142 poles to a stone set in the ground in the line of Ann Hunter, now made corner to the heirs of A. S. Dandridge; thence, leaving Mrs. Hunter and running the division line, N. 64° 3/4' W. 165.7 poles to a stone standing nearly in the center between sundry marked white oaks; thence S. 25° 1/4' W. 133.5 poles to the beginning, containing 160 acres.

TRACT NO. 2:

Beginning at a stone in the line of Mrs. Ann Hunter, deceased, and corner to John

Snyder's purchase; thence with a line of the same N. 64° 3/4' W. 166.7 poles to a stone set in the ground in the center between sundry marked saplings, corner to his former purchase and David Moore's lot; thence leaving the line of the former survey N. 25° 1/4' E. 9.5 poles to a stone set in the ground and now corner to the heirs of A. S. Dandridge, deceased; thence S. 64° 54/60' E. 163 poles to a stone set in the ground over in the line of Ann Hunter, deceased, now corner to said heirs; thence with Ann Hunter's line S. 4° 3/4' W. 10.6 poles to the beginning, containing 10 acres.

TRACT NO. 3:

Beginning at a stone standing at and on the north side of a walnut tree, a corner to Adam S. Dandridge and James V. Moore, and on the south side of the B & O Railroad (fig. 1 in plat); running thence with said Moore S. 27° 40' W. 129 poles to a stone his corner, standing at the center of the old Furnace Road (fig. 2); thence again with said Moore and Mrs. Wright along the said road S. 61° 39' E. 62.6 poles to a stone at the center of the road in the line of William M. Snyder (fig. 3); thence with the same N. 27° 54' E. 82.8 poles to a stake standing 33 feet from the center of the railroad (fig. 4); thence following the curvature of said railroad, continuing 33 feet from the center thereof to the beginning; containing 38 acres, 2 roods and 30 perches.

LESS AND EXCEPTING, HOWEVER, from the foregoing, the following outsales:

(a) A parcel containing about 3,400 square feet that was conveyed to The Baltimore & Ohio Railroad Company by deed dated November 23, 1897, and recorded in the aforesaid Clerk's Office in Deed Book No. 84, page 273.

(b) A parcel containing about 0.57 acre that was conveyed to The Baltimore & Ohio Railroad Company by deed dated October 22, 1901, and recorded in said Clerk's Office in Deed Book No. 90, page 481.

(c) A parcel containing about 2.5 acres that was conveyed to James E. Goins by deed dated July 13, 1931, and recorded in said Clerk's Office in Deed Book No. 136, page 20.

(d) Also, all portion of The Baltimore & Ohio Railroad Company right-of-way or other property traversing said land, now owned by said corporation, from whatever source derived.

SECOND PARCEL

That certain other tract of real estate heretofore conveyed to William T. Stewart by deed from Charles J. Faulkner, Jr. and E. Boyd Faulkner, Trustees, dated January 17, 1877, and recorded in said County Clerk's Office in Deed Book E, at page 117, bounded and described as follows:

Beginning at a solid rock, corner to the Haselfield division; thence S. 82° 50' W. 67.8 poles to a stone; thence through the woods by line trees N. 7° 00' E. 40.2 poles to a stone in Thos. Licklider's line and corner in the Haselfield Division; thence with Licklider's line N. 80° 03' W. 81.5 poles to a corner in said Licklider's line and A. S. Dandridge; thence with Dandridge and Wm. M. Snyder S. 7° 01' W. 200.15 poles to corner to Hunter in said Snyder's line; thence with Hunter S. 79° 48' E. 125.3 poles to a stone 1/4 of a pole from center of large white oak, which is a corner to Haselfield Division; thence along center of fence N. 13° 40' E. 179.8 poles to the beginning; containing 158 acres, 2 roods and 16 perches, and being bounded on the East and North by Brown Hendricks and further on the North by Stanley and Miller, on the West by Stewart Orchard and farm, a portion of the lands herein described, and on the South by the B & O Railroad and Jacob S. Melvin.

THIRD PARCEL

That certain other tract of real estate heretofore conveyed by Daniel B. Lucas, Special Commissioner, to William T. Stewart, by deed dated April 6, 1880, and recorded in said

Clerk's Office in Deed Book H, at page 305, therein bounded and described as follows, to-wit:

Beginning at a black oak tree in the line of William T. Stewart and corner to Jacob J. Miller (Fig. 1 in Plat) and running thence with Stewart's line S. 8° 15' W. 104 poles to a stone (2); thence N. 62° 15' W. 152.3 poles to a stone (3); thence S. 28° 15' W. 9.5 poles to a stone, corner to Mrs. Rutherford's lot (4); thence with her line N. 61° 30' W. 58 poles to a stake at the eastern limit of the B & O Railroad (5); thence following the said road N. 5° 45' E. 20 poles (6) N. 9° 45' E. 124 poles (7) N. 8° 00' E. 26 poles (8), N. 6° 00' E. 40.6 poles to a stake at the railroad limit and corner to Harry Bitner (9); thence with said Bitner and Jacob J. Miller S. 68° 00' E. 202.2 poles to a stone, said Miller's corner (10); thence with his line S. 43° 15' W. 56.9 poles to a stone (11); thence S. 16° 37' W. 76 poles to a stone (12); thence S. 79° 15' E. 57.6 poles to the beginning; containing 249 acres, 1 rood and 15 perches.

LESS AND EXCEPTING, HOWEVER, from the foregoing, the following outsales:

(a) A parcel containing about one-half acre that was conveyed to the Trustees of the M. E. Church of Kearneysville, by deed dated July 3, 1889, and recorded in said Clerk's Office in Deed Book U, page 304.

(b) A parcel containing about one-half acre that was conveyed to the Trustees of the M. E. Church of Kearneysville, by deed dated November 12, 1890, and recorded in said Clerk's Office in Deed Book W, page 293.

(c) A tract containing 99 acres and 9 poles which was conveyed to A. D. Morris, et al, by deed dated March 26, 1890, and recorded in said Clerk's Office in Deed Book U, page 511.

(d) A tract containing about 5 acres which was conveyed to The Standard Lime & Stone Company, by H. H. Emmert, Special Commissioner, et al, by deed dated May 17, 1905, and recorded in said Clerk's Office in Deed Book No. 96, page 32.

EASEMENT

Also, all right, title and interest of the owners of said land in a right-of-way or easement through or over the property formerly owned by Standard Lime & Stone Company, and which is now used as a roadway in entering said real estate and the orchards located thereon.

Being the same real estate conveyed to Malcolm M. Brown by Elsye Boak Stewart, widow, by deed dated the 22nd day of November, 1948, and of record in the aforesaid Clerk's Office in Deed Book No. 174, page 427.

This conveyance is made subject to all rights-of-ways for power lines and other public utilities.

WITNESS the following signatures:

Malcolm M. Brown

Lorena H. Brown

Documentary stamps $152.90 affixed.
W.Va.Transfer stamps $305.80 affixed, 12/3/66.

STATE OF WEST VIRGINIA

COUNTY OF BERKELEY, to-wit:

I, Charles H. Bean, a Notary Public in and for the State and County aforesaid, do hereby certify that Malcolm M. Brown and Lorena H. Brown, his wife, whose names are signed to the writing hereto annexed, bearing date the 1st day of December, 1966, have this day acknowledged the same before me in my said County.

Given under my hand this 1st day of December, 1966.

Charles H. Bean, Notary Public

My commission expires:

Aug. 19, 1972.

DECLARATION OF CONSIDERATION OR VALUE

I hereby declare the total consideration paid for the property conveyed by the document to which this declaration is appended is $139,000.00.

Given under my hand this 1st day of December, 1966.

SIGNATURE Guy R. Avey Jr.
ADDRESS 126 East Burke St.
Martinsburg, W. Va.

This deed prepared by
Charles H. Bean,
Attorney at Law.

State of West Va., County of Jefferson, ss.

IN THE CLERK'S OFFICE OF COUNTY COURT: DECEMBER 3rd, 1966

This Deed of B. & S., dated December 1st, 1966 from Malcolm M. Brown, et ux. to Jefferson Orchards, Inc. was produced in this office and duly admitted to record.

Test,

Emily A. M. Stanley, Clerk of said Court

By Frances M. Banks, Deputy

Proof of Financial Capabilities

Environmental Resources Management

204 Chase Drive
Hurricane, WV 25526
(304) 757-4777
(304) 757-4799 (fax)
www.erm.com

19 June 2017

Ms. Patty Hickman
Division Director – Land Restoration
West Virginia Department of Environmental Protection
601 57th Street SE
Charleston, WV 25304

RE: Financial Assurance Letter for Participation of Jefferson Orchard Site in VRP

Dear Ms Hickman:

Environmental Resources Management, Inc. (ERM) on behalf of our Client is planning to enter a portion of the Jefferson Orchards, Inc. site (located at 365 Granny Smith Lane, Kearneysville, Jefferson County, West Virginia) into the West Virginia Voluntary Remediation Program (VRP).

The purpose of this letter is to demonstrate the Applicant (Jefferson Orchards, Inc.) has fulfilled the financial requirements for the "Application to Participate in Voluntary Remediation Program," and more particularly described in W. Va. Code of State Regulations Title 60, Series 3, Chapter 4.2.c. $100,000 has been placed on deposit in an account that is held by ERM. This deposit is for the exclusive purpose of providing financial assurance for the voluntary remediation project outlined in this application.

Should you have any further comments or questions, please feel free to contact us at 304.757.4777, extension 103 for David Connelly and extension 101 for David Carpenter, or by email at david.connelly@erm.com or david.carpenter@erm.com. Thank you for your assistance.

Sincerely,

David T. Connelly
Project Manager/LRS

David L. Carpenter, LRS
Project Director

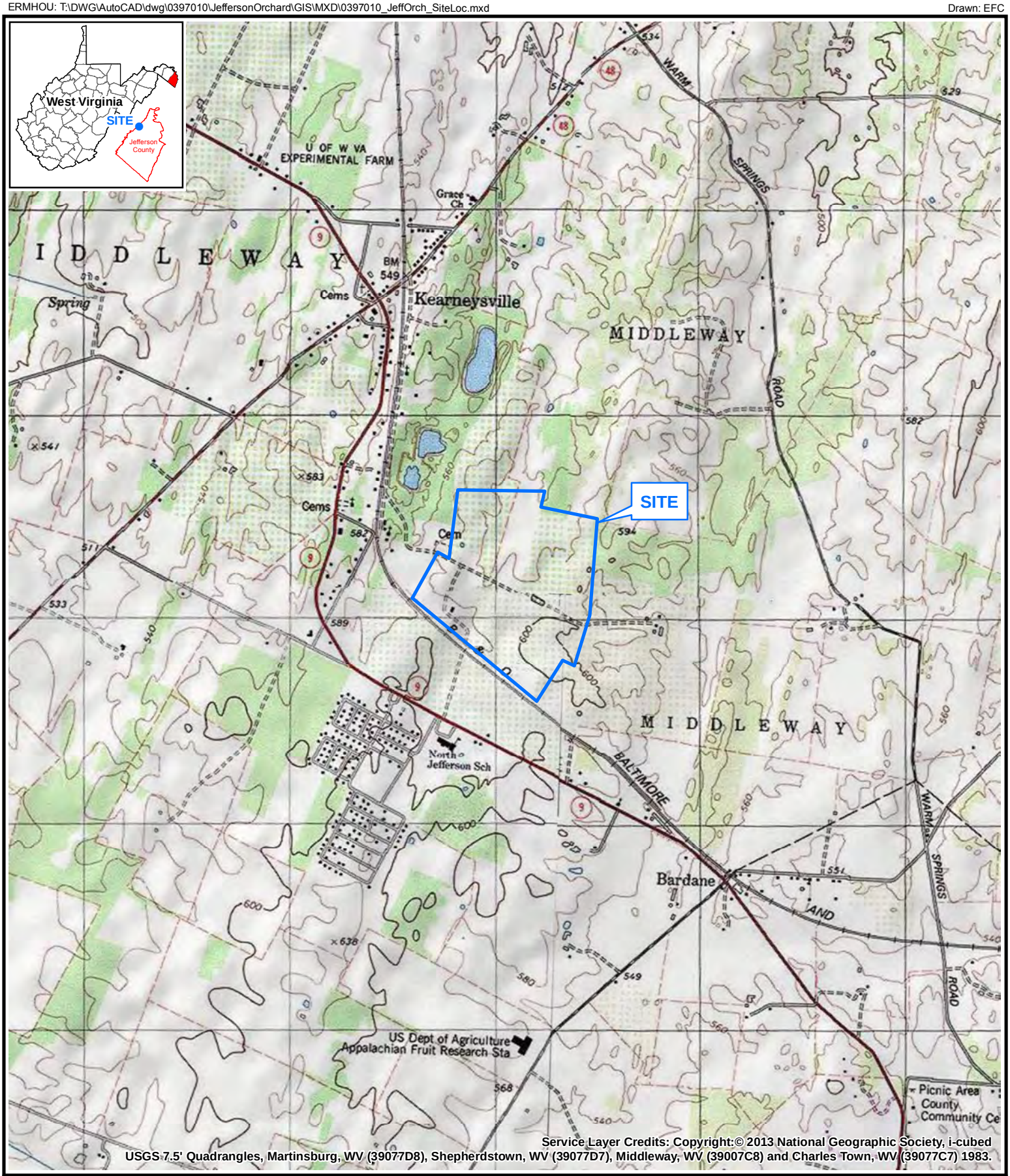
Attachment
Cc: Erin Brittain – WVDEP, Mark Ralston – Jefferson Orchard, Inc.

Figures

Site Location Map

ERMHOU: T:\DWG\AutoCAD\dwg\0397010\JeffersonOrchard\GIS\MXD\0397010_JeffOrch_SiteLoc.mxd

Drawn: EFC



Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
USGS 7.5' Quadrangles, Martinsburg, WV (39077D8), Shepherdstown, WV (39077D7), Middleway, WV (39007C8) and Charles Town, WV (39077C7) 1983.

N

0 1,000 2,000 Feet

Environmental Resources Management
www.erm.com

Figure 1
Site Location Map
Jefferson Orchard Site
Project Shuttle
Kearneysville, West Virginia

Site Plan

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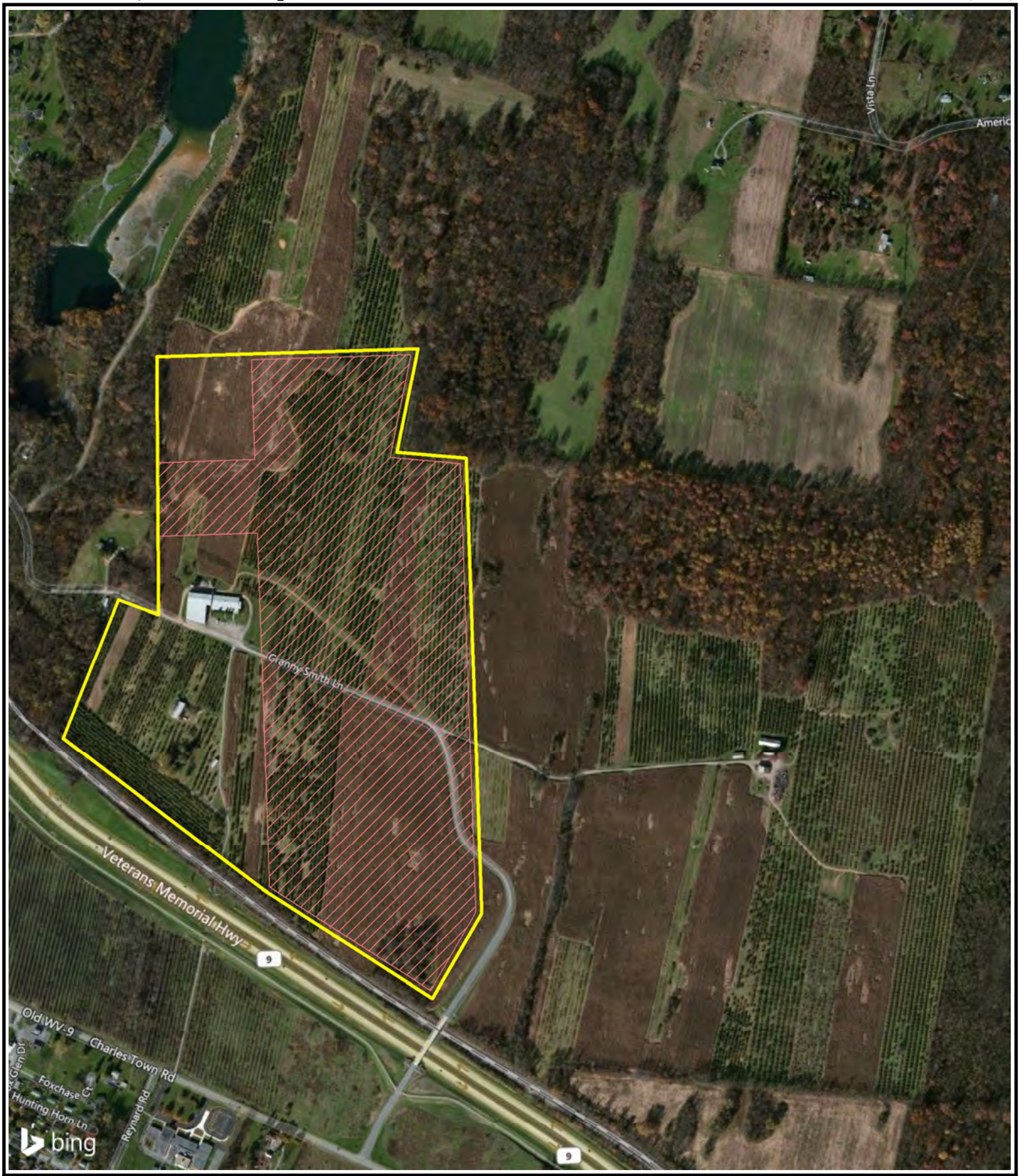

N

0 400 800 Feet

Legend

Project Boundary

VRP Area

Environmental Resources Management
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Figure 2
Site Plan
Jefferson Orchard Site
Project Shuttle
Kearneysville, West Virginia

Legal Property Description

Attachment II

Description of

TAX MAP 4 PORTION OF PARCEL 26

JEFFERSON ORCHARDS, INC.

DEED BOOK 284 PAGE 460

MIDDLEWAY DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

October 5, 2004

Beginning at a set 5/8" rebar in the northerly Right-Of-Way of B&O rail road (CSX Transportation) common corner with Bowers, 6.31' from a fence post thence with the boundary line of said Bowers

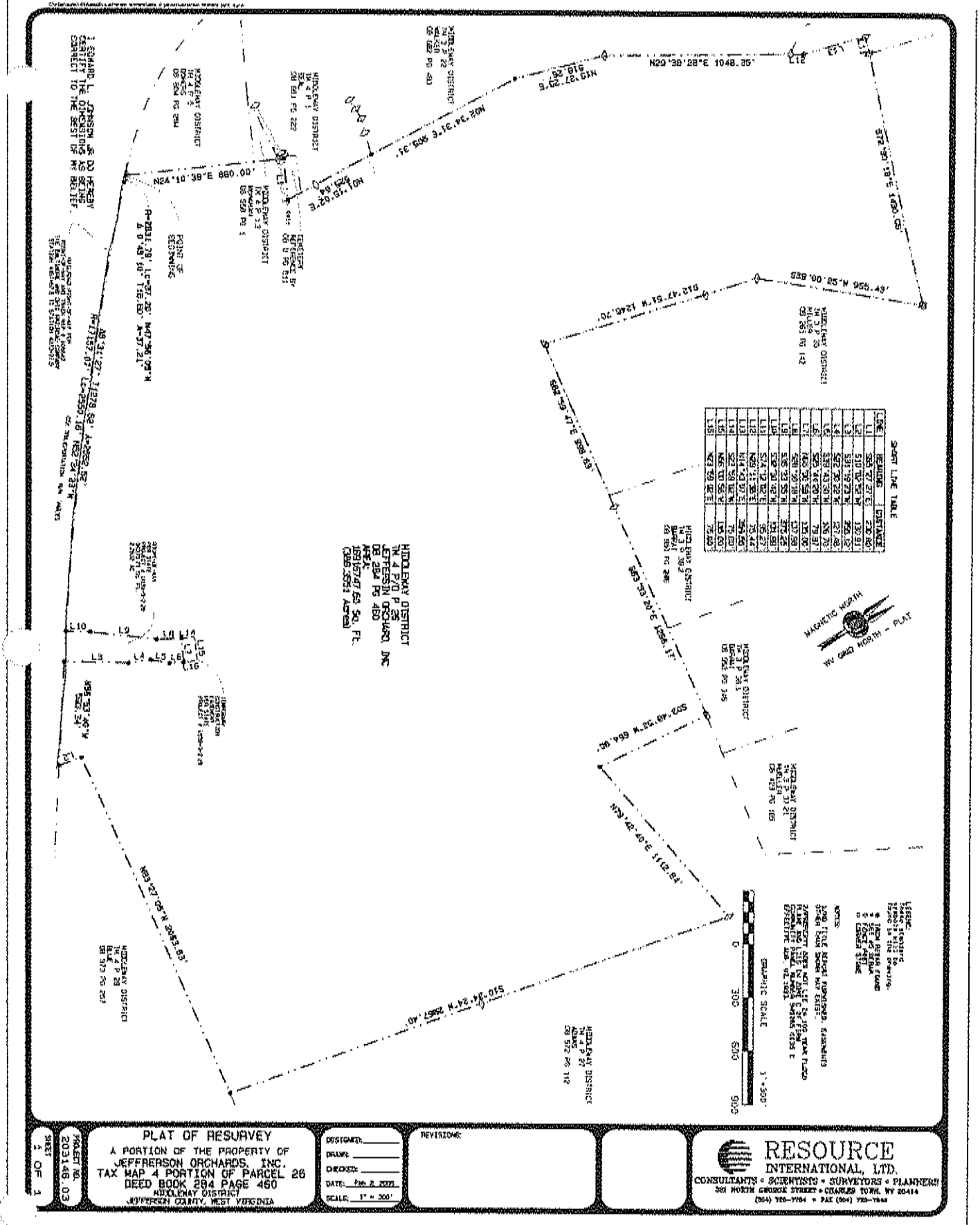
1. North 24°10'38" East, 880.00 feet to a set 5/8" rebar in the southerly boundary of existing cemetery, thence with the said cemetery
2. South 65°27'27" East, 230.80 feet to a set 5/8" rebar , thence
3. North 01°15'02" East, 525.64 feet to a set 5/8" rebar , common corner with Walker and Seal, thence with said Walker the following 6(six) courses
4. North 02°34'31" East, 905.31 feet to a set 5/8" rebar , thence
5. North 15°27'25" East, 518.26 feet to a fence post, thence
6. North 29°38'28" East, 1048.36 feet to a fence post, thence
7. North 28°11'38" East, 75.44 feet to a found rebar, thence
8. North 14°43'07" East, 359.56 feet to a fence post, thence
9. South 74°12'02" East, 95.27 feet to a fence post, common corner with Miller, thence with said Miller the following 3(three) courses
10. South 72°30'18" East, 1430.06 feet to a stone 2.95 feet from a fence post, thence
11. South 39°00'25" West, 955.43 feet to a fence post, thence
12. South 12°47'51" West, 1246.70 feet to a fence post, thence with the boundary line of Miller and Barrat
13. South 82°59'47" East, 998.83 feet to fence post, thence
14. South 83°33'20" East, 1296.17 feet to a stone, common corner with Adams thence with said Adams the following 3 (tree) courses
15. South 03°48'52" West, 664.90 feet to a found rebar, thence
16. North 79°42'40" East, 1112.84 feet to a fence post in a stone outcrop, thence
17. South 10°34'24" West, 2967.40 feet to a set 5/8" rebar , common corner with Blue, thence with said Blue
18. North 83°27'05" West, 2063.63 feet to a set 5/8" rebar , thence
19. South 10°02'52" West, 130.91 feet to a set 5/8" rebar in the northerly Right-Of-Way way of B&O rail road (CSX Transportation), thence with said Right-Of-Way

20. North 56°53'40" West, 593.34 feet to a set 5/8" rebar in the easterly Right-Of-Way of a road (State Project # U319-9-2.28), thence with the said Right-Of-Way the following 8 (eight) courses
21. North 31°19'23" East, 355.12 feet to a set 5/8" rebar, thence
22. North 22°30'22" East, 127.48 feet to a set 5/8" rebar, thence
23. North 39°43'30" East, 106.70 feet to a set 5/8" rebar, thence
24. North 25°44'20" East, 79.87 feet to a set 5/8" rebar, thence
25. North 66°00'58" West, 135.00 feet to a set 5/8" rebar, thence
26. South 28°18'18" West, 137.98 feet to a set 5/8" rebar, thence
27. South 36°33'55" West, 375.25 feet to a set 5/8" rebar, thence
28. South 32°30'42" West, 131.99 feet to a set 5/8" rebar in the northerly Right-Of-Way way of B&O rail road (CSX Transportation), thence
29. 2552.52 feet along the arc of a curve to the right having a radius of 17157.07 feet and a central angle of 8°31'27" and being subtended by a chord which bears North 52°34'23" West 2550.16 feet to a point of compound curvature , thence with aforesaid railroad Right-Of-Way
30. Northwesterly 37.21 feet along the arc of said curve concave to the northeast having a radius of 2831.79 feet and a central angle of 0°45'10" to the Point of Beginning.

Containing 388.3551 Acres, more or less.

**VRP parcel is approximately 80 acres and is located within the 388.36-acre parcel.

Jefferson Orchards, Inc.
55-0471930



Conceptual Model Worksheet

Conceptual Site Model Worksheet

Section 1 – SITE CHARACTERISTICS

Geologic Setting

Geologic Setting Characteristics
☐ Alluvial Setting ☐ Fractured Rock ☒ Karst ☐ None Listed

Soil

Soil Type (check all that apply)
☐ Gravel ☐ Sand ☒ Silt ☒ Clay ☐ Fill Material

Groundwater

Depth to Groundwater Range (feet)	Groundwater Flow Direction	Underlying Aquifer
60+	W	☐ Confined ☐ Perched ☒ Unconfined ☐ Unknown

Are there any known discharge points from the underlying aquifer? ☐ Yes ☒ No

Distance from Known Discharge Points to Site (miles)

Surface Water

List each local surface water body (lake, pond/impoundment, river, spring/seep, stream, wetlands).

Type	Name or Identifying Information	Distance from Site (feet)
Stream	**Opequon Creek – west of site**	**16,000**
Pond/Impoundment	**Former quarry – west of site**	**2,000**
Stream	**Elk Run – southeast of site**	**11,200**
Stream	**Rattlesnake Run – northeast of site**	**10,300**

Site Activities

Past or Current Site Activities
☐ Deep Mining ☐ Injection or Extraction Wells ☐ Monitoring Wells ☐ Surface Mining

Section 2 – SITE USE

Historical Site Use

Land Use (check all that apply)

☒ Agricultural ☒ Commercial ☐ Industrial ☐ Recreational ☐ Residential ☐ School ☐ Vacant
☐ Other:

List past and current property owners/operators, a description of operations, and the approximate dates of ownership/operation.

Approximate Dates	Owner/Operator Name	Description of Operations
1940 - 1966	**Malcom M. Brown & Lorena H. Brown**	**Site was used for agricultural purposes including fruit orchards. A residential structure was reportedly constructed on the southern portion of the site during the 1960s.**
1966 – Present	**Jefferson Orchards, Inc.**	**Site was used for agricultural purposes and fruit orchards up through October 2015, when fruit orchard operations were shut down. From 2015 to the present, seasonal agricultural activities have been ongoing at the site including cultivation of field corn and soybeans. The residence on the southern portion of the site was occupied by various residents during this timeframe.**

Current Site Use

Land Use (check all that apply)

☒ Agricultural ☐ Commercial ☐ Industrial ☐ Recreational ☐ Residential ☐ School ☐ Vacant
☐ Other:

If necessary, provide additional current site use description.

Future Site Use

Land Use (check all that apply)

☐ Agricultural ☐ Commercial ☒ Industrial ☐ Recreational ☐ Residential ☐ School ☐ Vacant
☐ Unknown ☐ Other:

If necessary, provide additional future site use description.

Historical Adjacent Property Use

Land Use (check all that apply)

☒ Agricultural ☒ Commercial ☐ Industrial ☐ Recreational ☒ Residential ☐ School ☐ Vacant
☐ Other:

If necessary, provide additional historical adjacent property use description.

Properties adjacent to the north, east, and west of the site have historically been used for agricultural and residential purposes. A CSXT rail line and State Route 9 are located south of the site. The The CSXT rail line was formerly owned by the Baltimore and Ohio Railroad company and has been present since the late 1800s. State Route 9 was originally a 2-lane road that was established around the 1940s. In the mid 2000s, a new 4-lane State Route 9 was established along the southern boundary of the site.

Current Adjacent Property Use

	Land Use (check all that apply) ☒ Agricultural ☐ Commercial ☐ Industrial ☐ Recreational ☒ Residential ☐ School ☐ Vacant ☐ Other:
	If necessary, provide additional current adjacent property use description.

Section 3 – CONTAMINANT SOURCE CHARACTERISTICS

Nature of Contamination

Provide a brief description of the nature of the contamination.

Contamination at the site generally consists of residual pesticides associated with former orchard operations.

Evidence of Contamination

Known or Suspected Source(s) of Contamination (check all that apply)

- ☒ Analytical data
- ☐ Free product or sheen on groundwater surface
- ☐ Free product or sheen on ponded water
- ☐ Free product or sheen on surface water body
- ☐ Odor
- ☐ Other:
- ☐ Oil, tar, or other non-aqueous phase contaminant (≥1,000 sq ft)
- ☐ Ponded contaminants
- ☐ Stained saturated soil or backfill
- ☐ Stressed biota (fish kills, stressed vegetation, etc.)

Source(s) of Contamination

Known or Suspected Source(s) of Contamination (check all that apply)

- ☐ Aboveground Storage Tank System (AT)
- ☐ Adjacent Property (AP)
- ☐ Burial or Dumping of Wastes (BD)
- ☐ Drums or Storage Containers (DS)
- ☐ Industrial Accident (IA)
- ☐ Routine Industrial Operations (IO)
- ☐ Surface Spill or Discharge (SD)
- ☐ Underground Storage Tank System (UT)
- ☐ Unknown (UK)
- ☒ Other (OT): Previous application of pesticides associated with fruit orchard operations.

Contaminants

For each contaminant, indicate: Source(s) of contamination as labeled above (A, B, C, etc.)
Known (K) and suspected (S) contamination for each media affected

Contaminant	Source(s)	Soil	Groundwater	Surface Water	Sediments	Air
Example	*BD, IO*	*K*	*K*	*S*		
Chlorinated Solvents						
Dioxins						
Metals						
PCBs						
Pesticides / Herbicides	**OT**	**K**				
Petroleum						
SVOCs						
VOCs						
Other:						
Other:						
Other:						
Other:						

Section 4 – INTERIM REMEDIAL ACTIONS

Interim Remedial Actions

Are there any interim remedial actions that have or will take place on the site?

☒ No

☐ Yes

Specify the remedial actions.

Remedial Action	Planned	Initiated	Completed	n/a
Containing contamination	☐	☐	☐	☒
Excavating contaminated soil	☐	☐	☐	☒
Providing temporary water supplies	☐	☐	☐	☒
Recovering free product	☐	☐	☐	☒
Removing regulated substance from storage tank(s)	☐	☐	☐	☒
Removing storage tank(s)	☐	☐	☐	☒
Other:	☐	☐	☐	☐
Other:	☐	☐	☐	☐

Section 5 – EXPOSURE MEDIA AND TRANSPORT PATHWAYS

Media

Affected or Potentially Affected Media (check all that apply)

☒ Soil ☐ Groundwater ☐ Surface Water ☐ Sediments ☐ Air

Transport Mechanisms

Identify contaminant transport mechanisms.

Contaminant	Erosion/Runoff	Fugitive Dust	Leaching	Volatilization
Pesticides / Herbicides	☒	☒	☒	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

Local Water Supplies

Indicate the supply for each local water need and the distance of the supply from the site.

Local Water	Surface	Downstream Distance (feet)	Well	Downgradient Distance (feet)
Public Water System	☐		☒	**3,500**
Private Residential	☐		☒	**500**
Agricultural	☐		☒	**250**
Industrial / Commercial	☐		☐	

Is the groundwater connected to or part of an aquifer that serves as a source of drinking water? ☒ Yes ☐ No

Other Surface Water Use

Surface Water Use (check all that apply)

☐ Boating ☒ Fish and Wildlife Habitat ☒ Recreational Fishing ☐ Subsistence Fishing ☒ Swimming ☐ Not Used

☐ Other:

Exposure Pathways

Current and Future Exposure Pathways (check all that apply)

Inhalation

- ☒ Soil Particles
- ☐ Vapors released from Groundwater
- ☐ Vapors released from Soil

Dermal Contact

- ☐ Groundwater
- ☐ Sediments
- ☒ Soil
- ☐ Surface Water

Ingestion

- ☐ Groundwater
- ☐ Sediments
- ☒ Soil
- ☐ Surface Water
- ☐ Aquatic Organisms
- ☐ Plants
- ☐ Terrestrial Animals

Receptors

Current and Future Receptors (check all that apply)

Human

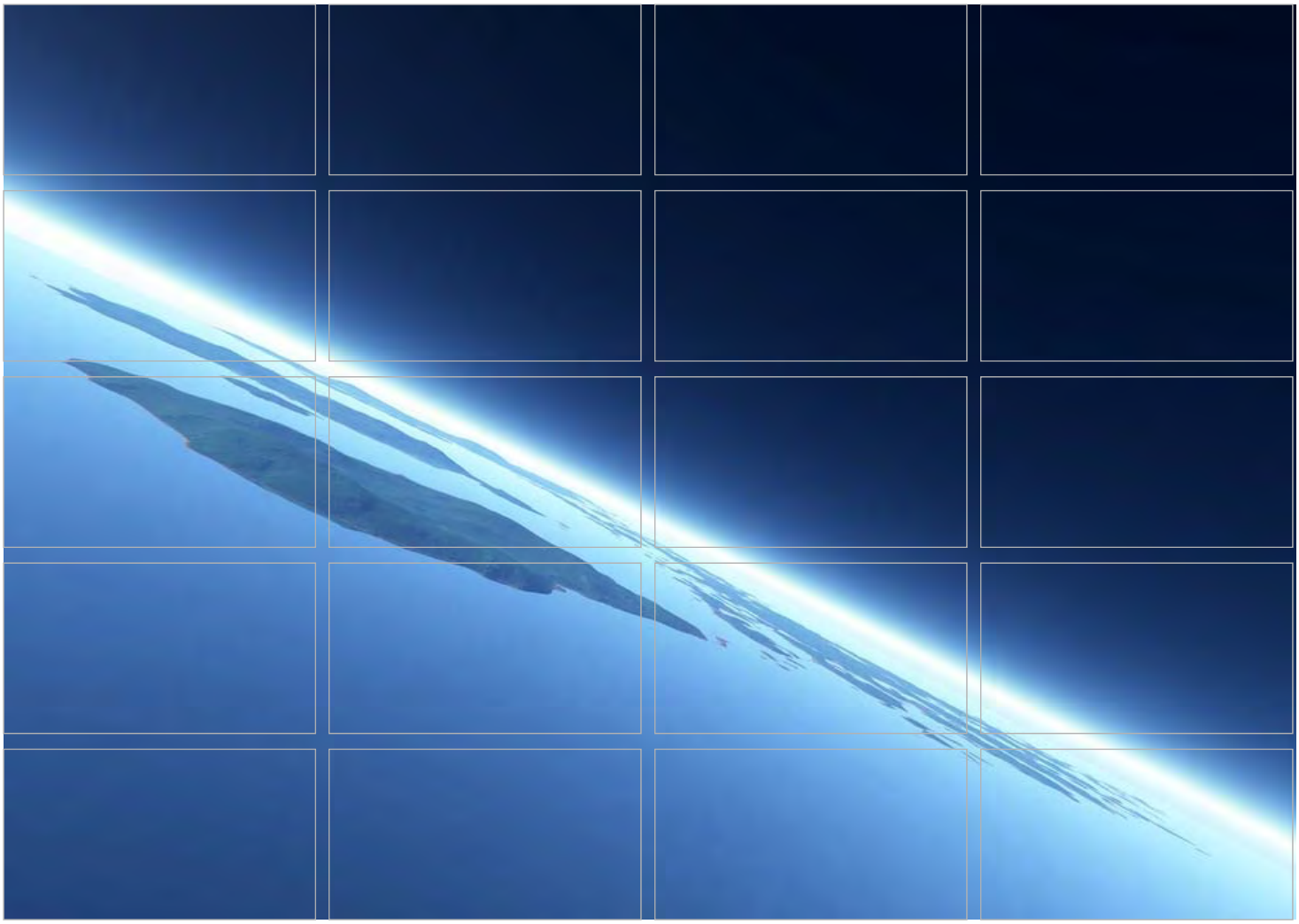
- ☐ Residential
- ☒ Commercial / Industrial
- ☒ Construction / Outdoor Maintenance Worker
- ☒ Recreational / Trespasser
- ☐ Other:

Ecological

- ☐ Aquatic
- ☐ Terrestrial

Previous Site Assessments

ERM Phase I Environmental Site Assessment (April 2017)



Project Shuttle

Phase I Environmental Site Assessment

Jefferson Orchard Site

365 Granny Smith Lane
Kearneysville, West Virginia

April 2017

Environmental Resources Management
204 Chase Drive
Hurricane, WV 25526
P: (304) 757-4777
F: (304) 757-4799

The business of sustainability

ERM

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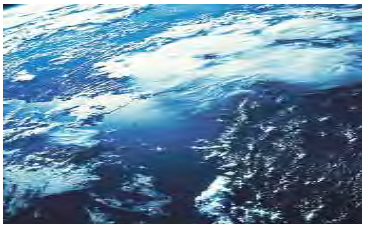

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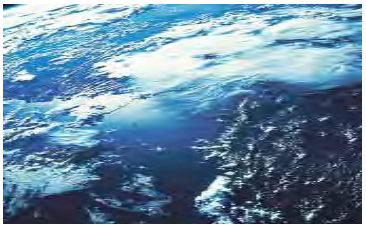
Executive Summary



Environmental Resources Management, Inc. ("ERM") conducted a Phase I Environmental Site Assessment ("ESA") of the Jefferson Orchard Site ("Site") located at 365 Granny Smith Lane near Kearneysville, West Virginia (the "Site" or "Subject Property"). The Site is currently owned by the Jefferson Orchards, Inc. (Jefferson Orchards). The Phase I ESA was conducted in accordance with the scope and limitations of ASTM International Standard E-1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* ("E-1527-13"). Exceptions to, or deletions from, E1527-13 are described in Section 1.3.4 of this report.

A Site visit was conducted on 6 March 2017 by Mr. David Connelly and Ms. Megan Innis of ERM. The Subject Property is comprised of approximately 152 acres, which is part of a larger 400-acre tract of land currently owned by Jefferson Orchard. The Subject Property is currently developed with agricultural structures including a packing shed, cold storage rooms, barns, equipment storage sheds, and one residence. The surrounding land is primarily agricultural in nature.

Current operations at Subject Property consist of primarily agricultural use, including cultivation of field corn and soybean crops. Jefferson Orchards reportedly leases the site to Horizon Farming (Horizon) for agricultural crop farming.

According to Site personnel, prior environmental reports, prior owners, and available historical documentation, the majority of the Subject Property was previously used as an orchard (apples, peaches, plums, nectarines) until November 2015. Prior to 1966, the Subject Property was reportedly owned by Mr. Malcom M. Brown and his wife, and operated under the name "Steward Orchards". The Site was sold to Jefferson Orchards in 1966, which continued orchard and agricultural operations up through November 2015. Since that time, the Subject property has reportedly been used solely for agricultural purposes.

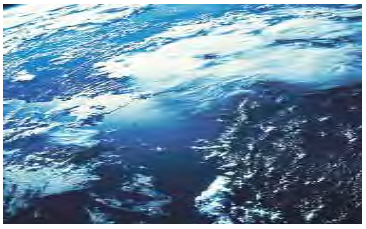
Based on the data obtained during the site reconnaissance visit, the environmental database review, and the interviews with persons familiar with the Site and its history, the following environmental conditions were identified at the Site (full details are provided in Section 6 of this report):

Summary of Identified Issues
ASTM E1527-13 Findings
Recognized Environmental Conditions (RECs)[1]
• Historically, the land was used for agricultural purposes and fruit orchards since the early 1900's; • Historical soil sampling analytical data from June 2003 indicating concentrations of constituents above West Virginia Risk-Based Standards; • Former pesticide mixing and sprayer filling area near packing shed; • Historical use of refrigerants associated with former cold storage room cooling units; • 175-gallon gasoline aboveground storage tank (AST), located in vacant barn near residence; • Storm water runoff collection pond located northwest of the packing shed; • Pole-mounted transformers located in the vicinity of the packing shed; • Old hand dug well near residence; and • Cemetery located immediately adjacent to the western edge of the Site.

[1] Key ASTM definitions, including REC, CREC and HREC, are provided in Section 8

Summary of Identified Issues
Controlled Recognized Environmental Conditions (CRECs)[1]
• No CRECs were identified during this assessment.
Historical Recognized Environmental Conditions (HRECs)[1]
• No HRECs were identified during this assessment.
De Minimis Conditions
• Minor staining of the concrete floor inside the warehouse portion of the packing shed.
Non-ASTM E1527-13 Issues
• Potential asbestos containing materials (ACMs) and/or lead paint associated with the residence, packing shed, or other structures at the Site; • The residence and portions of the former packing shed may have been constructed prior to the 1970s and LBP could potentially have been used on the structures; • Structures exceeding 50 years of age. West Virginia Culture Center (State Historic Preservation Office) may potentially require additional investigation with regard to historical value and cultural resources; • One potential isolated wetland/pond (~0.15 acre) was identified on the property. If this feature is determined to be a jurisdictional feature by either the WVDEP or the United States Army Corps of Engineers, potential mitigation may be required if this feature is filled.

1. Introduction and Background



1.1 Purpose and Auditors

On behalf of Project Shuttle (the "Client"), ERM, Inc. ("ERM") completed a Phase I Environmental Site Assessment ("ESA") of an approximately 152-acre property, which is part of a larger 400-acre tract of land known as Jefferson Orchards ("Site", or "Subject Property"), located at 365 Granny Smith Lane, Kearneysville, West Virginia. The environmental assessment was performed in anticipation of a potential financial transaction involving the Subject Property.

A site visit was performed on 6 March 2017 by ERM assessors, Mr. David Connelly and Ms. Megan Innis. ERM was accompanied on the site visit by Mr. Ronald Slonaker, former General Manager of Jefferson Orchard, Inc., and Mr. Jeff Haymaker, the property broker. Mr. Slonaker has been involved with the Subject Property for approximately 70 years and Mr. Haymaker has been involved with the Jefferson Orchard for approximately 4 years.

The "User" of this Phase I ESA report, as prescribed under ASTM International (ASTM) Standard E-1527-13; *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* ("E-1527-13") is defined as the Client.

1.2 Scope of Work

This environmental assessment was conducted in conformance with ERM's proposal dated 15 February 2017 and with the requirements of ASTM E 1527-13. Exceptions to, or deletions from, E1527-13 are described in Section 1.3.4 of this report.

ERM's Phase I ESA sought to gather information regarding: (1) current and past property uses and occupancies; (2) current and past use of hazardous substances and petroleum products; (3) waste management and disposal activities that could have caused a release or threatened release of hazardous substances; (4) current and past corrective actions and response activities to address past and on-going releases of hazardous substances at the Subject Property; and (5) properties adjoining or located near the Subject Property that have environmental conditions that could have resulted in conditions indicative of releases or threatened releases of hazardous substances to the Subject Property.

The scope of this Phase I ESA included:

- An onsite inspection to evaluate current conditions and identify areas of potential concern;
- A review of the history of the Subject Property and its vicinity through interviews and a review of various historical sources;
- Observation of adjoining properties and properties in the local area to evaluate the potential for adverse environmental impact to the Subject Property;
- Interviews/research of local city/county, tribal, state, and federal records, including contracting of Environmental Data Resources, Inc. (EDR) to identify regulatory listings for the Site and regulatory-listed facilities in the vicinity of the Site, as required in the regulatory records review section of the ASTM E1527-13; and
- Interviews and/or requests for information from the User and Subject Property owner, as deemed appropriate by the Environmental Professional.

1.3 Limiting and Special Conditions

1.3.1 Limiting Conditions during the Site Visit

ERM encountered the following limiting conditions during the site visit:

- ERM was unable to tour the inside of the residence on the Subject Property, due to the house currently being occupied by a tenant.

No other limiting conditions were encountered during the site reconnaissance visit.

1.3.2 Data Gaps

The following table summarizes the data gaps identified during the Site assessment.

Table 1 Data Gap Summary

Data Gap / Failure	Sources Consulted to Address Data Gap	Significance*
Based on ERM's review of reasonably ascertainable information, ERM was not able to fully assess the Subject Property's historical use prior to 1940 or to first developed use, whichever is earlier.	ERM interviewed the site representatives, reviewed prior reports and the EDR report.	Non-significant
ERM was unable to complete interview(s) with past owners/occupants of the Subject Property.	ERM interviewed the site general manager who has been onsite since 1949.	Non-significant

* "*Significance*" provides a qualitative indication of the implication of the identified data gap relative to the Environmental Professional's (EP's) ability to identify conditions indicative of releases or threatened releases to the subject property; the "significance" of the data gaps are rated from low to high. "*Non-significant*" indicates that additional information to fill the data gaps is not likely to have a negative impact on ERM's conclusions presented in this report. "*Significant*" indicates that it is ERM's opinion that additional diligence or investigation (such as additional data review or physical sampling of environmental media) is required to address the data gap.

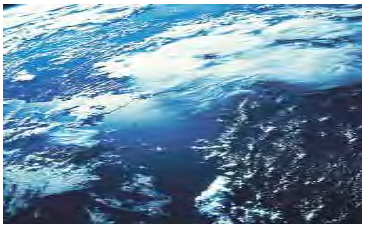
1.3.3 Significant Assumptions

No significant assumptions have been made.

1.3.4 Exceptions to and Deletions from the ASTM E1527-13 Standard

ERM has not identified exceptions to, or deletions from the ASTM E1527-13 standard.

2. Physical Site Setting



2.1 Location

The Subject Property consists of approximately 152 acres of gently rolling agricultural and limited forested land, situated along the northern boundary of a CSX Transportation (CSXT) railroad and West Virginia State Route 9. The general location of the Jefferson Orchard and the physiographic features of the surrounding areas are depicted on **Figure 1**, developed from the United States Geological Survey (USGS) 7.5-minute quadrangles for Martinsburg, Middleway, Shepherdstown, and Charles Town West Virginia, dated 2014. The Site Plan (**Figure 2**) illustrates the Site boundary and existing features on the Subject Property.

2.2 Topography and Hydrology

The Subject Property is located in an area predominantly characterized by karst topography, and is situated at an elevation of approximately 580 feet above mean sea level (amsl). Several limestone rock outcrops are visible throughout the Subject Property. Topography across the Site consists of gentle to moderate slopes and elevation ranges from approximately 530 to 602 feet amsl, with higher elevations on the south central portion of the Site. The Site is bound to the north and east by agricultural and wooded land and is bound to the south by CSXT railroad and West Virginia Route 9. Additionally to the west of the northern portion of the Site is a former limestone rock quarry. There are no streams or creeks running through the property and natural drainage generally flows toward the northwest. A man-made storm water collection pond surrounded by vegetation is located behind the Packing Shed.

According to the flood zone data presented in the EDR® Radius Map™ Report reviewed by ERM, the Site is located outside the 100-year and 500-year flood plains. There is one small area within the Site that is characterized under the National Wetland Inventory (NWI), located on the west side of the Site north of Granny Smith Lane. It appears that this NWI feature is the constructed stormwater pond to the north side of the former packing building. Additionally, there is one other small area outside the Subject Property characterized under the NWI and is located on the northeastern portion of the larger Jefferson Orchard Site near the woods. Flood zone information was obtained by EDR from the Federal Emergency Management Agency (FEMA) and wetland data was obtained by EDR from the U.S. Fish and Wildlife Service.

2.3 Geology and Hydrogeology

According to the United States Department of Agriculture Natural Resources Conservation Service web soil survey data the Site geology is characterized by Hagerstown silt loam/ silt clay and Vertrees silt loam/silt clay deposits. The silt loams and clays are underlain by Stonehenge Limestone bedrock which is underlain by Conococheague Formation. The Hagerstown silt loam/silt clay and Vertrees silt loam/silt clay deposits are characterized as prime areas for farmland and are well drained soils. These sequences average 0 to 7 feet in thickness and were deposited on top of the Stonehenge Limestone bedrock unit. The Stonehenge Limestone bedrock is characterized as gray, thin-bedded to massive, fossiliferous limestone, largely mechanically deposited, with small black chert nodules and beds of “edgewise” conglomerate (Cardwell, et al., 1986). Depth to bedrock beneath the Site varies due to the nature of limestone karst topography and may range from 5 to 35 feet below ground surface (bgs). The bedrock underlying the Hagerstown silt loam/ silt clay and Vertrees silt loam/silt clay deposits is part of the Conococheague Formation of the Cambrian-System. The Conococheague Formation is predominately algal and mechanically deposited limestone, with interbeds of aphanitic limestone and dolomite. The Formation contains siliceous and dolomitic laminations (Cardwell, et al., 1986).

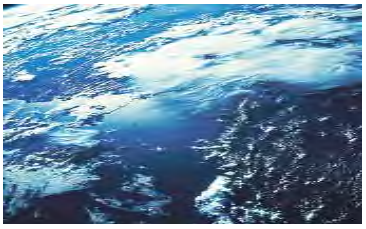
The Subject Property is not currently supplied with public water. Based on information gathered during the site reconnaissance visit, there are three potable wells on the Subject Property. Two wells were observed near the residence on the southwest portion of the Site One is located approximately 50 feet northwest of the house and is currently being used to supply drinking water for the residence. During the site visit, the water level in the well was

measured to be approximately 60 feet bgs. The other well is a “hand-dug” well, located approximately 60 feet southwest of the house. This well is reportedly no longer in use and was observed to be clogged with debris. A third well, observed in the south east corner of the Packing Shed parking lot, reportedly supplies drinking water to the Packing Shed. This well reportedly was also used to supply water former pesticide sprayer mixing and fill station, located in the immediate vicinity of the well.

According to the EDR report, there are a total of 17 wells located within one mile of the Subject Property, including nine United States Geological Service (USGS) wells and eight private potable wells. The closest well to the Subject Property is listed as the “Jefferson Orchard Labor Camp Well”, which is listed as being located within ¼ mile of the Subject Property on the east adjacent property. The additional 16 wells are listed as being located more than 1/2 mile from the Subject Property.

While groundwater flow direction at the Subject Property has not been confirmed by ERM, based on surface topography, it is expected that groundwater generally flows to the west toward Opequon Creek. It is important to note that groundwater flow direction can be influenced locally and regionally by the presence of local wetland features, surface topography, recharge and discharge areas, horizontal and vertical inconsistencies in the types and location of subsurface soils, and proximity to water pumping wells.

3. Site Description, Operations, and History



3.1 General Site Description

3.1.1 Real Estate Ownership Information

According to a property deed obtained from the Lien Search EDR report, the Site is owned by Jefferson Orchards and was acquired from Malcom M. Brown and his wife on December 1, 1966. The Site consists of an approximately 152 acres, and is part of a larger 400-acre tract of land, also owned by Jefferson Orchards. A Site Plan is provided as **Figure 2.** Photographs of the Subject Property taken during the March 6, 2017 site reconnaissance visit are included as **Appendix A**.

3.1.2 Subject Property Layout

ERM observed the following buildings on the Subject Property:

- Packing Shed – This structure is a sheet metal building with a slab-on-grade foundation. This building includes an office area, a former bakery and retail store area, and a warehouse area. The concrete floors appear to be in good condition with no evidence of cracking and De Minimis floor staining.
- Cold Storage Rooms (3 total) – Three cold storage rooms are located immediately west of the Packing Shed used to store produce (apples, plums, peaches). These rooms were cooled by a total of seven dual-fan overhead unit coolers, each with an outdoor compressor. The units reportedly used R-22 (approximately 50 lbs. of refrigerant in each unit). Cooling units and compressors are still present onsite. Historical activities associated with the cooling units, including coolant replacement and maintenance, represents a potential material release. Therefore, these cooling units are considered to be a Recognized Environmental Condition (REC).
- Residence – There is one house on the property currently being leased by Jefferson Orchards to a tenant. The house is constructed of stone and wood, and has a sheet metal roof.
- Well House – The well house is small wooden structure with a stone foundation and an underground cold storage cellar. An old “hand-dug” well was observed inside the structure and appeared to be clogged with debris. The well is potentially an open conduit to groundwater for potential spills or releases that could occur in the vicinity of the well, and is therefore considered to be a REC.
- Sheds (4 total) – ERM observed four sheds located within the vicinity of the residence. The sheds varied in construction from wood frame and dirt floor structures to sheet metal and block buildings with concrete floors. ERM observed one 175-gallon aboveground storage tank (AST) in one of the sheds, reportedly used to store gasoline for small tractors and equipment. The tank is a single-walled steel AST and was staged on bare soil. No ground-surface staining was observed in the immediate vicinity of the tank however, the tank appeared rusted and represents a potential threat of a material release to the ground surface. Therefore, this tank is considered to be a REC.
- Milking Barn – This building lies on the southwestern portion of the Subject Property and is used for storage of farming equipment. This structure consists of metal-frame construction, with concrete and metal walls and a sheet metal roof. Reportedly this building was formerly used as a milking barn.

The Subject Property is primarily agricultural in nature, with most of the buildings located on the southwestern portion of the Site. The Subject Property is accessible from Charles Town Road and Northpoint Avenue just south of State Route 9. The entrance road connects directly to Granny Smith Land, which runs east to west across the Site, and connects with the Packing Shed parking lot. Currently, the only occupied building on the Subject Property is the residence on the southwestern portion of the Site.

Additionally, a West Virginia Department of Highways (WVDOH) storm water outlet sign was observed on the southern boundary of the site (Registration No. WVR100552- Outlet 002). The area appears to be a former road abandoned as

part of a former Route 9 upgrade project. This former access road passes under the railroad tracks and leads to the edge of WV Route 9 (4-lane) controlled access R/W. This road can no longer be used to access Route 9.

3.2 Current Site Operations

Site orchard operations were reportedly shut down in November 2015 and all orchard trees were removed soon after. The site has remained idle since then. The Site is currently unoccupied with the exception of a tenant dwelling in the residence on the southwest portion of the Site. Also, portions of the Subject Property are reportedly still used for the agricultural production of corn and soybeans.

3.3 Historical Site Operations

3.3.1 Historical Summary

The Subject Property was reportedly developed as farmland in the early 20th century and began being used as an orchard around the 1940s. Based on historical aerial photographs and topographic maps, Site activities appeared to be primarily related to fruit orchard operations. More recently, the Subject Property has also been used to raise corn and soybean crops. Orchard operations were reportedly shut down in November 2015.

A property deed obtained from the EDR Report indicates the approximately 152-acre Subject Property was conveyed to Jefferson Orchards by Malcom M. Brown and his wife Lorena H. Brown on December 1, 1966, as part of a larger 400-acre tract.

Based on historical topographic maps, the initial development of structures on the Subject Property appears to have been around the 1930s or early 1940s, on the southwest portion of the Site. The packing shed was reportedly constructed in the late 1960s, and is first observed on the 1974 aerial photograph. Additions to the packing shed, including the former bakery and retail sales area, were reportedly constructed in the early 1980s. With the addition of the bakery, Jefferson Orchards reportedly installed a 500-gallon underground plastic tank, to supply potable water for bakery operations. The packing shed was supplied with water by an onsite potable well, however, the West Virginia Department of Health requested a separate potable water source for the bakery due to the below-grade location of the top of the well casing.

During the development of the new West Virginia State Route 9 in the early to mid-2000s, the West Virginia Department of Transportation, Division of Highways (WVDOT-DOH) reportedly used a portion of the Subject Property as a soil borrow area for road construction activities. According to Mr. Ron Slonaker, the borrow area was located north of the Packing Shed and included an approximately 14 acre area. Approximately two additional acres were disturbed to prepare a haul road across the Site. Reportedly, an estimated 200,000+ cubic yards was removed from the Subject Property by the WVDOT-DOH. Based on aerial photographs from 2007 and later, the former borrow area was used as agricultural land. A drawing outlining the former soil borrow area and haul roads is included in **Appendix B**.

ERM conducted a review of publicly available information from the West Virginia Department of Environmental Protection (WVDEP). According to files from the Office of Environmental Remediation (OER), the Subject Property was previously in the West Virginia Voluntary Remediation Program (VRP). A Voluntary Remediation Agreement (VRA) was executed between the WVDEP and Jefferson Orchards, Inc. on February 9, 2005. Due to inactivity in the VRP, the Site was removed from the VRP and the VRA was terminated by correspondence dated August 3, 2015. Copies of the VRA and the VRP termination letter are included in **Appendix B**.

3.3.2 Evaluation of Historical Information Sources

To determine past uses of the Site, ERM reviewed historical sources of information as outlined in the References section of this report (Section 7). Copies of pertinent historical sources are also appended.

Table 2 Historical Timeline

Timeframe	Discussion
1884 - 1893	According to the 1884, 1891, and 1893 topographic maps, the Subject Property does not appear to have been developed. The Baltimore and Ohio rail line that abuts the southern portion of the Subject Property is present during this timeframe.

Timeframe	Discussion
1914 - 1916	According to the 1914 and 1916 topographic maps, Granny Smith Lane appears as either a trail or dirt road on the southern portion of the Subject Property; however no structures are apparent on the Site. The 1916 topographic map shows additional area contour lines.
1943-1944	According to the 1943 and 1944 topographic maps, several structures are now apparent on the southern portion of the Subject Property, in the approximate vicinity of where the residence is currently located. A cemetery is shown abutting the southwest portion of the Site.
1953 - 1959	Topographic mapping of the Subject Property for 1953 and 1955 is incomplete; however portions of the Site illustrated on the maps appear to show similar features to that of the 1943 and 1944 topo maps. According to the 1959 aerial photographs, the eastern portion of the Subject Property appears to be primarily fruit orchards and the western portion of the Subject Property appears to be agricultural land. The southwest portion of the Site shows some land disturbance in the vicinity of the residence and the Packing Shed is not yet constructed.
1966	The Site was conveyed to Jefferson Orchards, Inc. by Malcom M. Brown and his wife on December 1, 1966, at which time Ron Slonaker reportedly became property manager.
1971 - 1979	The 1971 topographic map shows Granny Smith Lane on the Subject Property. The 1974 aerial photograph shows the packing shed, the residence and the sheds in the vicinity of the residence. The resolution makes it difficult to distinguish between portions of the Site being used for agricultural crops and orchard areas. The 1978 and 1979 topographic maps indicate the presence of orchards on the Subject Property.
1980-1982	The 1980 and 1982 aerial photographs show additional square footage has been added to the packing shed. The storm water collection pond located northwest of the packing Shed is visible in both photos.
1988 - 2000	The 1988 aerial photograph shows orchards covering a majority of the Subject Property. An area of land disturbance is also observed immediately adjacent to the southwest boundary of the Site. No major changes are apparent at the Subject Property during the time frame between 1988 and 2000.
2000 - 2007	A large area of land disturbance, presumably the former WVDOT-DOH soil borrow area and associated haul roads, is evident in the 2007 aerial photograph. Reportedly, the WVDOT-DOH used soil from the Subject Property as fill material during the construction of the new 4-lane Route 9 (also visible in the 2007 aerial photograph) in the mid-2000s. The Orchard areas continue to occupy a majority of the Site.
2009 - 2015	Aerial photographs from 2009 through 2015 show the former soil borrow area being used for the cultivation of agricultural crops. Other portions of the Site still appear to be orchard areas. Reportedly, orchard operations ceased in November 2015.
Present	The Subject Property is currently used for agricultural purposes including cultivation of corn and soybeans. The Packing Shed is unoccupied and a tenant currently occupies the residence on the southwestern portion of the Site.

3.3.3 Discussion of Historical Environmental Issues/ Assessments/ Investigations

ERM reviewed a number of previous environmental reports prepared for the Site. The title and a brief summary of each reviewed document are provided below.

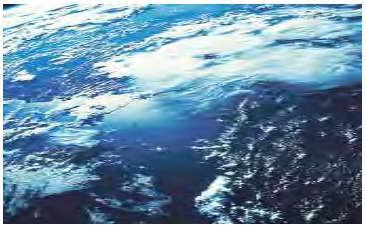
ERM reviewed analytical data that was part of a Phase II ESA conducted by Triad Engineering (Triad) on the entire 400-acre Jefferson Orchard property in July 2003. ERM reviewed data relevant to the Subject Property. A total of 20 shallow soil samples were collected from various locations across the Subject Property. Results are summarized as follows:

- Samples SASS2 and MSSS3 had respective 4,4,-DDT concentrations of 32 mg/kg and 3.6 mg/kg, which are above the WV Residential Soil De Minimis Standard of 1.7 mg/kg for 4,4-DDT;
- Sample MSSS3 had a 4,4,-DDE concentration of 4.4 mg/kg, which is above the WV Residential Soil De Minimis Standard of 1.4 mg/kg for 4,4-DDE;

- Sample MSSS3 had a dieldrin concentration of 0.79 mg/kg, which is above the WV Residential Soil De Minimis Standard of 0.03 mg/kg for dieldrin;

No other environmental reports associated with the Subject property were discovered during this Phase I ESA.

4. Site Environmental Operations and Regulatory Review



4.1 Material Use and Storage

ERM did not observe the storage and/or use of chemicals during the March 6, 2017 site reconnaissance visit. Minor floor staining of the concrete floor in the Packing Shed was observed however the floor appeared to be well-intact, with no signs of major cracking.

4.1.1 Underground Storage Tanks (USTs)

ERM discovered the following UST at the Site during the March 6, 2017 site reconnaissance visit:

- One 500-gallon, single-walled, plastic tank containing potable water

This tank is located along the eastern exterior of the Packing Shed and was reportedly installed by Jefferson Orchards, Inc., in the mid-1980s to supply potable water to the former onsite bakery. According to Mr. Ron Slonaker, the West Virginia Department of Health and Human Services (WVDHHR) recommended water from the Packing Shed supply well not be used as a source of potable water, due to the top of casing being located in a vault below the ground surface.

No other USTs were discovered on the Subject Property and the EDR Report did not indicate the presence of current or historical USTs associated with the Site.

4.1.2 Aboveground Storage Tanks (ASTs)

ERM observed the following ASTs on the Subject Property during the March 6, 2017 site reconnaissance visit:

- 175-gallon, single-walled, steel tank containing heating oil; and,
- 175-gallon, single-walled, steel tank containing gasoline.

The 175-gallon heating oil tank was located along the western exterior of the residence. ERM did not observe evidence of spills or leaks (i.e. ground-surface staining, odors) in the vicinity of the tank, and the tank appeared to be in good condition.

The 175-gallon gasoline tank was located in one of the open storage buildings in the vicinity of the residence and reportedly used to store gasoline for small tractors and equipment. The tank is a single-walled steel AST and was staged on bare soil. No ground-surface staining was observed in the immediate vicinity of the tank however, the tank appeared rusted and represents a potential threat of a material release to the ground surface. Therefore, this tank is considered to be a REC.

4.2 Waste Management

4.2.1 Hazardous Waste

The Subject Property is not listed as a hazardous waste generator and ERM did not observe evidence of the storage, treatment, or disposal of hazardous waste on the Subject Property.

4.2.2 Non-Hazardous Waste

ERM did not observe the presence of non-hazardous waste during the March 6, 2017 site reconnaissance visit. According to Mr. Ron Slonaker, the Site had a dumpster for general trash that was serviced on a weekly basis during previous operations as a fruit orchard site.

4.3 Water Supply, Wastewater and Storm Water

4.3.1 Water Supply

The Subject Property is not currently supplied with public water. Based on information gathered during the site reconnaissance visit, there are three potable wells on the Subject Property. Two wells were observed near the residence on the southwest portion of the Site. The first is located approximately 50 feet northwest of the house and is currently being used to supply drinking water for the residence. During the site visit, the water level in the well was measured to be approximately 60 feet bgs. The other well is a "hand-dug" well, located approximately 60 feet southwest of the house. This well is reportedly no longer in use and was observed to be clogged with debris. A third well, observed in the south east corner of the Packing Shed parking lot, reportedly supplies drinking water to the Packing Shed. This well reportedly was also used to supply water former pesticide sprayer mixing and fill station, located in the immediate vicinity of the well.

According to the EDR report, there are a total of 17 wells located within one mile of the Subject Property, including nine United States Geological Service (USGS) wells and eight private potable wells. The closest well to the Subject Property is listed as the "Jefferson Orchard Labor Camp Well", which is listed as being located within ¼ mile of the Subject Property on the east adjacent property. The additional 16 wells are listed as being located more than 1/2 mile from the Subject Property.

4.3.2 Wastewater

Currently, the Subject Property does not generate wastewater, with the exception of sanitary wastewater associated with the residence. The Site is not currently supplied with public sewer service. Records obtained from the Jefferson County Health Department indicate two septic systems are permitted for the Subject Property including one associated with the former packing shed (Permit No. 73190078), and one associated with the residence (Permit No. 75190196). The residence septic tank is located immediately east of the house and drains to a leach field located approximately 250 feet southwest of the residence. The location of the packing shed septic tank and leach field is unknown. Inspection records from the Jefferson County Health Department indicated both septic systems were in compliance with West Virginia State Health Department standards. Copies of septic system permits and inspection forms associated with the Subject Property are included in **Appendix B**.

4.3.3 Storm Water

Surface cover at the Subject Property consists primarily of tilled agricultural fields and vegetated areas, with some wooded areas located on the perimeter of the Site. Granny Smith Lane is a gravel road that runs east west across the Site. Storm water contacting the Subject Property generally infiltrates into the ground surface, but may flow across the Site via sheet flow, consistent with Site topography.

4.4 Polychlorinated Biphenyls (PCBs)

ERM observed three pole-mounted transformers located immediately north of the former packing shed. ERM was unable to ascertain the installation data of the transformers and no information was available regarding the PCB content of the transformers. ERM did not observe ground surface staining in the immediate vicinity of the transformers. Based on the potential for the transformers to contain PCBs, these units represent a threat of material release and are considered to be a REC.

4.5 Asbestos-Containing Materials (ACMs)

Asbestos was banned in most friable building materials (spray-applied surfacing materials and thermal system insulation) in 1978, but the Occupational Safety and Health Administration (OSHA) deems spray applied surfacing materials, thermal system insulation materials, and vinyl flooring materials as "presumed asbestos-containing materials" (PACMs) if they are present in pre-1981 buildings (29 CFR, Parts 1910.1001 and 1926.1101). Based on a review of historical aerial photographs, the residence and portions of the packing shed may have been constructed prior to the 1970s. As a result, PACMs may have been used in building construction and other ACMs could also be present within the structures. Therefore, the potential presence of ACM on the Subject Property is included as a "non-ASTM" finding.

4.6 Lead-Based Paint (LBP)

LBP was banned by the United States government for use in residences and other buildings where the public could be exposed in 1978; industrial use of LBP was phased out during the same period.

Based on a review of historical aerial photographs, the residence and portions of the packing shed may have been constructed prior to the 1970s. Therefore, LBP could potentially have been used on the interior or exterior of some of the onsite structures and is considered a non-ASTM finding. Mr. Slonaker was not aware of the presence of LBP in onsite structures, and was also not aware of any LBP surveys or sampling events having been completed in the buildings.

4.7 Rare, Threatened, and Endangered Species

ERM contacted both the West Virginia Division of Natural Resources (WVDNR) and the United States Fish and Wildlife Service (USFWS), and requested a search for rare, threatened, and endangered (RTE) species on the Subject Property. The WVDNR responded that no known records of RTE species or sensitive habitats were found in a search of the Natural Heritage Program files. The USFWS responded that this project is not likely to adversely affect RTE species, particularly the Indiana Bat, because the project would: (1) affect less than 17 acres of potential Indiana Bat foraging or roosting habitat, (2) is not within any of the Indiana bat hibernacula or summer use buffers, and (3) will not affect any potential caves or mines that could be used as hibernacula for this species. As a result, the USFWS concluded that no further consultation is required as long as there is no federal nexus or involvement associated with this project (i.e., federal funding provided or federal permits or special permit or license requiring further correspondence).

4.8 Wetlands and Streams

The EDR report indicated one NWI feature on the subject property. This feature appears to be the pond associated with the management of runoff from the parking lot behind the former packing building. There were no other apparent stream channels, wetlands or open bodies of water readily visible that connected this feature to another downstream waterbody. Further, this appears to be a manmade feature as opposed to a natural pond/open water. In general the United States Army Corps of Engineers (USACE) does not take jurisdiction over “isolated” bodies of water or wetlands or water bodies specifically engineered for stormwater management. However, the WVDEP 401 Water Quality Certification Program does routinely take jurisdiction over isolated wetlands particularly if more than 0.1 acre will be impacted. The feature is preliminarily estimated at 0.15 acre in size off of an aerial photograph trace. It is recommended that a qualified biologist review and delineate this feature according to USACE procedures to determine actual characteristics and size. If necessary they can also prepare a letter report to the USACE and WVDEP to get a final opinion on this feature so that planning can be made accordingly should this feature need to be impacted.

4.9 Archeological and Cultural Resources

ERM received a response from the West Virginia Deputy State Historic Preservation Office (SHPO) on April 3rd, 2017 requesting more information to complete their review. A copy of the SHPO response is included in **Appendix B**. Their review revealed that there are archeological and architectural resources within the vicinity of the proposed development. SHPO requests the following:

- Provide updated information of buildings still left standing on the parcel, so that it can be determined if these buildings are eligible for the National Register of Historic Places;
- Photographs of any buildings or structures that will be within the line of sight of the proposed above ground components of this project (i.e., a view shed);
- A Phase I archeological survey be conducted in the portions of the area not previously surveyed with accompanying technical report;
- An evaluation of whether a cemetery located immediately adjacent to the parcel of land is eligible for the National Register of Historic Places; and
- Public involvement of local government representatives and organizations that have a demonstrated interest in historic preservation or the undertaking in the Section 106 review process. SHPO suggests at a minimum forwarding a copy of the information supplied to SHPO to the Jefferson County Historic Landmark Commission to receive their comments and opinions.

4.10 Meteorological Status of Local Area

West Virginia experiences all four seasons throughout the year and the temperatures typically range from 10°F in the winter months to 90°F in the summer months. Kearneysville, WV, receives an average of 39 inches of rainfall and 20 inches of snowfall in a year (Website: 2017 US Climate Data).

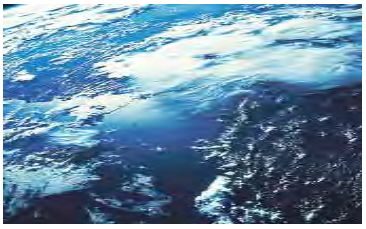
4.11 Traffic Patterns Associated with Local Area

ERM reviewed online traffic pattern data for State Route 9 near Kearneysville, West Virginia, provided by the West Virginia Department of Transportation. Available data included average daily number of vehicles traveling in both directions on Route 9, including the number of commercial trucks. In 2015, the average daily number of vehicles traveling on Route 9 in the Kearneysville area was 27,509, with 2,020 of those identified as commercial trucks. In 2016, the average daily number of vehicles traveling this same stretch of road was 21,636, with 865 identified as commercial trucks. Information obtained from the WVDOT website is included in **Appendix B**.

4.12 Local Seismic Zones and Earthquake Potential

The United States Geologic Society (USGS) specifies the area where the Subject Property is located as a low hazard for future seismic activity. Based on the 2014 Two Percent Probability Exceedance in 50 Years of Peak Ground Acceleration Map, the local area has a horizontal acceleration component between 0.06 and 0.1, expressed as a fraction of standard gravity (9.8 m/s). Two historical earthquakes were reported (prior to modern seismic sensing equipment) within approximately twenty miles of the Subject Property, including one in 1846 with an estimated magnitude of 2.7, and one in 1909 with an estimated magnitude 3.6. More recently, an earthquake was reported in January of 2016 approximately seven miles from the Site at a magnitude of 3.0 on the Modified Mercalli Intensity Scale (MMI). According to the USGS Earthquake Hazard Program an earthquake of 3.0 on the MMI is similar shaking of a truck passing by a residence and nearly unrecognizable as an earthquake.

5. Surrounding Properties



5.1 Summary

The Subject Property is located in a mixed residential and rural area. According to a Jefferson County Zoning Map found in Appendix B, the Subject Property is located in a zoning district listed as “Incorporated Town”. Properties surrounding the Site are included in a zoning district identified as “Rural”. The unincorporated community of Kearneysville is also identified on the zoning map and is located northwest of the Subject Property,

5.2 Current Surrounding Properties

Land use in the vicinity of the Subject property includes residential and agricultural. The surrounding properties and nearby land use, as observed by ERM at the time of the Site reconnaissance, are as follows:

Table 3 Current Surrounding Properties

Direction	Discussion
North	A portion of the 400-acre tract owned by Jefferson Orchards is located immediately north of the Subject Property, followed by a mixture of wooded and agricultural land.
East	A portion of the approximately 400-acre property owned by Jefferson Orchards, is located immediately east of the Subject Property. This property includes a former labor camp area, agricultural and previous orchard land, and a wooded area. ERM toured this property during the Site reconnaissance and observed the following buildings and structures: Labor Camp Main Building – A concrete block building previously used to house orchard workers Old Labor Camp Building – An old wooden structure that was reportedly used to house orchard workers Former Shop - A burned, collapsed concrete block building previously used to maintain equipment associated with orchard and farm operations Well House – A wood structure housing a potable well, used to formerly supply water to the labor camp Trailer – This structure consists of a raised, single-wide trailer staged on cinder blocks and is reportedly owned by Terry Walker. According to Mr. Slonaker, the trailer is not being used and is scheduled to be removed from the Site sometime over the next few months.
South	A CSXT rail line (formerly Baltimore and Ohio), is located along the southern boundary of the Subject Property, followed by State Route 9 (approximately 0.04 miles away), an abandoned strip mall (approximately 0.3 miles away), North Jefferson Elementary School (approximately 0.26 miles away), and a residential area (approximately 0.4 miles away).
West	A single family residential property is located immediately west of the southern portion of the Subject Property (approximately 0.06 miles away) and a former rock quarry is located immediately west of the northern portion of the Site (approximately 0.2 miles away).

5.3 Surrounding Properties Historical Summary

Topographic maps from the late 1800s show little development in the vicinity of the Subject Property, with the exception of the Baltimore and Ohio rail line that runs along the southern edge of the Subject Property. The 1914 topographic map shows some development of roads and towns in the vicinity of the Site, including Kearneysville and Bardane. Additional topographic lines appear on the 1916 topographic map as well as a large water feature on the west adjacent property to the Site, which appears to be the initial development of the rock quarry.

By the early 1940s and into the 1950s, topographic maps and aerial photography show additional development of residential structures in the surrounding area and indications of orchards on the property immediately east of the Site. West Virginia State Route 9 is now also present in the vicinity of the Site. An additional water feature associated with the adjacent rock quarry is observed in the 1955 topographic map, as well as more orchards on other properties in the surrounding area. A cemetery is also shown on the topographic maps, located immediately west of the Site. Materials including formaldehyde and metals may have potentially leached from the cemetery onto the Subject Property. Based on the threat of material release, the cemetery is considered to be a REC.

Continued growth in the community of Kearneysville is evident in topographic maps and aerial photographs from 1959 through the 1970s. The area due north of the cemetery and adjacent to the western boundary of the Subject Property is observed to have been cleared, however, no structures are visible in this area. North Jefferson Elementary School, located approximately ¼ mile due south of the Subject Property, is shown on the 1978 and 1979 topographic maps. The labor camp on the east adjacent property of the Site is first visible in the 1959 aerial photograph, with only three structures visible. The newer labor camp residential building first appears in the 1980 aerial photograph.

By 1988, the residential community located southwest of the Site appears to be fully developed. Additionally, a majority of the Site and surrounding properties appear to be orchards. Some continued commercial and residential development is observed through the 1990s and into the early 2000s. The new 4-lane of State Route 9 is evident in the 2007 aerial photograph. Also, the two water features associated with the rock quarry are now connected with a channel. A large amount of land disturbance is now evident on the quarry property. Around the same time-frame of 2007, soil borrow activities for the construction of Route 9 from the Subject Property are evident.

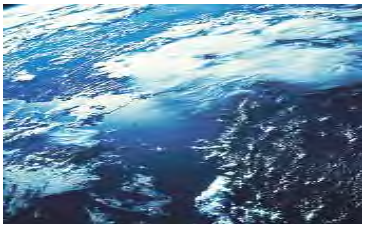
Between the late 2000s and the present, no major changes to the area surrounding the Subject Property are evident. During the site reconnaissance visit, ERM observed that the Maintenance Shop building associated with the labor camp was dilapidated and falling apart. Ron Slonaker confirmed that the structure had recently had a fire, which caused most of the damage.

5.4 Adjoining Property Agency Review

The environmental database search did not identify any of the adjoining properties in the databases included in the search. Therefore, ERM did not conduct local agency file review for the adjoining properties.

However, the environmental database report identified a former Sheetz retail gasoline station with leaking USTs (Leak ID #:03-088), located approximately 2,400 feet northwest of the Subject Property. ERM contacted the WVDEP regarding the extent of soil and groundwater contamination associated with this facility. Ms. Sheena Moore of the WVDEP indicated that the USTs were previously removed and that an onsite groundwater recovery and treatment system had been operated at the facility. Ms. Moore indicated that the soil and groundwater contamination has not migrated off the property and that routine groundwater sampling and monitoring is ongoing at the facility. Based on the regulatory status of the former Sheetz station, this facility does not represent an environmental concern with respect to the Subject Property.

6. Conclusions



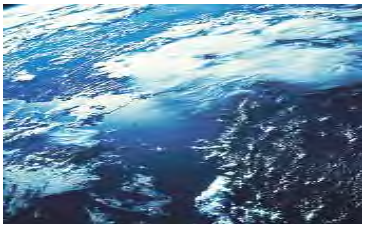
ERM has performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E1527 of the Target Area (as defined in Section 1 of this report). Exceptions to, or deletions from, this practice are described in Section 1.3.4 of this report. This Phase I Environmental Site Assessment identified the following recognized environmental conditions:

Summary of Identified Issues
ASTM E1527-13 Findings:
Recognized Environmental Conditions (RECs)[2]
The site was historically used as an apple orchard and for agricultural purposes. The reported use of pesticides (including lead arsenate and dichlorodiphenyltrichloroethane (DDT)) during previous site operations represents a potential historical release of pesticides to the soil and groundwater at the site and is therefore considered to be a REC. Historical soil sampling analytical data from June 2003 indicates the following soil sampling analytical results above West Virginia Soil Risk-Based De Minimis Standards: • Samples SASS2 and MSSS3 had respective 4,4,-DDT concentrations of 32 mg/kg and 3.6 mg/kg, which are above the WV Residential Soil De Minimis Standard of 1.7 mg/kg for 4,4-DDT; • Sample MSSS3 had a 4,4,-DDE concentration of 4.4 mg/kg, which is above the WV Residential Soil De Minimis Standard of 1.4 mg/kg for 4,4-DDE; • Sample MSSS3 had a dieldrin concentration of 0.79 mg/kg, which is above the WV Residential Soil De Minimis Standard of 0.03 mg/kg for dieldrin; Based on historical concentrations of pesticides exceeding West Virginia Risk-Based De Minimis Standards, the former use of the Subject Property as an orchard is considered to be a REC.
A former pesticide sprayer filling area was located approximately 175 feet southeast of the former packing shed. Sprayers were filled from an overhead water tank with pesticides manually added. The potable well servicing former packing shed is located in the immediate vicinity of the former sprayer filling area and the top of the well casing is below ground surface. Based on the potential for historical releases of pesticides to the ground surface and the close vicinity of a potable well, the former sprayer area is considered to be a REC.
Three cold storage rooms associated with the packing shed were cooled by a total of seven dual-fan overhead unit coolers, each with an outdoor compressor. The units reportedly used R-22 (approximately 50 lbs. of refrigerant in each unit). Cooling units and compressors are still present onsite. Historical activities associated with the cooling units, including coolant replacement and maintenance, represents a potential material release. Therefore, these cooling units are considered to be a REC.
ERM observed a 175-gallon AST, used to store gasoline for small tractors and located in former barn near residence on southwest portion of Site. The tank is a single-walled steel AST and was observed to be staged on bare soil. No ground-surface staining was observed in the immediate vicinity of the tank however, the tank appeared rusted and represents a potential threat of a material release to the ground surface. Therefore, this tank is

[2] Key ASTM definitions, including REC, CREC, HREC and de-minimis condition, are provided in Section 8.

Summary of Identified Issues
considered to be a REC.
A small storm water collection pond is located northwest of the packing shed and was reportedly used to collect surface water runoff from a concrete pad where fresh-picked fruit was washed. Drainage from the concrete pad may have potentially contained pesticides and therefore represents a potential material release. Therefore, the storm water collection pond is considered to be a REC.
ERM observed three pole-mounted transformers located immediately north of the former packing shed. ERM was unable to ascertain the installation data of the transformers and no information was available regarding the PCB content of the transformers. ERM did not observe ground surface staining in the immediate vicinity of the transformers. Based on the potential for the transformers to contain PCBs, these units represent a threat of material release and are considered to be a REC.
ERM observed an out-of-service, "hand-dug" potable well located near the residence on the southwestern portion of the Subject Property. The well was located within a well house and appeared to be clogged with debris. The well is potentially an open conduit to groundwater for potential spills or releases that could occur in the vicinity of the well, and is therefore considered to be a REC.
A small cemetery is located immediately west of the Site. Materials including formaldehyde and metals may have potentially leached from the cemetery onto the Subject Property. Based on the threat of material release, the cemetery is considered to be a REC.
Controlled Recognized Environmental Conditions (CREC)[2]
No CRECs associated with the Subject Property were identified during this assessment.
Historical Recognized Environmental Conditions (HRECs)[2]
No HRECs associated with the Subject Property were identified during this assessment.
De-Minimis Conditions[2]
ERM observed minor staining of the concrete floor inside the warehouse portion of the packing shed. The floor appeared to be well intact with no signs of cracking in the stained area. Therefore, this staining was considered to represent a De Minimis condition.
Non-ASTM E1527-13 Issues:
Based on a review of historical aerial photographs, the residence and portions of the former packing shed may have been constructed prior to the 1970s. As a result, PACMs may have been used in building construction and other ACMs could also be present within the structures.
Based on a review of historical aerial photographs, the residence and portions of the former packing shed may have been constructed prior to the 1970s. Therefore, LBP could potentially have been used on the interior or exterior of some of the onsite structures.
Structures exceeding 50 years of age were identified on the Site. West Virginia Culture Center (State Historic Preservation Office) may potentially require additional investigation with regard to historical value and cultural resources.
One potential isolated wetland/pond (~0.15 acre) was identified on the property. If this feature is determined to be a jurisdictional feature by either the WVDEP or the United States Army Corps of Engineers, potential mitigation may be required if this feature is filled or impacted beyond 0.10 acre.

7. References



The following sources were used in conducting the Phase I ESA detailed in this report. Where information obtained from these sources was determined to be useful by the Environmental Professional, it is summarized in the body of this report. Copies of prior environmental reports and other pertinent documents are appended.

Table 4 Regulatory Agency Review

Agency/Company	Person Contacted	Telephone	Regarding
Jefferson Orchard, Inc. 395 Granny Smith Lane Kearneysville, WV 25430	Mr. Ron Slonaker	304-676-0981	General Site information
Department of Air Quality, WVDEP 601 57th Street SE Charleston, West Virginia 25304	Stephanie Hammond	N/A – contacted through FOIA request	Permits, notices of violation, and general Site information associated with air emissions at the Site.
Division of Land Restoration, WVDEP – UST/LUST/LAST Section 601 57th Street SE Charleston, West Virginia 25304	Jeff Gibson / Kenneth Stevens	N/A – contacted through FOIA request	Information regarding UST registrations, leaking USTs and ASTs, previous spill information, and tank closure reports
Division of Water and Waste Management, WVDEP 601 57th Street SE Charleston, West Virginia 25304	Pamela Houston	N/A – contacted through FOIA request	Information regarding storm water, NPDES permits, groundwater protection plans, and other surface water related information
Division of Land Restoration, WVDEP - OER 601 57th Street SE Charleston, West Virginia 25304	Jessica Henson	N/A – contacted through FOIA request	Information regarding remediation, voluntary cleanups, soil and groundwater investigations, etc.
Division of Water and Waste Management, WVDEP – Hazardous Waste Section 601 57th Street SE Charleston, West Virginia 25304	Peggy Kozak	N/A – contacted through FOIA request	Information regarding hazardous waste handling and reporting at the Site
Jefferson County Assessor's Office 104 Washington Street East Charlestown, West Virginia 25414	County Assessor's Office – online records search	304-357-0250	Tax parcel and site ownership information
Jefferson County Development Authority (JCDA) 1948 Wiltshire Road, Suite # 4 Kearneysville, WV 25430	John Reisenweber and Jane Jones	304-728-3255	Former reports, zoning information, general area information
Jefferson County Health Department 1948 Wiltshire Road, Suite # 1 Kearneysville, WV 25430	N/A	304-728-8416	Information on potable wells and septic systems associated with the Site
Environmental Data Resources, Inc. 6 Armstrong Road, 4th Floor Shelton, CT 06484	NA	800-241-6476	Environmental Database Search Report, topographic maps, aerial photographs, city directories, fire insurance maps, environmental lien search

Agency/Company	Person Contacted	Telephone	Regarding
Internet resources	NA	NA	Site database searches (www.wvdep.gov, http://www.epa.gov/echo/)

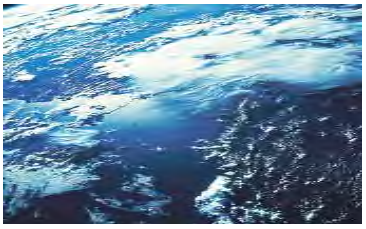
Table 5 Summary of Historical Sources Reviewed

Agency/Source of Information	Data Provided	Years Reviewed (if applicable)	
		Site	Surrounding Properties
Mr. Ron Slonaker, former Site Manager	General Information	1943 to present	1943 to present
Interview(s) with past owners/occupants, (if appropriate)	Not Applicable	Not Applicable	Not Applicable
Interview(s) with owner/occupants of neighboring and nearby properties (in cases of abandoned Subject Property)	Not Applicable	Not Applicable	Not Applicable
Ms. Sheena Moore, Project Manager at the WVDEP	Information regarding previous Site participation in VRP and the former Sheetz gas station Leak ID #:03-088	Not Applicable	Not Applicable
USGS Topographic Maps	Topographic Maps	1884, 1891, 1893, 1914, 1916, 1943, 1944, 1953, 1955, 1971, 1978, 1979, 1984, 1988, 1994, 1997, 2014	1884, 1891, 1893, 1914, 1916, 1943, 1944, 1953, 1955, 1971, 1978, 1979, 1984, 1988, 1994, 1997, 2014
EDR	Sanborn Fire Insurance Maps	No Coverage	No Coverage
EDR	City Directories	1992, 1995, 1999, 2003, 2008, 2013	1992, 1995, 1999, 2003, 2008, 2013
EDR, USDA Natural Resource Conservation Service, Jefferson County GIS Department and internet resources (Google Earth);	Aerial Photographs, soil information, tax map information	1959, 1974, 1980, 1982, 1988, 1994, 2000, 2007, 2009, 2011	1959, 1974, 1980, 1982, 1988, 1994, 2000, 2007, 2009, 2011
EDR	Environmental Lien Search	Discussed in Section 8.3.1	Not Applicable

Table 6 Other Documentation Reviewed

Date	Jefferson
2015	Jefferson County Zoning Map
2014	Online USGS seismic activity information
2016 - 2015	West Virginia Department of Transportation traffic information for Kearneysville, West Virginia

8. Limitations and Other Considerations



8.1 General Limitations

There are a number of exclusions and limitations associated with this assessment. These are briefly outlined below:

- This report has been prepared by ERM exclusively for the Client and may not be relied upon by any other recipient, person or entity (together, henceforth, "Other Recipient") without ERM's express, written permission. ERM makes no warranties or representations to any Other Recipient and has no obligation to advise any Other Recipient regarding changes to this report or changes in applicable laws and regulations subsequent to the date of this report. In receiving this report, any Other Recipient agrees that (a) it will make no claim against ERM that relates in any way to this report, or the Other Recipient's access to this report, and (b) to the fullest extent permitted by applicable law, Other Recipient hereby releases ERM from, and will defend and hold harmless ERM from and against, any claim, action, suit, damage, loss, award, liability, expense, cost, or fees including attorneys' fees arising from or relating to any use or disclosure of the report or any portion thereof by Other Recipient or any third party to whom Other Recipient discloses the Report. Notwithstanding the foregoing, if requested, ERM will issue reliance letters allowing lenders or other interested parties to rely on the contents of this report, in accordance with ERM's terms and conditions, for financing or other purposes.
- ERM is an environmental consulting firm, and as such we make no representations regarding questions of legal or accounting interpretation. Consultation with an attorney and/or certified accountant should be made with respect to any legal or accounting matters, or items that require such interpretation, under any law, regulation or contract.
- ERM did not independently verify information on publicly available databases. Therefore our findings are accurate and complete only to the extent that information provided to ERM was itself accurate and complete.
- The conclusions presented in this report represent ERM's professional judgment based on the information made available to us during the course of this assessment and are true and correct to the best of ERM's knowledge as of the date of this report.
- No sampling or testing of soils, waters or other materials was included as part of this assessment. However, reference may have been made to previous testing and sampling, as appropriate.
- State-specific regulations related to property transfer (or ownership changes) may apply to the proposed transaction. Costs related to compliance with these State requirements were not included in ERM's Assessment.
- Unless otherwise stated, ERM assumes the User (as defined in E1527-13 – see Section 8.4) is the Client.

8.2 ASTM Limitations

The innocent landowner, contiguous owner, and prospective purchaser defenses to liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) require that a person acquiring property conduct an all appropriate inquiry with respect to the Site. ERM has conducted this environmental assessment in accordance with the standards for conducting an all appropriate inquiry set forth at 40 CFR. 312. Those standards require the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations and exercise of discretion. Professional judgments expressed herein are based on the facts currently available within the limits of the existing data, and data gaps identified herein, scope of work, budget, and schedule. Those standards also require that the User undertake certain additional inquiries. In addition, the liability defenses under CERCLA require, among several other things, that the User after the acquisition stop any continuing releases, prevent any future threatened releases and prevent or limit human, environmental or natural resource exposure to any hazardous substance released at the Site. Therefore, ERM makes no warranties, expressed or implied, including, without limitation, warranties

as to merchantability or fitness for a particular purpose, including any warranty that this Phase I assessment will in fact qualify User for the innocent landowner, contiguous property owner or prospective purchaser defense to liability under CERCLA. ERM's assessment is limited strictly to identifying recognized environmental conditions associated with the Site. Results of this assessment are based upon the visual inspection of readily accessible areas of the Subject Property conducted by ERM personnel, information from interviews with knowledgeable persons regarding the Subject Property, information reviewed regarding historical uses, information provided by contacted regulatory agencies, and review of publicly available and practically reviewable information identifying current and historical uses of the property and surrounding properties. All conclusions and recommendations regarding the Subject Property represent the professional opinions of the ERM personnel involved with the project, and the results of this report should not be considered a legal interpretation of existing environmental regulations. ERM assumes no responsibility or liability for errors in the public data utilized, statements from sources outside of ERM, or developments resulting from situations outside the scope of this project. We make no warranties, expressed or implied, including, without limitation, warranties as to merchantability or fitness for a particular purpose.

8.3 Other Considerations

8.3.1 Environmental Database Search

ERM contracted EDR to conduct a database search for agency records. The appended database report defines and summarizes the ASTM databases reviewed in the EDR report and notes if any listed facilities (including the Subject Property) were identified in the specified radius (one mile from the Site boundary). The locations of the listed facilities identified in the EDR report were evaluated to determine which listed facilities were located within the ASTM specified search distance from the Subject Property boundary. Only those listed facilities worthy of further discussion are discussed within the applicable sections of this report and data on additional listed facilities is included in the appended EDR database report (Appendix D).

It should be noted that the computerized geocoding technology used in the database search is based on available census data and is only accurate to ±300 feet. The EDR report provides a list of unmapped facilities for which inadequate location information was provided. ERM has reviewed the list of "unmapped" listed facilities to determine if these listed facilities are within the study radius. If the "unmapped" listed facilities appeared likely to be within the search radius for a specific database, they are discussed in the applicable sections of this report.

Listed facilities identified within the study radii were evaluated to determine if they are likely to have adversely impacted the Subject Property. The criteria used to evaluate the potential for adverse impact to the Subject Property include:

- Distance from the Subject Property;
- Expected depth and direction of groundwater and surface water flow;
- Geology and physical ground conditions;
- Expected storm water flow direction;
- The presence/absence of documented contaminant releases at the identified sites that have not been remedied to the satisfaction of regulators; and
- The current regulatory status of the listing.

The identification of a listed facility as potentially up-gradient or down-gradient is based on the expected direction of groundwater flow referenced in Section 2.3.

8.3.2 User Provided Information

ERM contacted the User with respect to the following information:

- An evaluation of the presence of Environmental Cleanup Liens for the Subject Property;
- Activity and Use Limitations such as engineering controls (e.g., slurry walls, caps) and land use restrictions or institutional controls (e.g., deed restrictions, covenants) that may be in place for the Subject Property;

- Specialized Knowledge that includes personal knowledge or experience related to the Subject Property or nearby properties based on professional experience or knowledge of the Subject Property;
- Fair Market Value to evaluate whether a purchase price is significantly below Fair Market Value;
- Obvious Indicators that involve past or present spills, stains, releases, cleanups on or near the Subject Property; and
- Common Knowledge about specific chemicals, possible contamination, or past use of the Subject Property and surrounding area.

Relevant information provided by the User is summarized under the appropriate headings of this report, and in the following table:

Table 7 User-Provided Information

User Request	Response
Environmental cleanup liens	The User is not aware of environmental liens currently recorded against the Site.
Activity and Use Limitations (AULs) and land use restrictions or institutional controls	The User is not aware of AULs and/or land use restrictions currently recorded against the Site.
Specialized knowledge	User has no specialized knowledge of the Site other than what was provided to ERM as discussed under the relevant sections in the report. User provided information is summarized throughout this report. ERM is not aware of additional specialized knowledge for the Site.
Fair market value	User is not aware of a devaluation of the purchase price or fair market value of the Site in association with environmental conditions at, on or under the Site.
Obvious indicators that involve past or present spills, stains releases or cleanups	User was not aware of any obvious indicators which involve past or present spills, stains releases or cleanups.
Common knowledge about specific chemicals, possible contamination, or past use	Information and documentation, including previous environmental investigations was provided to ERM and is presented throughout this report in the relevant report sections and appendices.

8.4 Key ASTM Definitions

ASTM E1527-13 prescribes the following definitions:

Recognized Environmental Condition (REC): "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment..."

Controlled REC (CREC): "…a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to

remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)…"

Historical REC: "…a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria)..."

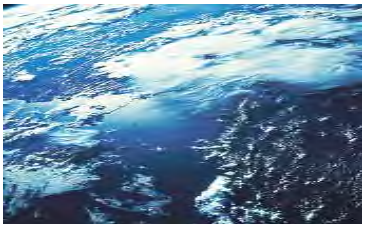
De Minimis condition: "…a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies..."

Data gap: "…a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to Site reconnaissance (for example, an inability to conduct the Site visit), and interviews (for example, an inability to interview the key Site manager, regulatory officials, etc.)…"

Data failure: "…a failure to achieve the historical research objectives…even after reviewing the standard historical sources … that are reasonably ascertainable and likely to be useful..."

***User*:** "…the party seeking to use Practice E1527 to complete an Environmental Site Assessment of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager. The user has specific obligations for completing a successful application of this practice..."

9. Environmental Professional Certification



This Phase I Environmental Site Assessment was conducted by Mr. David Connelly and Ms. Megan Innis of ERM. Mr. David Connelly and Mr. David Carpenter reviewed the contents of this report. The professional qualifications for Ms. Innis, Mr. Connelly and Mr. Carpenter are in Appendix E. Mr. Connelly meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and has prepared the following declaration and signed in accordance below.

- I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.
- I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

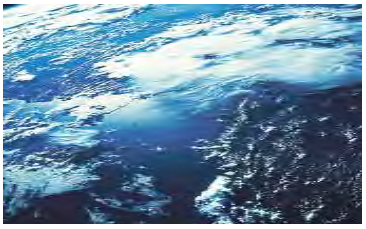
David L. Carpenter, P.E.
Partner-in-Charge

David T. Connelly
Project Manager and Environmental Professional

Megan Innis
Site Assessor

ERM
204 Chase Drive
Hurricane, West Virginia 25526

Figures



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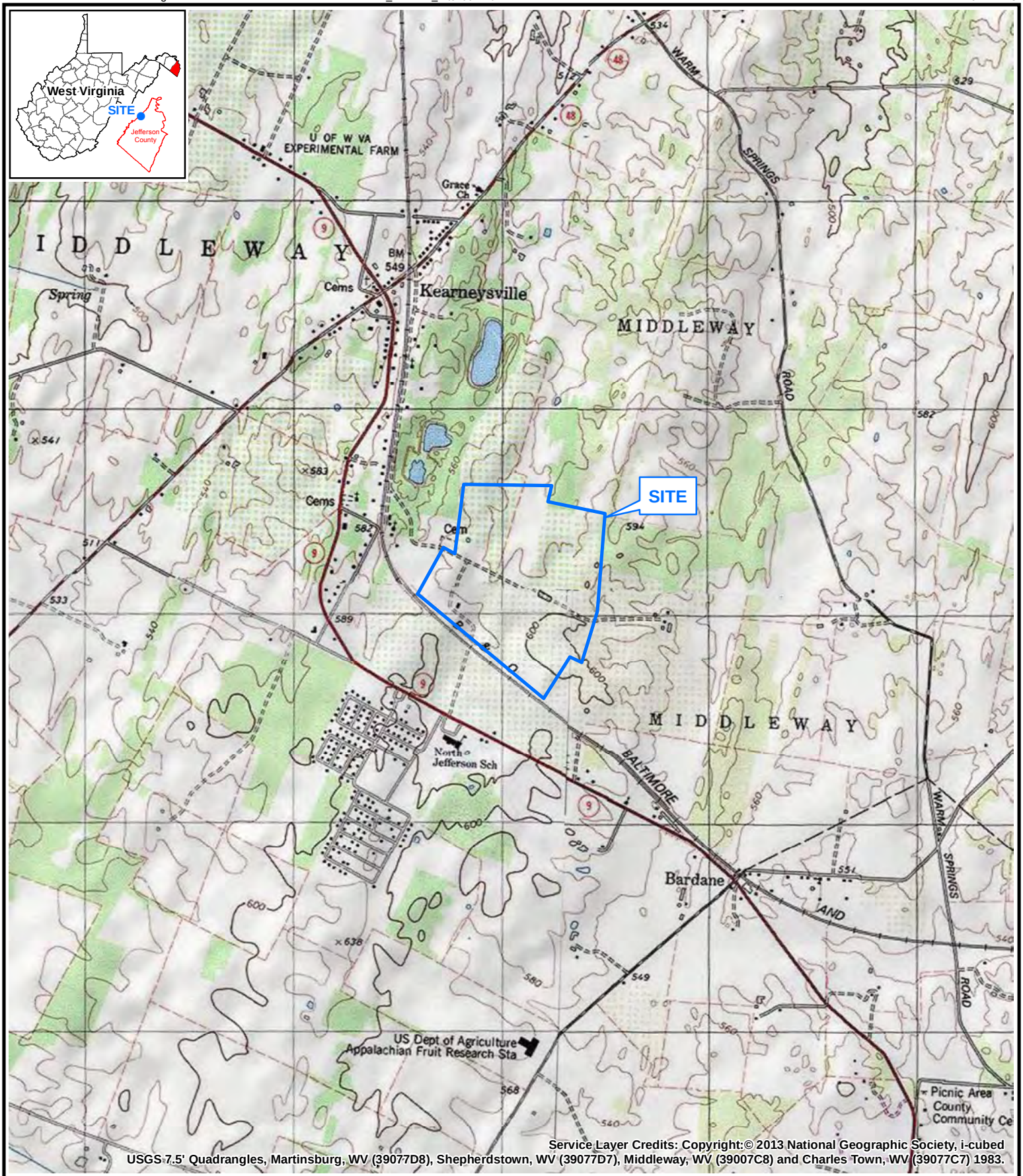


Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
USGS 7.5' Quadrangles, Martinsburg, WV (39077D8), Shepherdstown, WV (39077D7), Middleway, WV (39007C8) and Charles Town, WV (39077C7) 1983.

N

0 1,000 2,000 Feet

Environmental Resources Management
www.erm.com

Latitude: 39.375994 39° 22' 34" North
Longitude: -77.878059 -77° 52' 41" West

Figure 1
Site Location Map
Jefferson Orchard Site
Project Shuttle
Kearneysville, West Virginia

ERM

1:5,000

0 1,000 2,000

Feet

Environmental Borings

Potable Wells

Subject Propery Boundary

Former Dump Site

Figure 2

Jefferson Orchard Site Plan
Project Shuttle

Projection: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet | Date: March 31, 2017

Proj # 0397010 | GIS # SHTL-15-010

Appendix A
Site Photographs

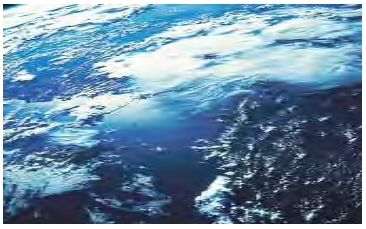


Photo No. 1 Packing Shed main sorting room. Concrete floors in good condition. Photo taken 03/06/2017.

Photo No. 2 Packing Shed market area, kitchen, and bakery rooms. Photo taken 03/06/2017.

Photo No. 3 Former fruit loading dock, facing south. Photo taken 03/06/2017.

Photo No. 4 Cold Storage room (1 of 3 total) for produce. Photo taken 03/06/2017.

Photo No. 5 Overhead cooling units for cold room. Photo taken Photo taken 03/06/2017.

Photo No. 6 Five compressors used for cooling cold rooms. Photo taken 03/06/2017.

Photo No. 7 Packing Shed storm water pond area. Photo taken 03/06/2017.

Photo No. 8 Drainage collection pond behind Packing Shed. Photo taken 03/06/2017.

Photo No. 9 Access to 500 gallon plastic potable water tank previously utilized for the bakery. Photo taken 03/06/2017.

Photo No. 10 Packing Shed well facing northwest. Photo taken 03/06/2017.

Photo No. 11 Packing Shed well and fields facing southeast. Photo taken 03/06/2017.

Photo No. 12 Old house and well house near residence. Photo taken 03/06/2017.

Photo No. 13 Old hand-dug well in well house by residence. Photo taken 03/06/2017.

Photo No. 14 Residence on southern portion of property. Photo taken 03/06/2017.

Photo No. 15 175 gallon heating oil above ground storage tank (AST) at residence. Photo taken 03/06/2017.

Photo No. 16 Residence well, in use. Photo taken 03/06/2017.

Photo No. 17 Milking barn with dirt floor. Formerly used for dairy cattle and equipment storage. Photo taken 03/06/2017.

Photo No. 18 Barn with dirt floor and gasoline AST in left corner. Photo taken 03/06/2017.

Photo No. 19 AST in dirt-floor barn used for gasoline. Photo taken 03/06/2017.

Photo No. 20 WVDOH Outlet on southern edge of the Site. Photo taken 03/06/2017.

Photo No. 21 Burn and rock piles in the field looking north. Photo taken 03/06/2017.

Photo No. 22 Sink hole filled in with field rocks, north of Site. Photo taken 03/06/2017.

Photo No. 23 Labor camp located on the offsite adjacent property to the east. Photo taken 03/06/2017.

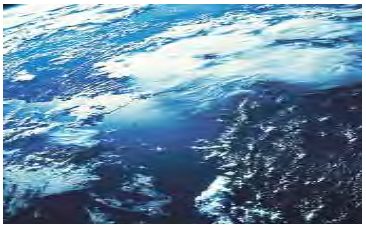
Photo No. 24 Labor camp well house located on the offsite adjacent property to the east. Photo taken 03/06/2017.

Photo No. 25 Former shop near Labor Camp located on the offsite adjacent property to the east. Photo taken 03/06/2017.

Photo No. 26 Former Labor Camp building on the offsite adjacent property east of the Subject Property. Photo taken 03/06/2017.

Photo No. 27 Dump site on the offsite adjacent property east of the Subject Property. Photo taken 03/06/2017.

Appendix B
Prior Environmental Reports



west virginia department of environmental protection

Office of Environmental Remediation
222 Northwestern Pike
Romney, WV 26757
Phone: 304-707-6094

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
dep.wv.gov

August 3, 2015

Certified Mail # 7015 0640 0000 8935 0532

Mark Ralston
c/o Estes Okon Thorne & Carr PLLC
3500 Maple Avenue, Suite 1100, Dallas, Texas 75219

RE: Voluntary Remediation Agreement Termination, VRP# 06995
Jefferson Orchards, Kearneysville, Jefferson County

Dear Mr. Ralston:

This letter serves as notice that that West Virginia Department of Environmental Protection (WVDEP) is terminating the Voluntary Remediation Agreement (VRA) for the project referenced above. No activity has occurred in over a year. The most recent work done on this project was an agreement modification approval dated February 24, 2014.

You have failed to substantially comply with the terms and conditions of the VRA; therefore, WVDEP is exercising its right, as reserved in the VRA, to withdraw its approval of the work plan. The VRA is now terminated, and WVDEP reserves the right to bring any action to enforce any statute or regulation under Chapter 22 of the West Virginia Code, including an action regarding the violations or releases that were subject of the VRA.

If you have any questions, please contact me by phone at 304-707-6094 or email at sheena.r.moore@wv.gov.

Sincerely,

Sheena R. Moore
Project Manager

cc: Dawn Seeburger, LRS
Charleston File # 06995
ec: Patty Perrine, Interim Program Manager, WVDEP/OER
Ed McComas, Environmental Toxicologist, WVDEP/OER

west virginia department of environmental protection

Division of Land Restoration
131 A Peninsula Street
Wheeling, WV 26003
(304) 238-1220, fax (304) 238-1006

Joe Manchin, III Governor
Stephanie R. Timmermeyer, Cabinet Secretary
www.wvdep.org

February 23, 2005

David W. Ralston
Jefferson Orchards, Inc.
1703 Red Oak Circle
Reston, VA 20190

RE: Voluntary Remediation Agreement, VRA Project # 06995
Jefferson Orchards, Kearneysville, Jefferson County, WV

Dear Mr. Ralston:

Enclosed, pleased find your copy of the signed and executed Voluntary Remediation Agreement for the site located at Kearneysville, West Virginia. We look forward to your participation in the program, with the common goal of securing a Certificate of Completion for the site so that the property will remain in productive and protective use for the citizens of our State.

Thank you for your participation in the Voluntary Remediation program, and please feel free to contact me if you have any questions or comments.

Sincerely,

Patty Hickman
Project Manager

Enclosure

cc: Lydia Work, LRS
Charleston file #06995
Wheeling file

email: phickman@wvdep.org

VOLUNTARY REMEDIATION AGREEMENT FOR INVESTIGATION AND REMEDIATION ACTIVITIES

I. INTRODUCTION

1. The West Virginia Department of Environmental Protection ("WVDEP"), by its Secretary, Stephanie R. Timmermeyer ("Secretary") and Jefferson Orchards, Inc. ("applicant") hereby enter into this Voluntary Remediation Agreement ("Agreement"), pursuant to the Voluntary Remediation and Redevelopment Act, W. Va. Code §22-22-1 et. seq. ("the Act"), for the purpose of investigating and remediating the property that is the subject of this Agreement ("the site").

II. JURISDICTION

2. This Agreement is entered into by and between the WVDEP, by its Secretary, and the applicant, pursuant to W.Va. Code §22-22-7.

3. The parties agree to the following terms and conditions as satisfying the requirements of the Act for the investigation and remediation of the site. The applicant reserves all rights under common law, the West Virginia Code and federal statutes to seek contribution or indemnity. The WVDEP reserves all rights it may have under common law, the West Virginia Code and federal statutes, to seek contribution or indemnity from persons other than the applicant and those persons identified in W. Va. Code § 22-22-18.

4. By entering into this Agreement, the applicant neither admits nor denies liability.

III. STATEMENT OF ELIGIBILITY

5. The Secretary has determined that the application submitted by the applicant is complete and that the applicant is eligible to participate in the voluntary remediation program. However, neither the Secretary's determination of eligibility nor the entry into this Agreement precludes any finding by the Secretary at a later date that the site poses an imminent and substantial threat to human health or the environment within the meaning of W.Va. Code § 22-22-7(d). In addition, if it is determined that the applicant withheld or misrepresented information that would be relevant to applicant's eligibility, the Secretary may withdraw from this Agreement.

IV. PARTIES BOUND

6. This Agreement shall apply to and be binding upon the applicant, its officers, directors, principals, employees, agents, successors, subsidiaries, and assigns, and upon WVDEP, its employees, agents and successors. The signatories to this Agreement certify that they are fully authorized to execute and legally bind the parties they represent. No change in ownership, corporate, or partnership status of the applicant shall in any way alter its status or responsibilities under this Agreement, unless the applicant or WVDEP withdraws from this Agreement as provided herein.

7. The applicant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred. The applicant shall provide a copy of this Agreement to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Agreement, within fourteen (14) days after the effective date of this Agreement, or within fourteen (14) days of the date of retaining their services.

V. DEFINITIONS

8. "Day" or "calendar day" means the 24-hour period between 12:00 A.M. - 12:00 A.M.

9. "No further action" means a site is eligible to receive a Certificate of Completion on the basis of site assessment sampling or sampling data developed under a Voluntary Remediation Agreement which demonstrates that the site meets applicable standards.

10. "Rules" mean those rules adopted by the Secretary of the Department of Environmental Protection pursuant to the Voluntary Remediation and Redevelopment Act and promulgated at 60 CSR 3 as the Voluntary Remediation and Redevelopment Rule.

11. "Site" shall be used in the manner as defined by W.Va. Code §22-22-2(dd) and, for purposes of this Agreement, means the property located near Kearneysville, Jefferson County, West Virginia and described in the Application for Participating in the Voluntary Remediation Program attached and incorporated herein as Exhibit "A" [Submitted to WVDEP and accepted by letter dated February 15, 2005].

12. All other terms contained in this Agreement shall be used in the manner as defined by W. Va. Code § 22-22-2 or the Rules.

VI. STATEMENT OF PURPOSE

13. This Agreement sets forth necessary terms and conditions to satisfy the requirements of the Act for the investigation and remediation of the Site.

14. The activities conducted by the applicant under this Agreement are subject to approval by WVDEP as provided herein. Applicant shall provide all necessary information for the Site. The activities conducted by the applicant shall be consistent with this Agreement, all applicable laws and regulations and any appropriate guidance documents.

VII. WORK TO BE PERFORMED

15. All work to be performed by the applicant pursuant to this Agreement shall be under the direction and supervision of a licensed remediation specialist. The licensed remediation specialist may be designated by applicant as applicant's project manager pursuant to Paragraph 33. Prior to the initiation of Site work, the applicant shall notify WVDEP, in writing, regarding the name and title of the licensed remediation specialist, if different from the licensed remediation specialist designated in the Application, and of any contractors and/or subcontractors to be used in carrying out the terms of this Agreement.

16. Applicant shall submit a Voluntary Remediation Work Plan which when implemented provides for the attainment of the applicable standard specified in Paragraph 18 of this Agreement.

Prior to the filing of the application and prior to the execution of this Agreement, applicant has undertaken work at the site. The following documents have been accepted and approved by the licensed remediation specialist in support of the requirements of the Act for the investigation and remediation of the site:

July 15, 2003 Site Investigation Report (TRIAD ENGINEERING, INC.) analytical results, submitted with the Application.

For the purposes of remediation and preparing Final Reports the Site may be divided into separate areas, and different human health and ecological remediation standards; e.g., De Minimis, Uniform Risk-Based, Site-Specific Risk-Based, may be utilized for these individual areas. Applicant currently contemplates that the Site will be subdivided into the following areas:

Four (4) Parcels, identified as Parcel A, B, C, and D.

17. The Voluntary Remediation Work Plans submitted with this Agreement include the following:

Site Assessment Work Plan, Parcel A

18. The parties agree that the applicable standard for this Site, consistent with Section 9 of the rule, is as follows:

Parcel A – No Further Action

Soil: *West Virginia De Minimis standards for Residential Soil*
Groundwater: *West Virginia De Minimis standards for Groundwater*

Parcel B – No Further Action

Soil: *West Virginia De Minimis standards for Residential Soil*
Groundwater: *West Virginia De Minimis standards for Groundwater*

Parcel C – Land Use Covenant restricted to non-residential use

Soil: *West Virginia De Minimis standards for Industrial Soil*
Groundwater: *West Virginia De Minimis standards for Groundwater*

Parcel D – No Further Action

Soil: *West Virginia De Minimis standards for Residential Soil*
Groundwater: *West Virginia De Minimis standards for Groundwater*

19. The statutes and regulations for which compliance is mandated in connection with the investigation or remediation of this Site are as follows:

(a) Air Pollution Control Act, W.Va. Code §§ 22-5-1 et seq.;
(b) Water Pollution Control Act, W. Va. Code §§ 22-11-1 et seq.;
(c) Groundwater Protection Act, W. Va. Code §§ 22-12-1 et seq.;
(d) Hazardous Waste Management Act, W. Va. Code §§ 22-18-1 et seq;
(e) Section 103(a) of Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C.A. §§ 9603(a)
(f) Section 304 of Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C.A. §§ 11001 to 11050;
(g) Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 to 678;
(h) Resource Conservation and Recovery Act, as amended, et. seq., 42 U.S.C.A. §§ 6901, et seq.; and
(i) Toxic Substances Control Act, 15 U.S.C.A. §§ 2601, et seq.;
and any applicable regulation promulgated there under.

VIII. SUBMITTAL AND APPROVAL OF WORK PLANS OR REPORTS

20. The applicant shall submit the following work plans or reports in accordance with the schedule provided in this Agreement:

Parcel A

- Site Assessment Work Plan, submitted with this Agreement
- Soil Management Plan, March 2005
- Health and Safety Plan, March 2005
- Site Assessment Work Plan Addendum, First Quarter 2007
- Site Assessment Report, Third Quarter 2007
- Final Report, Fourth Quarter 2007

Parcel B

- Site Assessment Work Plan, Fourth Quarter 2006
- Site Assessment Report, Second Quarter 2007
- Remedial Action Work Plan, Second Quarter 2007
- Final Report, Third Quarter 2007

Parcel C

- Site Assessment Work Plan, Fourth Quarter 2006
- Site Assessment Report, Second Quarter 2007
- Remedial Action Work Plan, Second Quarter 2007
- Final Report, Third Quarter 2007

Parcel D

- Site Assessment Work Plan, Second Quarter 2005
- Site Assessment Report, Third Quarter 2005
- Remedial Action Work Plan, Third Quarter 2005
- Final Report, First Quarter 2006

When additional work plans or reports are planned as a follow-up to initial activities, the applicant shall submit the subsequent work plans, reports (including final reports), and schedules in accordance with a modification to this Agreement.

21. The Secretary may, based upon accuracy, quality, and completeness, either approve or disapprove a work plan or report submitted by applicant.

22. If the Secretary disapproves a work plan or report, the Secretary must, within 5 days of its disapproval, notify the applicant in writing that its work plan or report has been disapproved. Such written notice shall include a list specifying the reasons that the work plan or report was disapproved, and shall specify all additional information needed for the work plan or report to obtain approval.

23. If the Secretary disapproves a work plan or report as submitted, the applicant must resubmit the work plan or terminate this Agreement as provided in Paragraph 74.

24. The Secretary shall either approve or disapprove all work plans and reports within 30 days of receipt. Any such action taken on a work plan or report must be confirmed in writing and received by the applicant within the 30-day period. An extension of time for approval or disapproval of work plans or reports may be mutually agreed to by and between the applicant and the Secretary. If an extension of time is mutually agreed to by the Secretary and the applicant, it must be confirmed in writing.

25. After work plans or reports are resubmitted, the Secretary shall approve or disapprove the resubmitted work plans or reports within thirty (30) days of receipt, or within such shorter period specified in the party's voluntary remediation agreement. Any action taken on resubmitted work plans or reports must be confirmed in writing and received by the applicant within the thirty (30)-day period for acting on a resubmitted application, or within such shorter period specified in the party's voluntary remediation agreement. An extension of time or action on resubmitted work plans or reports may be mutually agreed to between the applicant and the Secretary. If an extension of time is mutually agreed to by the Secretary and the applicant, it must be confirmed in writing. If resubmitted work plans or reports are not approved by the Secretary, then the Secretary and applicant may mutually agree, in writing, to a schedule for additional review of the resubmitted work plans or reports.

26. If work plans or reports are not approved or disapproved within 30 days of receipt by the Secretary, or if resubmitted work plans or reports are not approved or disapproved within 30 days of receipt by the Secretary, then the work plans or reports will be deemed approved unless such work plans or reports are determined to be materially inaccurate.

27. Notice. Any notice required to be given under the provisions of this section must be in writing and sent via United States certified mail. Notice is complete upon receipt.

28. If the applicant desires to proceed with the implementation of the approved work plan, the applicant must notify the Secretary in writing not more than 90 days after the work plan is approved. After providing such notice, the applicant shall initiate the work detailed in the Voluntary Remediation Work Plan according to the schedule as set forth in the Secretary's Notice of Approval. Upon the Secretary's receipt of notice that the applicant intends to proceed,

the fully approved voluntary remediation work plan shall be deemed incorporated into and made an enforceable part of this Agreement.

29. Upon completion of the work contemplated by all work plans, the applicant shall submit to the Secretary the final report prepared by the licensed remediation specialist. The final report shall include all information necessary to verify that all work contemplated by the work plan has been completed and all information required by the rules.

IX. ADDRESSES FOR ALL CORRESPONDENCE

30. Documents, including reports, approvals, notifications, disapprovals, and other correspondence to be submitted under this Agreement, may be sent by certified U.S. mail, return receipt requested, hand-delivery, overnight mail, or by courier service to the following addresses, or to such addresses as applicant or WVDEP may designate in writing.

Documents to be submitted to WVDEP should be sent to:

Ms. Patricia Hickman
Office of Environmental Remediation
West Virginia Department of Environmental Protection
131A Peninsula Street
Wheeling, WV 26003
Phone No. (304) 238-1220

with a copy sent to:
File
WVDEP, OER
601 57th Street, SE
Charleston, WV 25304
Phone No. (304) 926-0455

Ms. Lydia Work, LRS
TRIAD ENGINEERING, INC.
PO Box 1435
4980 Teays Valley Road
St. Albans, WV 25177
Phone No. (304) 755-0721

Documents to be submitted to applicant should be sent to:

Jefferson Orchards, Inc.
1703 Red Oak Circle
Reston, VA 20190
Attn: David W. Ralston
Phone No. (703) 471-4118

X. COMPLIANCE WITH APPLICABLE LAWS

31. All work undertaken by the applicant pursuant to this Agreement shall be performed in compliance with all applicable federal, state and local laws, ordinances and regulations, including, but not limited to, all Occupational Safety and Health Administration, Department of Transportation and Resource Conservation and Recovery Act regulations. The applicant shall be responsible for obtaining all permits, which are necessary for the performance of any work hereunder.

32. Completion of the work performed in accordance with this Agreement shall satisfy all applicable remediation requirements of Chapter 22 of the West Virginia Code, including the following: the Surface Coal Mining and Reclamation Act, W. Va. Code §§22-3-1 et seq.; the Air Pollution Control Act, W. Va. Code §§22-5-1 et seq.; the Water Pollution Control Act, W. Va. Code §§ 22-11-1 et seq.; the Groundwater Protection Act, W. Va. Code §§22-12-1 et seq.; the Solid Waste Management Act, W. Va. Code §§22-15-1 et seq.; the Underground Storage Tank Act, W. Va. Code §22-17-1 et seq.; and the Hazardous Waste Management Act. W. Va. Code §§22-18-1 et seq.

XI. PROJECT MANAGER/LICENSED REMEDIATION SPECIALIST

33. The WVDEP Project Manager for the Site is identified in Paragraph 30 of this Agreement. The applicant has designated Lydia M. Work as the applicant's Licensed Remediation Specialist (LRS) and Project Manager for the Site. The LRS shall be responsible for the supervision of all activities under this Agreement. The WVDEP project manager will be the WVDEP designated representative at the Site. To the maximum extent possible, communications between applicant and WVDEP and all documents (including reports, approvals, and other correspondence) concerning the activities performed pursuant to the terms and conditions of this Agreement shall be directed through the project managers. During the implementation of this Agreement, the project manager shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Each party has the right to change its respective project manager or licensed remediation specialist and shall notify the other party of such change within seventy-two (72) hours.

34. The absence of applicant's or WVDEP's project manager from the Site shall not be cause for the stoppage of work. The applicant's project manager or licensed remediation specialist or his supervisor shall be reasonably available by telephone while work is being performed. The applicant shall designate a person to be in charge that will be available on-site when field work is being performed.

XII. QUALITY ASSURANCE

35. The applicant shall use quality assurance, quality control, and chain of custody procedures in accordance with Quality Assurance Project Plan approved for use by WVDEP throughout any work plan sample collection and analysis activities under this Agreement, unless WVDEP agrees otherwise.

36. The applicant shall provide the WVDEP project manager with reasonable advance notice of all sampling and analysis as detailed in the work plan. To provide quality assurance and maintain quality control, the applicant shall:

a) Use laboratories certified by WVDEP;
b) Ensure that all sampling and analyses are performed according to US EPA methods, the approved Quality Assurance Project Plan, or other methods deemed satisfactory by WVDEP; and
c) Ensure that any laboratories used by the applicant for analyses participate in a documented Quality Assurance/Quality Control program that complies with US EPA guidance documents. As part of such a program, and upon request by WVDEP, such laboratories shall perform analyses of samples provided by WVDEP to demonstrate the quality of analytical data for each such laboratory.

37. In the event any laboratory fails to perform the activities required in Paragraph 36, WVDEP reserves the right to reject any data not gathered pursuant to the requirements listed, and to require that the applicant utilize a different laboratory.

XIII. SAMPLING AND DATA/DOCUMENT AVAILABILITY

38. The applicant shall, upon request, make the results of all sampling, including raw data and/or tests or other data generated by the applicant, or on the applicant's behalf, available to WVDEP. WVDEP shall make available to the applicant the quality-assured results of sampling and/or tests or other data similarly generated by WVDEP.

39. At the request of WVDEP, the applicant shall permit an authorized representative of WVDEP to take samples of wastes, soils, air, surface water and groundwater at the Site. For

each sample taken, the authorized representative shall provide the applicant a receipt describing the sample obtained and, if requested, a portion of each sample equal in weight or volume to the portion retained.

XIV. ACCESS

40. To the extent that the Site or other areas where work is performed hereunder is presently owned or controlled by parties other than those bound by this Agreement, the applicant shall obtain, or use its best efforts to obtain, access agreements from the present owners. Best efforts shall include, at a minimum, a certified letter from the applicant to the present owner of such property requesting access agreements to permit the applicant or any authorized representative of the WVDEP access to such property. Such agreement shall provide access for authorized representatives of the WVDEP as specified below. In the event such access agreements are not obtained, the applicant shall so notify the WVDEP, which may then, at its discretion, assist the applicant in gaining access.

41. Upon presentation of proper credentials, authorized representatives of the WVDEP shall be provided access by the applicant to the Site and other areas where work is to be performed under this Agreement at all reasonable times. Such access shall be related solely to the work being performed on the Site and shall include, but not be limited to: inspecting records, operating logs and contracts related to the Site; reviewing the progress of the applicant in carrying out the terms of this Agreement; conducting such tests, inspections and sampling as WVDEP may deem necessarily consistent with this Agreement. The applicant shall permit WVDEP's authorized representatives to inspect and copy all records, files, photographs, documents and other writings, including all sampling and monitoring data, which pertain to this Agreement over which the applicant exercises control. All persons with access to the Site, pursuant to this Agreement, shall comply with any applicable health and safety plans.

42. Nothing herein shall be construed as restricting the inspection or access authority of WVDEP under any law or regulation.

XV. RECORD PRESERVATION

43. The applicant agrees to preserve, during the pendency of this agreement, and for a minimum of three years after its termination, all documents required by this Agreement and any other documents generated or used to prepare the documents required by this Agreement. Upon request by WVDEP, the applicant shall make available to WVDEP such records, or copies of any such records.

44. The applicant may assert a confidentiality claim for any information submitted pursuant to this Agreement on the grounds that such information, or parts thereof, if made public,

would divulge methods, processes, or activities entitled to protection as trade secrets. If no such confidentiality claim accompanies the information when it is submitted to the WVDEP, it may be made available to the public by WVDEP without further notice to the applicant. The applicant agrees not to assert any confidentiality claim with regard to any physical or analytical data regarding environmental conditions at the Site.

XVI. DISPUTE RESOLUTION

45. The parties shall use their best efforts to, in good faith, resolve all disputes or differences of opinion informally. The period of informal resolution shall not exceed thirty (30) days from the time that either party commences informal resolution, unless the parties agree otherwise in writing. If, however, the parties are unable to resolve the dispute informally, the applicant may present written notices of such dispute to WVDEP and set forth specific points of dispute and the position of the applicant. This written notice shall be submitted no later than 10 calendar days after the expiration of the informal dispute resolution period. The applicant's project manager will notify the WVDEP project manager immediately by phone or other appropriate methods of communication, prior to written notice, when she/he believes that the parties are unable to resolve a dispute. If either party requests, within 14 days receipt of written notice of the dispute by WVDEP, disputes will be submitted to a mutually-approved impartial third party for non-binding mediation.

46. After the parties have attempted in good faith to resolve disputes pursuant to the terms of Paragraph 45, any unresolved disputes arising out of or relating to this agreement, or the breach thereof, shall be settled by binding arbitration and judgment on the arbitrator's decision may be entered in any court having jurisdiction. The applicant shall notify WVDEP in writing of any unresolved disputes which they believe require arbitration. Within 5 days, the parties shall agree to an arbitrator. If the parties fail to agree to an arbitrator, the arbitration shall be administered by the American Arbitration Association. In selecting a mediator or arbitrator, the parties shall attempt to select persons with experience in environmental matters, including but not limited to a licensed remediation specialist.

47. The applicant shall make a written submission in support of its position to the agreed arbitrator within 10 days of the arbitrator's selection, and the other party may make a written response in support of its position within 7 days thereafter. Upon notice to the parties, the arbitrator may request additional information or make specific inquiry of either party. Within 30 days of the written response under this paragraph, the arbitrator shall render a decision on the dispute and notify each of the parties of the decision. The applicant agrees to pay for the services of any mediator and arbitrator used by the parties in attempting to resolve disputes arising out of or relating to this agreement. Each party shall pay its own legal fees in conducting mediation or arbitration.

48. Until the dispute is resolved, any actions concerning that element of work in dispute shall be halted. The resolution of the dispute shall be incorporated into the work plan and made an enforceable part thereof. The time schedule for the work in dispute shall be extended by the amount of time needed for resolution. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the work plan.

49. Elements of work and any actions required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure, and into this Agreement. The applicant shall proceed with all remaining work according to the modified plan or procedure.

XVII. FORCE MAJEURE

50. The applicant shall cause all work or required reporting to be performed within the time limits set forth herein, unless performance is delayed by events, which constitute a Force Majeure. "Force Majeure" shall mean conditions or circumstances beyond the reasonable control of applicant which could not have been overcome by due diligence and shall include, without limitation, acts of God, action or inaction of other governmental agencies, or administrative or judicial tribunals or other third parties, or strikes or labor disputes (provided, however, applicant shall not be required to concede to any labor demands), which prevent or delay applicant from complying with the work plan.

51. The applicant shall notify WVDEP by telephone within three (3) working days and by writing no later than seven (7) working days after any event, which the applicant contends, is a Force Majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the applicant to minimize the delay, and the timetable by which these measures will be implemented. Applicant shall have the burden of demonstrating that the event is a Force Majeure. The decision of whether an event is a force majeure shall be made by the Secretary, or the Secretary's designee. The decision shall be immediately communicated to the applicant.

52. If a delay is attributable to a Force Majeure, the time period for performance under this Agreement shall be extended, in writing, by the amount of time that is attributable to the event constituting the Force Majeure.

XVIII. RESERVATION OF RIGHTS

53. WVDEP and applicant reserve all rights and defenses they may have pursuant to any available authority unless expressly waived herein.

54. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of actions or demands in law or equity which the parties may have against any person, firm, partnership or corporation, not a party to this Agreement for any liability it may have arising out of or relating in any way to, the generation, storage, treatment, handling, transportation, release or disposal of any materials, hazardous substances, hazardous waste, contaminants, or pollutants at, to, or from the Site. The parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not parties to this Agreement, and as to each other for matters not covered hereby.

55. The applicant reserves the right to seek contribution, indemnity, or any other available remedy against any persons found to be responsible or liable for contributions, indemnity, or otherwise for any amounts which have been or will be expended by the applicant in connection with the Site.

56. The WVDEP reserves the right to bring an action, including an administrative action, against the applicant for any violation of statutes or regulations except for the specific violations or releases that are being remediated in the work plan.

57. The WVDEP reserves the right to withdraw its approval of the work plan at any time during the implementation of the work plan if:

a) WVDEP determines that the applicant has failed to substantially comply with the terms and conditions of this Agreement or the work plan;
b) Applicant declines to implement the work plan after being notified of its approval by the WVDEP; or
c) WVDEP determines that a hazardous substance or petroleum has become an imminent or substantial threat to human health or the environment.

Upon WVDEP's withdrawal of its approval, this Agreement shall be terminated and WVDEP reserves the right to bring any action to enforce any statute or regulation under Chapter 22 of the West Virginia Code, including an action regarding the violations or releases that were the subject of this Agreement.

58. The WVDEP acknowledges that, pursuant to W. Va. Code §22-22-18, applicant, upon receipt of the Certificate of Completion, is not liable for claims for contribution concerning matters addressed in the Voluntary Remediation Agreement or any related work plan.

XIX. ADMINISTRATIVE COSTS

59. Applicant agrees to reimburse WVDEP for all of its reasonable administrative costs associated with implementation of this Agreement at the rate of 2.5 times the hourly rate of the primary employee assigned to the site plus the actual and direct expenses of such employee. Within 60 calendar days of the approval of the work plan, WVDEP shall send the applicant an itemized list of estimated in-house costs that WVDEP expects to incur under this Agreement. The applicant agrees that a reasonable estimate of WVDEP contractor costs will be provided as described in paragraph 60. Itemization will be in standard WVDEP format. The estimated costs may include the preparation of the itemized list of administrative costs. Upon request, the applicant shall have the right to examine any documentation in WVDEP's possession used to develop the itemized list of costs. Requests for such documentation shall be made in writing and must be received by WVDEP within two (2) weeks from the date the applicant receives the estimate of costs.

60. WVDEP agrees to allow the applicant to review and comment on the scope of work and associated cost estimates for outside contractors prior to WVDEP's authorization of the said contractor to proceed with the associated work. WVDEP will strive where possible to use cost effective and qualified outside contractor(s). "Outside contractors" are defined as individuals, partnerships or corporations paid by WVDEP to assist in the oversight of the activities under this agreement (e.g., risk assessment), but shall not include WVDEP employees. Cost estimates and invoices from outside contractors shall be submitted to the applicant within two (2) weeks from the date the WVDEP receives the cost estimate or invoice. The applicant shall raise any and all objections regarding cost estimates or invoiced work to the WVDEP within two (2) weeks from the date the applicant receives the forwarded estimates/invoice(s) from the WVDEP or within two (2) weeks of the receipt by the applicant of any back-up documentation of the said cost estimates/invoices which is contained in WVDEP files and requested by the applicant, whichever shall last occur.

61. Applicant shall pay these costs in accordance with the following provisions. The $5,000 application fee shall be credited against the first accounting. WVDEP shall periodically send an accounting of contractor, subcontractor and laboratory costs to applicant. Said accounting shall itemize all costs incurred by WVDEP for the previous calendar quarter. Applicant shall pay said amount within 60 days of receipt of the accounting. WVDEP shall also periodically send an accounting of WVDEP's primary employee time charged to this site to applicant. Applicant shall pay said amount within 60 days of receipt of the accounting.

62. Checks should be made payable to the Voluntary Remediation Fund and mailed along with a transmittal letter stating the site name and address to the West Virginia Department of Environmental Protection: Attention: Director, Division of Land Restoration, Office of Environmental Remediation. In addition, a copy of the check and transmittal letter should be mailed to the WVDEP project manager.

XX. NOTICE OF BANKRUPTCY

63. As soon as the applicant has knowledge of its intention to file bankruptcy or no later than 7 days prior to the actual filing of a voluntary or involuntary bankruptcy petition, applicant shall notify WVDEP of its intention to file a bankruptcy petition.

XXI. INDEMNIFICATION

64. Applicant agrees to indemnify and save and hold the state of West Virginia, its agencies, departments, agents, and employees, harmless from and all claims or causes of action arising from, or on account of, acts or omissions of the applicant, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Agreement.

XXII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

65. The effective date of this Agreement shall be the date on which the applicant receives the notice that this Agreement has been signed by the Secretary of WVDEP.

66. This agreement may be amended by mutual agreement of WVDEP and the applicant. Amendments shall be in writing and shall be effective when the applicant receives notice that the amendment has been signed by the Secretary of WVDEP.

67. If the Secretary determines that there is an imminent threat to the public, the Secretary may unilaterally modify or amend this Agreement.

XXIII. EXTENSIONS OF TIME PERIODS

68. Any written response shall be deemed timely performed if hand-delivered or postmarked by the last day of any time period prescribed herein. Whenever a party has the right or is required to do some act or make some response within a prescribed period after the service of a notice or other paper on him and the notice or paper is served upon him by United States mail, three (3) days shall be added to the prescribed period.

69. Whenever any party is called upon to respond or otherwise act in a certain number of days, and if the final day occurs on a Saturday, Sunday or legal holiday (whether state or national), such time limitation shall automatically extend to the next business day after such Saturday, Sunday, or holiday.

70. Any time periods specified in this Agreement may be extended only by agreement of the parties.

XXIV. TERMINATION AND SATISFACTION

71. Upon completion of the final report prepared by the LRS, the applicant may seek a Certificate of Completion from the Secretary. Upon receipt of a request for a Certificate of Completion, the Secretary shall determine that the Site meets applicable standards for those areas of the Site and for those contaminants identified in the voluntary remediation agreement and that the applicant has complied with the voluntary remediation agreement and any approved work plans for the Site. Upon making this determination, the Secretary shall issue a Certificate of Completion which conforms substantially to Appendix 60-3C of the rules. Where a land use covenant is required by this Agreement, such Certificate of Completion shall not become effective until it is properly filed with the Clerk of the County Commission of the county in which the property is located.

If the Secretary determines that the certificate should not be issued because work required by this Agreement and any approved work plans has not been completed or because the Site does not meet applicable standards, the Secretary shall initiate the procedures relating to denial of a certificate as provided in the rules.

72. The provisions of this Agreement shall be satisfied and this Agreement shall terminate when the Secretary issues the Certificate of Completion.

73. Nothing in this Agreement shall restrict the state of West Virginia from seeking other appropriate relief to protect human health or the environment from pollution or contamination at or from this Site not remediated in accordance with this Agreement.

74. Applicant may, in its sole discretion, terminate this Agreement by providing to the Secretary fifteen (15) days advance written notice of termination. Only those costs incurred or obligated by the Secretary before the notice of termination is received are recoverable if the Agreement is terminated. If the applicant terminates this Agreement, then the applicant shall pay WVDEP's costs associated with the voluntary remediation within thirty-one (31) days after receiving notice that the costs are due and owing.

XXV. LAND USE COVENANTS

75. The parties agree that restrictions may be required on the future use of the Site. Once such restrictions have been determined, an appropriate land use covenant will be prepared and recorded for the Site.

XXVI. REOPENER

76. Upon agreement of the parties or upon occurrence of one or more conditions of W.Va. Code § 22-22-15, this Agreement may be reopened in accordance with W. Va. Code §22-22-15 and the rules implementing that section.

XXVII. PRECEDENCE OF AGREEMENT

77. In the event that conflict arises among the terms and conditions of this Agreement, the State of Work, or the approved work plan, this Agreement shall govern and the terms and conditions hereunder shall determine the parties' rights and responsibilities.

XXVIII. GOVERNING LAW

78. This Agreement will be governed by the laws of the state of West Virginia.

JEFFERSON ORCHARDS, INC. (APPLICANT)

Printed Name: Ronald L. Slonaker
Title: Treasurer / Vice President
Signature: Ronald L. Slonaker
Date: 2/9/05

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Printed Name: Ken Ellison
Title: Director
Signature: Ken Ellison

Jefferson Orchards Site

Property Report (Jefferson Orchards Site)

Property Details	
Site/Building Name	Jefferson Orchards Site
Street Address	Granny Smith Ln
City	Corporation of Ranson
County	Jefferson County
Zip Code	25430
Type of space	Vacant Land
Min Size	10 acres
Max Size	400 acres
Last Updated	12/12/2016

Contact Information	
Company	Jefferson County Development Authority
Contact Name	John Reisenweber
Address	PO Box 237
City	Charles Town
State	West Virginia
Phone	304-728-3255
Email	john@jcda.net
Website	www.jcda.net

Availability	
For Sale	Yes
Sale Price	$30,000,000.00
Sale Terms	$75,000 to $80,000 per acre

Site Details	
Parcel	Map 4, Parcel 26
Usable Acres	400 acres
Subdivide Acreage Range	10 acres or greater parcels
Total Acres	400 acres

Transportation	
Nearest Airport	Washington Dulles International Airport
Distance to Airport	48.00 miles
Nearest Interstate	I-81
Distance to Nearest Interstate	9.00 miles
Rail Provider	CSX

Utilities	
Electric Service Provider	Potomac Edison
Voltage	480
Phase	3
Broadband	Yes
Sewer Provider	Jefferson County PSD
Sewer Line Size	8 in
Excess Sewer Capacity	200000
Water Service Provider	Jefferson County PSD
Water Line Size	10 in
Excess Water Capacity	100000
Telecom Provider	Frontier

Other	
Flood Hazard	0%
Development Council Region	9
Zoning	Industrial (zoning application pending)
Tax Map District	Middleway
Remarks	David Ralston Email: davrlst@aol.com

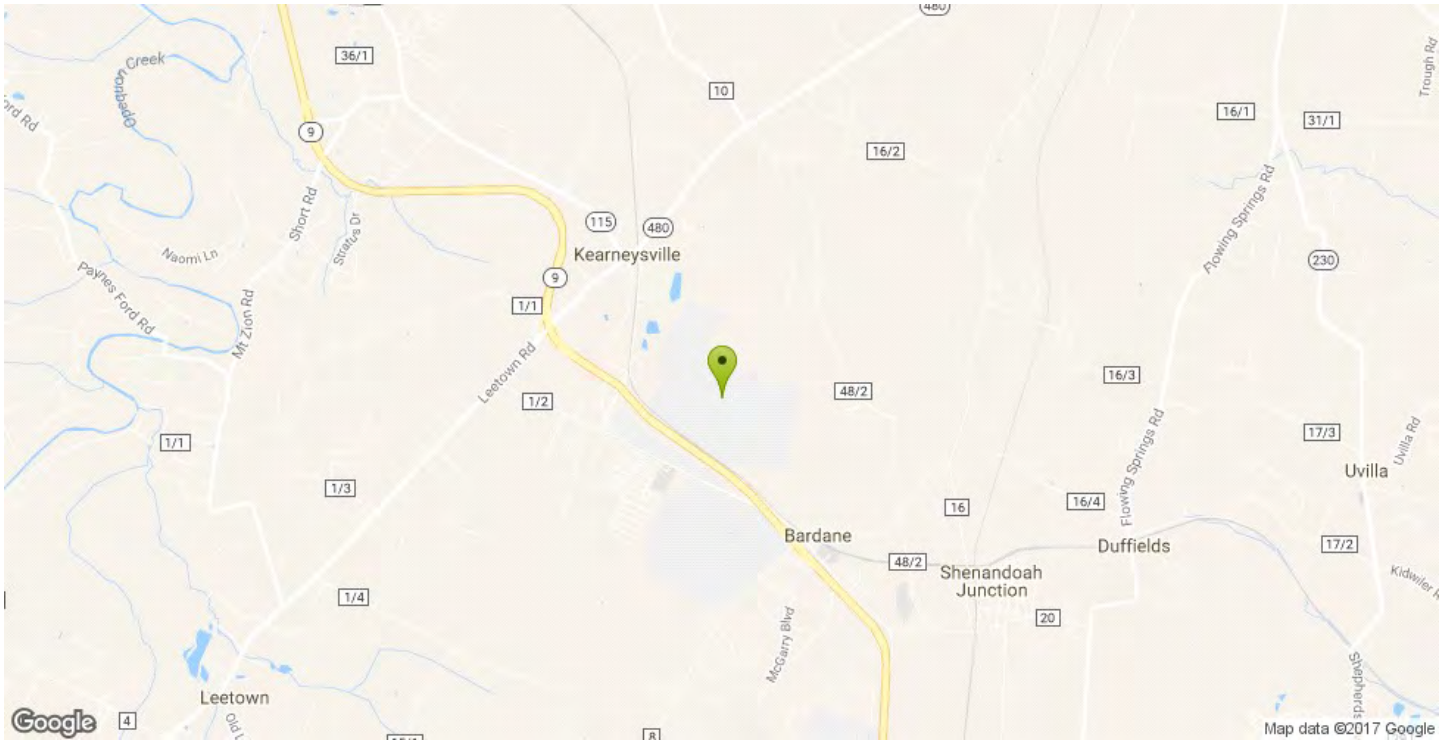
Contacts	
Company	Jefferson County Development Authority
Name	John Reisenweber, Executive Director
Phone	(304) 728-3255
Fax	(304) 725-3133
Email	John@jcda.net
Website	www.jcda.net

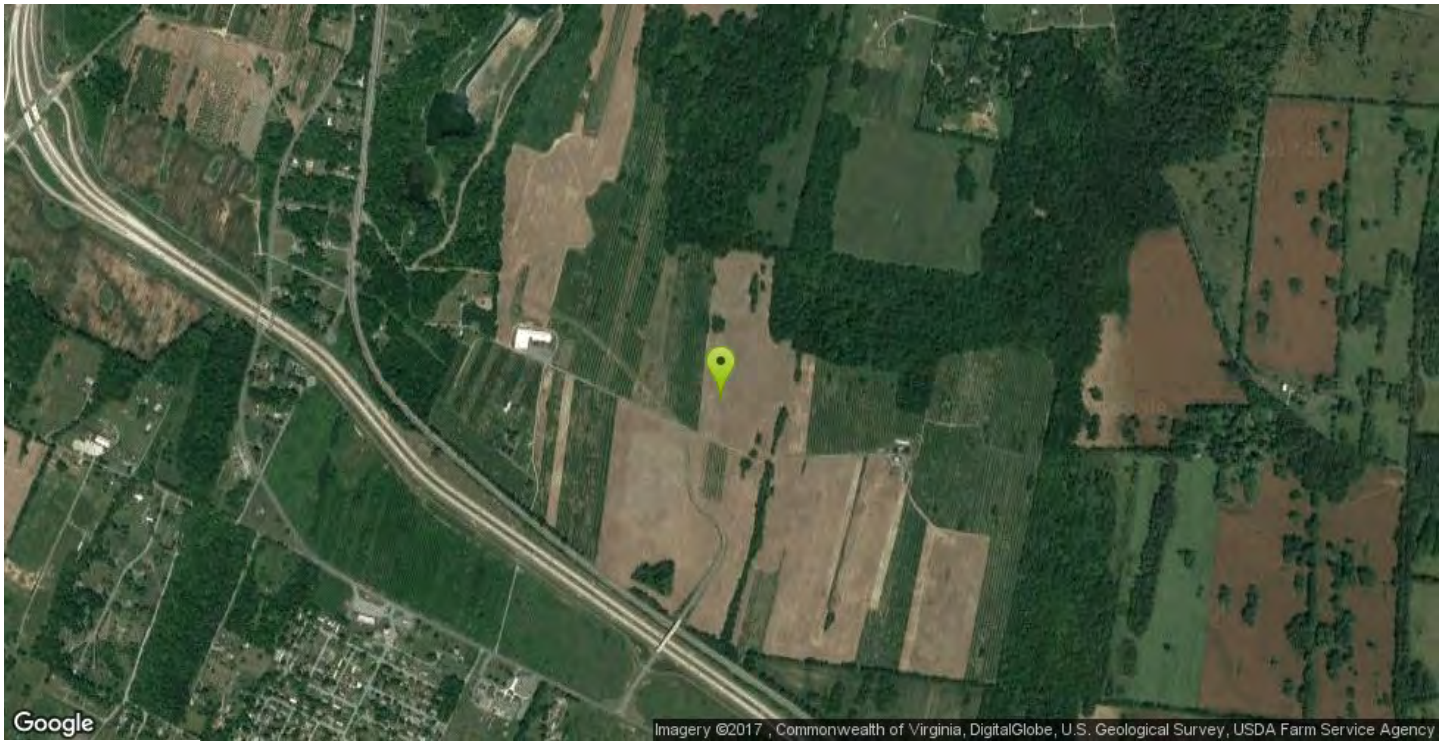
Address	**PO Box 237**
City	**Charles Town**

Attachments

Jefferson_Orchards_Site_2015.pdf

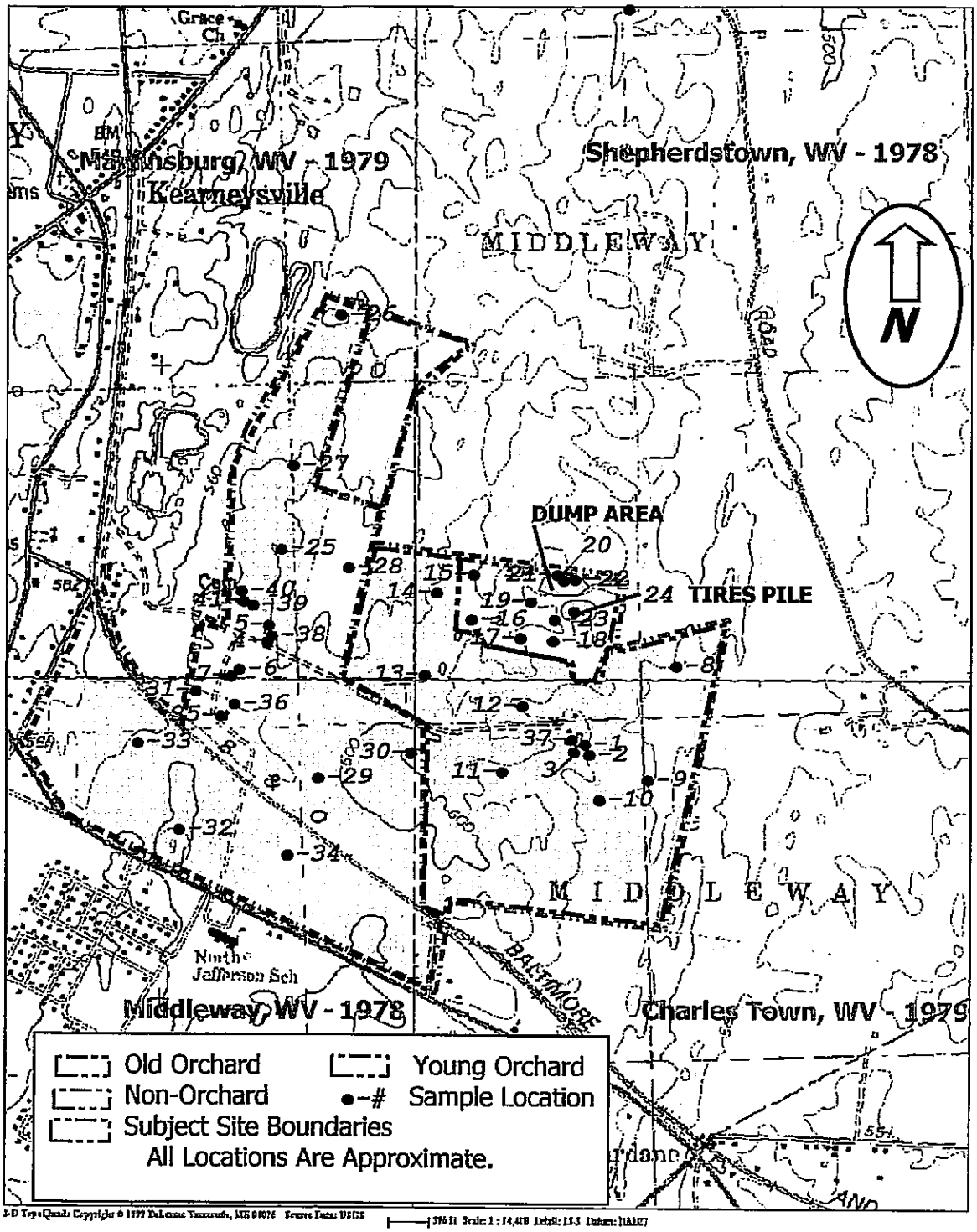
Granny Smith Ln





Granny Smith Ln

3		4



7.5 MINUTE SERIES (TOPOGRAPHIC)

TRIAD	**SITE VICINITY MAP**	PLATE NO. A-1

Table - 2 WV DE MINIMIS VALUE RISK SCREENING

COC	SAMPLE IDENTIFICATION																																WV DE MINIMIS VALUES	
	PSS-1	PSS-2	YO-SS1	YO-SS2	YO-SS3	YO-SS4	YO-SS5	YO-SS6	YO-SS7	YO-SS8	YO-SS9	YO-SS10	OO-SS1	OO-SS2	OO-SS3	OO-SS4	OO-SS5	OO-SS6	OO-SS7	DA-SS1	DA-SS2	DA-SS3	BG-SS1	BG-SS2	BG-SS3	BG-SS4	BG-SS5	BG-SS6	MS-SS1	MS-SS2	MS-SS3	MS-SS4	SA-SS1	SA-SS2	SA-SS3	TP-SS1	RES. ●	IND. ■
Arsenic	15 ●	<5.8 ●	7.6 ●	7.1 ●	8.1 ●	6.7 ●	6.8 ●	6.5 ●	6.8 ●	7.7 ●	7.6 ●	9.2 ●	31 ●■	43 ●■	77 ●■	99 ●■	42 ●■	22 ●	28 ●■	6.2 ●	5.7 ●	5.3 ●	6.5 ●	5.9 ●	6 ●	6.9 ●	6.6 ●	4.8 ●	31 ●■	11 ●	8.7 ●	7.1 ●	34 ●■	7.9 ●	8 ●	9 ●	0.39	27
Barium	NO CONCENTRATIONS AT OR ABOVE THE RESIDENTIAL DE MINIMIS VALUE FOR ANY OF THE SAMPLES.																																			5400	130000
Chromium	NO CONCENTRATIONS AT OR ABOVE THE RESIDENTIAL DE MINIMIS VALUE FOR ANY OF THE SAMPLES.																																			31	660
Lead	32	58	16	16	17	14	19	13	16	19	19	14	75	120	210	260	140	68	88	22	24	20	17	23	21	25	17	22	80	68	54	63	4700 ●■	15	56	35	400	1000
Selenium	2.6		1	1.1	1.1		1				1.1	1.3	1.1	1.1	1.1					1.4	1.3							1.3						1.4		1.2	390	10000
Mercury																0.23	0.27																0.3				23	610
Endo-sulfan I																													1.8							NT	370*	5300*
Dieldren																															0.79 ●	-				NT	0.03	1.5
4,4-DDE	0.150		0.015	0.036	0.33			0.84	0.7	0.39	0.44	0.021	0.014		0.58	1.1	1.6	1.1	1	0.026	0.02			0.04	0.032	0.028	0.017	0.087	3.4 ●	2.9 ●	4.4 ●	0.5	5.7 ●		1.6	NT	1.7	120
Endrin															0.33		0.76												2.8	1.7	1		6.1			NT	18	280
Endo-Sulfan II																													1.3							NT	370*	5300*
4,4-DDD	0.038																												4.6		1.3					NT	2.4	170
4,4-DDT				0.015				0.35	0.2		0.16		0.013		0.56	1.3	1.6	0.41	0.43	0.018				0.02				0.02	0.71	4.5 ●	3.6 ●	0.14	11 ●	32 ●	0.44	NT	1.7	120
Endrin Ketone																													0.79	0.9						NT	NL	NL

All values listed are expressed in milligrams per kilogram (mg/kg) or parts per million (ppm).
Blank square indicates that the Contaminant of Concern (COC) was not detected at the laboratory established Reporting Limit (RLimit).
Please note that the RLimits for some COCs were higher than the WV residential De Minimis values in samples YO-SS2 & SS6 - SS9; OO-SS3 - SS7; MS-SS-1 - SS-4; and SA-SS1 - SS-3 as a result of the dilution factors.

PSS - Pond Sediment sample
YOSS - Young Orchard Soil Sample
OOSS - Old Orchard Soil Sample
DASS - Dump Area Soil Sample
BGSS - Background Soil Sample obtained from the wooded area.
MSSS - Pesticide Mixing Station Soil Sample
SASS - Pesticide Storage Area Soil Sample
TPSS - Tire Pile Soil Sample obtained from the wooded area.

RES. - Residential Land Use
IND. - Industrial Land Use
● - Concentration exceeds the residential West Virginia De Minimis value.
■ - Concentration exceeds the industrial West Virginia De Minimis value.
NT - Not Tested
NL - Not Listed
* - Value listed is that of Endosulfan.

513-ACRE JEFFERSON ORCHARDS, INC. PROPERTY SAMPLE LOCATIONS (June 2003)

PLATE A-1 ID	SAMPLE ID	NORTHING	WESTING
1	MSSS1	39°22'24"	77°52'09"
2	SASS1	39°22'24"	77°52'09"
3	MSSS2	39°22'25"	77°52'10"
4	MSSS3	39°22'34"	77°52'46"
5	SASS2	39°22'33"	77°52'46"
6	MSSS4	39°22'31"	77°52'51"
7	SASS3	39°22'31"	77°52'51"
8	OOSS1	39°22'32"	77°51'57"
9	OOSS2	39°22'17"	77°52'00"
10	OOSS3	39°22'18"	77°52'06"
11	OOSS4	39°22'21"	77°52'18"
12	OOSS5	39°22'28"	77°52'16"
13	OOSS7	39°22'30"	77°52'28"
14	OOSS6	39°22'39"	77°52'27"
15	BGSS4	39°22'40"	77°52'22"
16	BGSS5	39°22'37"	77°52'22"
17	BGSS3	39°22'35"	77°52'18"
18	BGSS6	39°22'33"	77°52'13"
19	BGSS1	39°22'37"	77°52'15"
20	DASS1	39°22'38"	77°52'13"
21	DASS2	39°22'38"	77°52'13"
22	DASS3	39°22'38"	77°52'12"
23	BGSS2	39°22'35"	77°52'13"
24	TPSS1	39°22'34"	77°52'11"
25	YOSS3	39°22'42"	77°52'46"
26	YOSS1	39°23'04"	77°52'39"
27	YOSS2	39°22'50"	77°52'43"
28	YOSS4	39°22'40"	77°52'38"
29	YOSS6	39°22'21"	77°52'41"
30	YOSS7	39°22'23"	77°52'30"
31	YOSS5	39°22'30"	77°52'57"
32	YOSS9	39°22'16"	77°52'57"
33	YOSS8	39°22'24"	77°53'03"
34	YOSS10	39°22'14"	77°52'44"
35	HWGW1	39°22'27"	77°52'52"
36	DWGW1	39°22'28"	77°52'51"
37	DWGW2	39°22'25"	77°52'10"
38	DWGW3	39°22'34"	77°52'46"
39	PSW1	39°22'38"	77°52'50"
40	PSS1	39°22'38"	77°52'50"
41	PSS2	39°22'37"	77°52'50"

Jefferson Orchard Tax Map

Tax Year: 2017
Parcel: 08 12000100000000
Deeded Owner: JEFFERSON ORCHARD INC

Owner Address: PO BOX 700

City: KEARNEYSVILLE

State: WV

Zip: 25430

Deed Book: 284

Deed Page: 460

Description: 400.36 A KEARNEYSVILLE-BROWN

Year Built: 1973

Stories: 1

Exterior Walls: Metal, Light

First Floor Area: 0

Square Foot Living Area: 12800

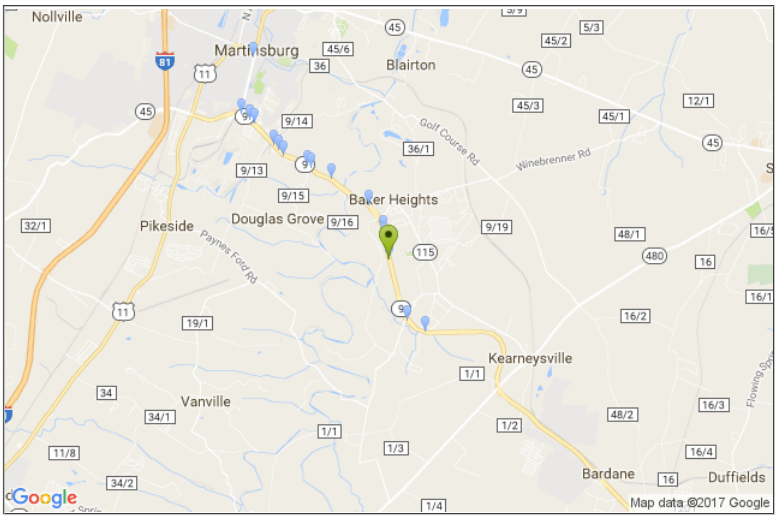
Continuous WIM Station **66**
In **Berkeley** County
Located on **WV 9** at **11.669** Miles
LRS ID: **02300090000**
0.9 mile East of CO 9/17 (Baker Heights) (**Kearneysville**)

GEO

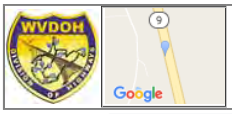
Referencing | Annual Statistics | Raw Data | WV 9 | Pavement Design Library

About Station 66

Station ID	**66**
County	Berkeley
City	Kearneysville
Road	
Road functional class	urban - Principal Arterial - Other
Description	0.9 mile East of CO 9/17 (Baker Heights)
Routes	Route Number: WV 9 Concurrent Route Number: Concurrent Route 2: Concurrent Route 3:
LRS Section ID	02300090000 @ 11.669 Miles
Traffic Segment	WV3L00090000D00026 11.150 to 12.450 Miles
LRS Section ID	0230009000000/
Coordinate (Lat/Lon)	39.410000, -77.926000
Map Reference	
Camera ID	



Milepoints are approximate.



Continuous WIM Station **66**
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LRS ID: **02300090000**
0.9 mile East of CO 9/17 (Baker Heights) (**Kearneysville**)

GEO

Referencing | Annual Statistics | Raw Data | WV 9 | Pavement Design Library

Volume

2016	21636		Continuous
2015	27509		Continuous

Trucks

2016	865		Continuous
2015	2020		Continuous

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2016	21636	-21.35	865	4.00	9.74	59.39	
2015	27509		2020	7.34	7.34	62.49	
2014							
2013							
2012							
2011							
2010							
2009							
2008							
2007							
2006							

WEST VIRGINIA
Division of Culture and History

The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300
Randall Reid-Smith, Commissioner
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

April 3, 2017

Matt Hurst, Ph.D.
Associate Engineer
ERM, Inc.
204 Chase Drive
Hurricane, West Virginia 25526

RE: Proposed Development Parcel – Granny Smith Lane, Kearneysville
FR# 17-437-JF

Dear Mr. Hurst:

We have reviewed the above referenced project to determine potential effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, the project will result in the development of a parcel of land located along Route 9 near Kearneysville in Jefferson County. The limits of disturbance (LOD) is estimated at 150 acres, of which approximately four acres are comprised of former apple orchard trees.

Architectural Resources:
We cannot complete our review with the information submitted. Please forward photographs of any buildings and/or structures that will be within the project area and within the line-of-sight of the proposed above ground components of this project. We understand that the development of this site in conceptual at this time and it appears this is an effort to complete compliance to attract developers. There are several previously recorded properties on our WV SHPO GIS (http://mapwv/shpo) that if still standing will need updated information to determine if they are still eligible for the National Register of Historic Places. If there are no solid proposals and you wish to more forward we recommend for the view shed anticipating 2-3 story buildings. These photographs should be keyed to a USGS topographic map. We will provide additional comments upon receipt of the requested information; however, we reserve the right to request additional information, including the completion of Historic Property Inventory (HPI) forms.

Archaeological Resources:
Our records indicate that portions of the current project area underwent a Phase I archaeological survey for FR# 05-977-JF. One archaeological resource, 46JF501, was identified during that survey. This resource was determined not eligible for inclusion in the National Register of Historic Places.

However, the prior survey work does not investigate the entire current project area. Aerial photographs and project mapping denote the presence of buildings, including a early twentieth century farmstead, within the project area. Also, Civil War skirmishes and troop movements took place in the project area vicinity. As a result, we have concerns that there may be unrecorded archaeological deposits present. We, therefore, request that a Phase I archaeological survey be conducted in the portions of the project area that were not previously surveyed. The phase I survey should include a metal detector survey. We will provide further comment upon receipt of the resulting Phase I archaeological survey technical report.

Cemetery Resources:
Our records and project mapping note the presence of a cemetery, 46JF507, immediately adjacent to the project area. This cemetery does not have a determination of eligibly for the National Register of Historic Places at this time. Since it presently not in the direct footprint of the project area only the viewshed would have to be evaluated should the cemetery be determined eligible. We will provide further comment upon receipt of the additional information

Public Comments:
In addition, federal regulations in 36 CFR 800.2(d)(1), 800.2(d)(2), 800.3(e), 800.6(a)(4) all stress the importance of public comment during the Section 106 process. If you have already completed this aspect of the requirements under Section 106, please provide written documentation of that along with any comments you have received. If you have not already done so, please forward a copy of the submitted information for the project to Jefferson County Historic Landmark Commission, allowing them the opportunity to comment on this project. Below is their contact information. Please forward any comments that you receive to this office. If you receive no comments, please indicate that *in writing* to this office. Please contact the below for further information.

Jefferson County Historic Landmark Commission
Post Office Box 23
Charles Town, West Virginia 25414

In addition to our usual comments, your letter requested "recommendations for the potential development on this property." It is our opinion, beyond the concerns mentioned above, that we do not have an interest in making specific recommendations for development this property at this time.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact, Carolyn Kender, Archaeologist, or Ernest E. Blevins, Structural Historian at (304) 558-0240.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/CMK/EEB

JEFFERSON ORCHARD LAND DISTURBANCE AREA

Approximate boundary of land disturbance associated with soils removed by the West Virginia Department of Transportation during the mid-2000s, including haul roads

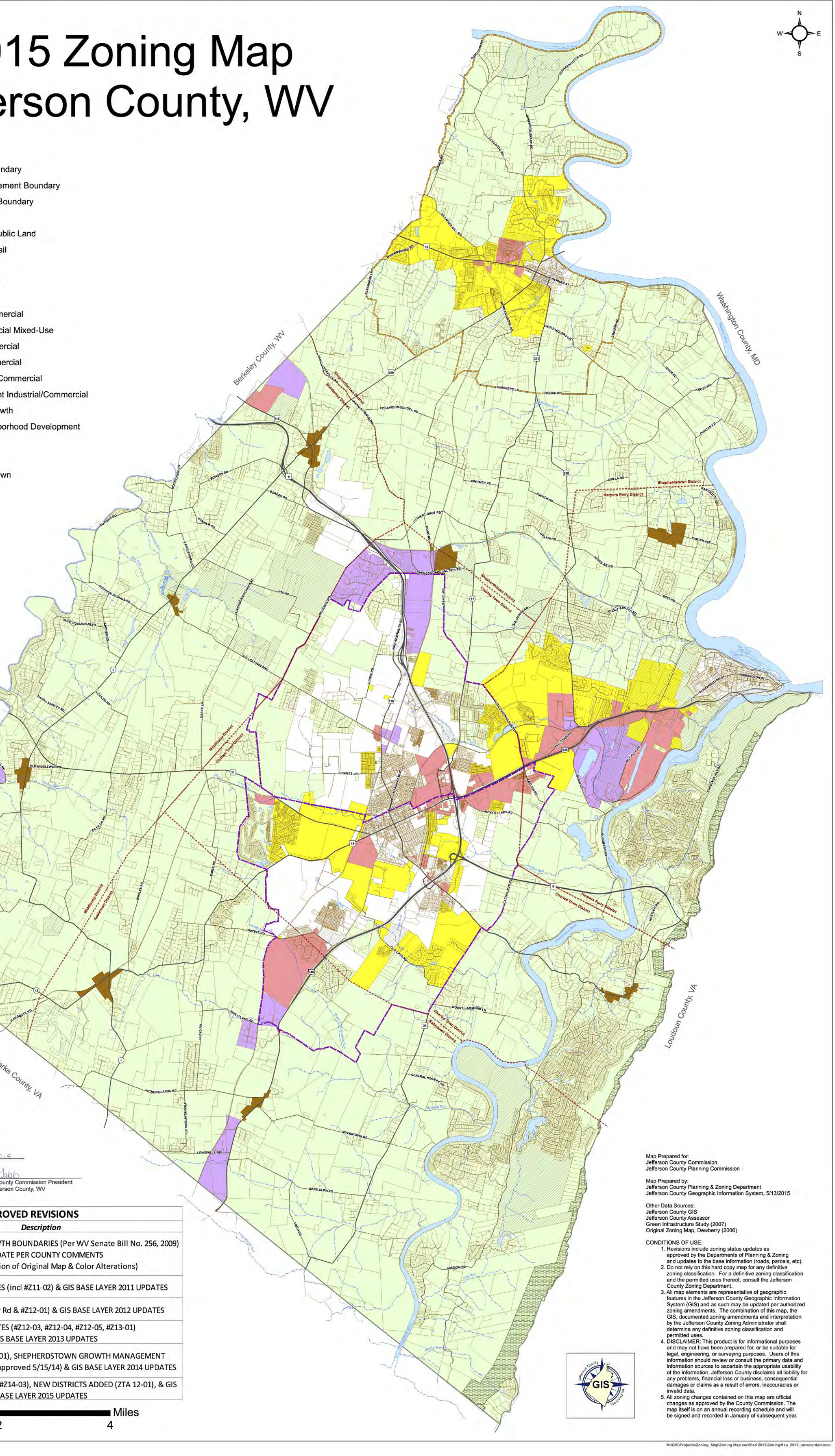
2015 Zoning Map
Jefferson County, WV

Legend

- Tax District Boundary
- Growth Management Boundary
- Urban Growth Boundary
- Parcels
- Public/Quasi-Public Land
- Appalachian Trail

Zoning District

- Major Industrial
- Light Industrial
- Industrial/Commercial
- Office/Commercial Mixed-Use
- General Commercial
- Highway Commercial
- Neighborhood Commercial
- Residential/Light Industrial/Commercial
- Residential Growth
- Planned Neighborhood Development
- Rural
- Village
- Incorporated Town



Effective Date 1/29/2015

Signature _____
Certified by County Commission President
Jefferson County, WV

APPROVED REVISIONS	
Year	***Description***
2010	ADDITION OF URBAN GROWTH BOUNDARIES (Per WV Senate Bill No. 256, 2009) & UPDATE PER COUNTY COMMENTS (Digital Recreation of Original Map & Color Alterations)
2011	ZONING STATUS UPDATES (incl #Z11-02) & GIS BASE LAYER 2011 UPDATES
2012	ZONING UPDATES (Blair Rd & #Z12-01) & GIS BASE LAYER 2012 UPDATES
2013	ZONING UPDATES (#Z12-03, #Z12-04, #Z12-05, #Z13-01) & GIS BASE LAYER 2013 UPDATES
2014	ZONING UPDATE (#Z14-01), SHEPHERDSTOWN GROWTH MANAGEMENT BOUNDARY (Commission approved 5/15/14) & GIS BASE LAYER 2014 UPDATES
2015	ZONING UPDATE (#Z14-02, #Z14-03), NEW DISTRICTS ADDED (ZTA 12-01), & GIS BASE LAYER 2015 UPDATES

0 1 2 4 Miles

Map Prepared for:
Jefferson County Commission
Jefferson County Planning Commission

Map Prepared by:
Jefferson County Planning & Zoning Department
Jefferson County Geographic Information System, 5/13/2015

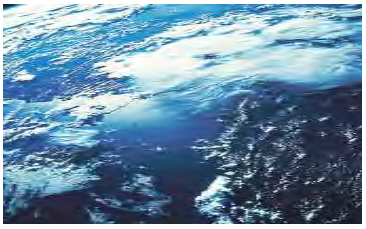
Other Data Sources:
Jefferson County GIS
Jefferson County Assessor
Green Infrastructure Study (2007)
Original Zoning Map, Dewberry (2006)

CONDITIONS OF USE:

1. Revisions include zoning status updates as approved by the Departments of Planning & Zoning and updates to the base information (roads, parcels, etc).
2. Do not rely on this hard copy map for any definitive zoning classification. For a definitive zoning classification and the permitted uses thereof, consult the Jefferson County Zoning Department.
3. All map elements are representative of geographic features in the Jefferson County Geographic Information System (GIS) and as such may be updated per authorized zoning amendments. The combination of this map, the GIS, documented zoning amendments and interpretation by the Jefferson County Zoning Administrator shall determine any definitive zoning classification and permitted uses.
4. DISCLAIMER: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the appropriate usability of the information. Jefferson County disclaims all liability for any problems, financial loss or business, consequential damages or claims as a result of errors, inaccuracies or invalid data.
5. All zoning changes contained on this map are official changes as approved by the County Commission. The map itself is on an annual recording schedule and will be signed and recorded in January of subsequent year.

M:\GIS\Projects\Zoning_Map\Zoning Map certified 2015\ZoningMap_2015_unrecorded.mxd

Appendix C
Historical Sources Other Pertinent Documents



Jefferson Orchard Inc.

Northport Avenue

Shenandoah Junction, WV 25442

Inquiry Number: 4865892.12

March 01, 2017

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

03/01/17

Site Name:

Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, WV 254
EDR Inquiry # 4865892.12

Client Name:

ERM Mid-Atlantic
13 Chase Drive
Hurricane, WV 25526
Contact: David Connelly

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2007	1"=500'	Flight Year: 2007	USDA/NAIP
2000	1"=750'	Flight Date: March 31, 2000	USGS
1994	1"=750'	Flight Date: April 02, 1994	USGS
1988	1"=500'	Acquisition Date: April 11, 1988	USGS/DOQQ
1982	1"=1000'	Flight Date: April 14, 1982	USGS
1980	1"=1000'	Flight Date: March 27, 1980	USGS
1974	1"=500'	Flight Date: March 14, 1974	USGS
1959	1"=500'	Flight Date: December 04, 1959	USGS

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.


INQUIRY #: 4865892.12
YEAR: 2011
= 500'
N
EDR


INQUIRY #: 4865892.12
YEAR: 2011
= 500'
N
EDR


INQUIRY #: 4865892.12
YEAR: 2011
= 500'
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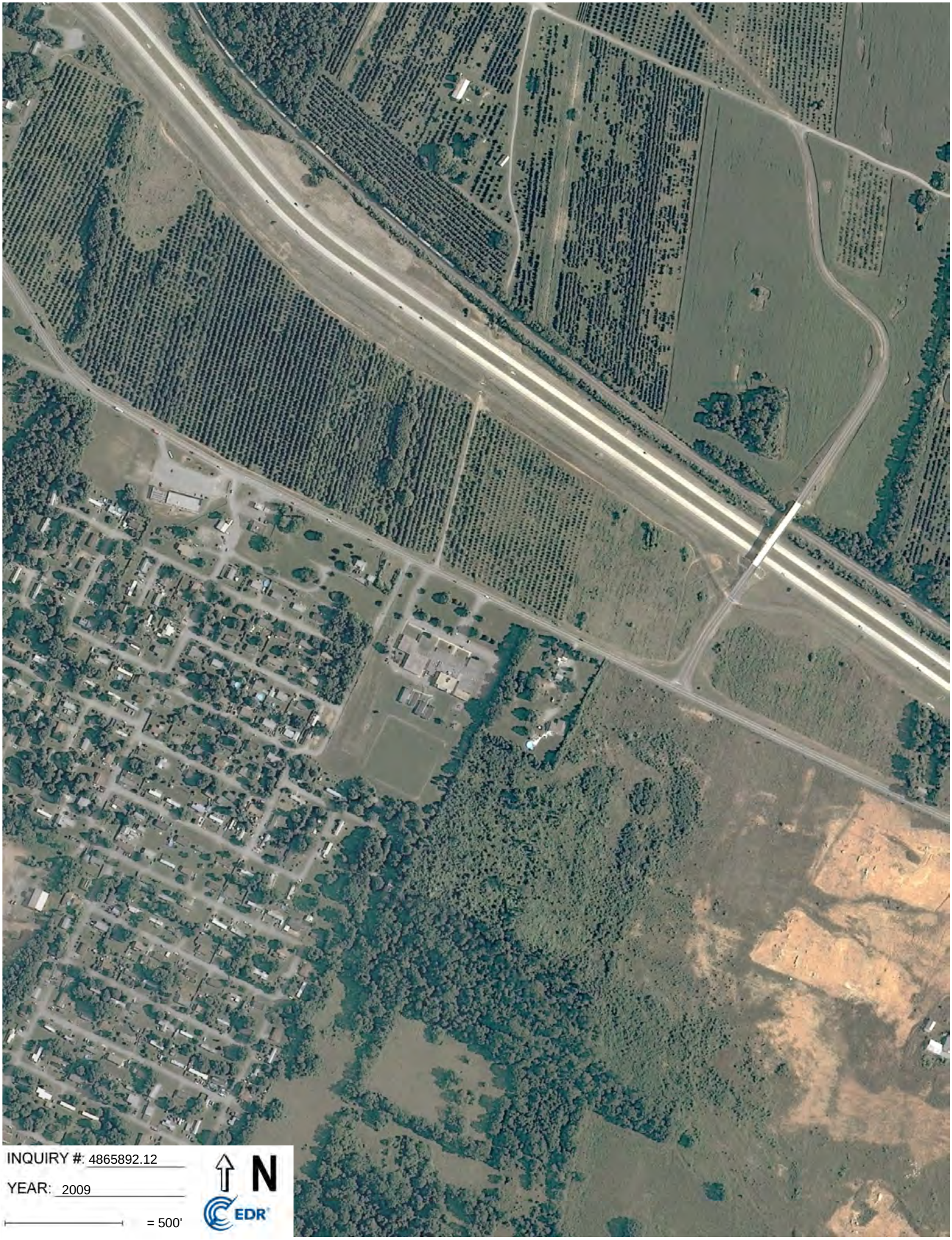
EDR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YEAR: 2009
= 500'
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EDR


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EDR


INQUIRY #: 4865892.12
YEAR: 2009
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EDR


INQUIRY #: 4865892.12
YEAR: 2009
= 500'
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EDR


INQUIRY #: 4865892.12
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= 500'
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EDR


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YEAR: 2007
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EDR


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YEAR: 2007
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EDR


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INQUIRY #: 4865892.12
YEAR: 1988
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EDR

INQUIRY #: 4865892.12

YEAR: 1988

= 500'

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EDR


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YEAR: 1988
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EDR


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EDR


INQUIRY #: 4865892.12
YEAR: 1980
= 1000'
N
EDR


INQUIRY #: 4865892.12
YEAR: 1974
= 500'
N
EDR


INQUIRY #: 4865892.12
YEAR: 1974
= 500'
N
EDR

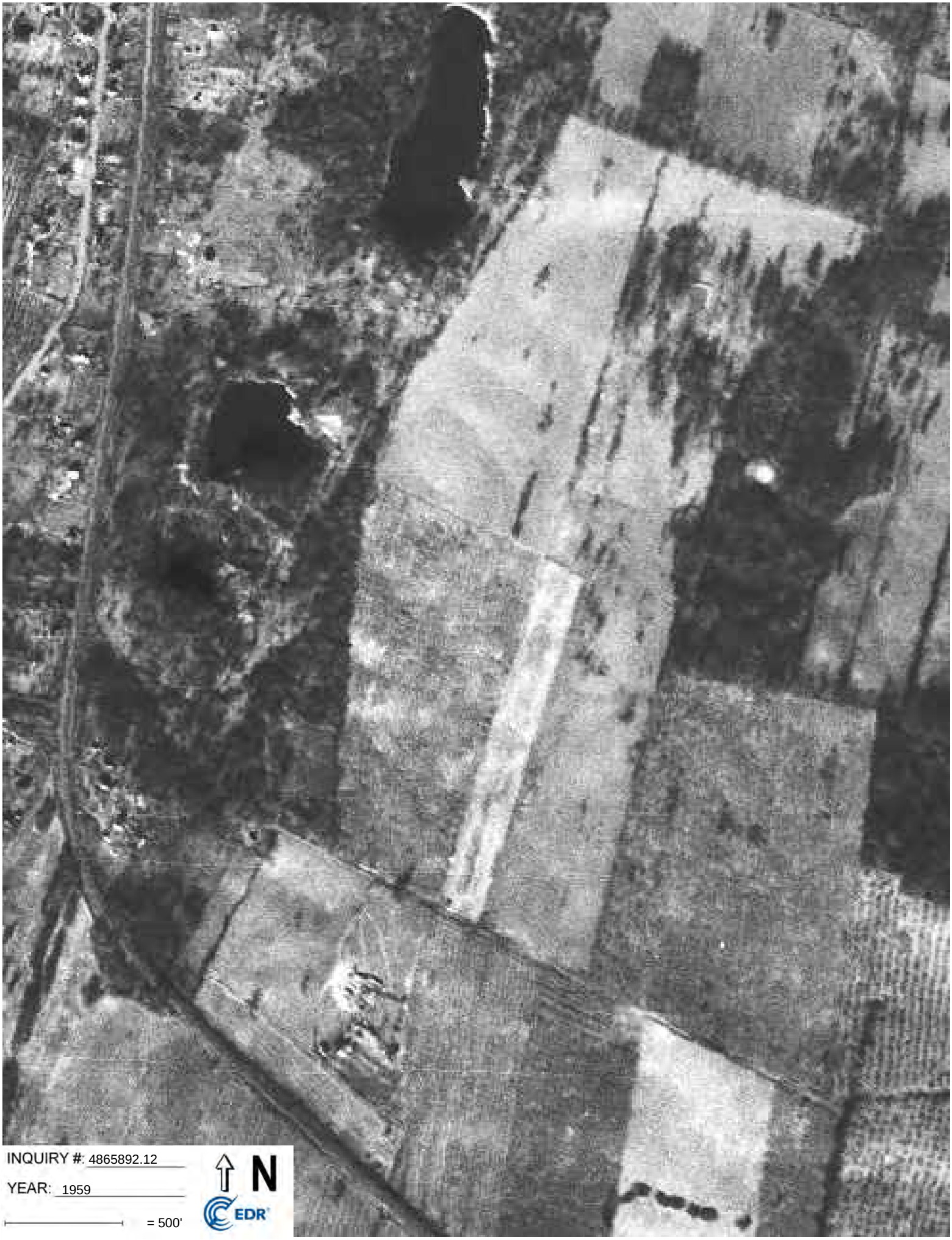
INQUIRY #: 4865892.12

YEAR: 1974

= 500'

N

EDR



INQUIRY #: 4865892.12

YEAR: 1959

= 500'

N

EDR

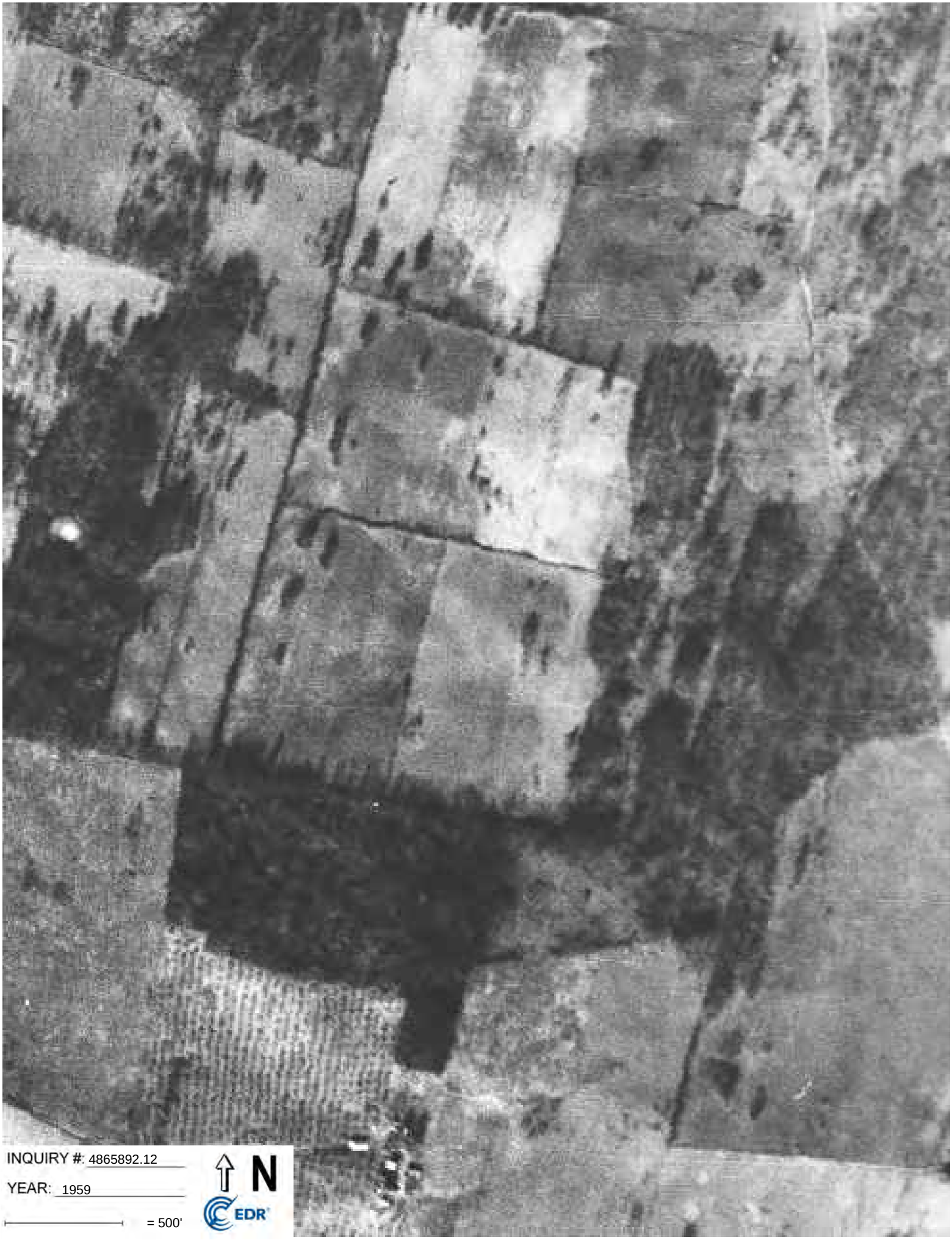
INQUIRY #: 4865892.12

YEAR: 1959

= 500'

N

EDR


INQUIRY #: 4865892.12
YEAR: 1959
= 500'
N
EDR

Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, WV 25442

Inquiry Number: 4865892.8
March 01, 2017

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Building Permit Report: Search Documentation

3/01/17

Site Name:
Jefferson Orchard
Northport Avenue
Shenandoah Junction,

EDR Inquiry # 4865892.8

Client Name:
ERM Mid-Atlantic
13 Chase Drive
Hurricane, WV 25526

Contact: David Connelly

Search Documentation

DATA GAP

The complete collection of Building Permit data available to EDR has been searched, and as of 3/01/17, EDR does not have access to building permits in the city where your target property is located (Shenandoah Junction, WV).

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX® PROPERTY HISTORY

Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, WV 25442

Inquiry Number: 4865892.5
March 01, 2017

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1992 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	*Source*	*TP*	*Adjoining*	*Text Abstract*	*Source Image*
2013	Cole Information Services	-	-	-	-
2008	Cole Information Services	-	-	-	-
2003	Cole Information Services	-	-	-	-
1999	Cole Information Services	-	-	-	-
1995	Cole Information Services	-	-	-	-
1992	Cole Information Services	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Northport Avenue
Shenandoah Junction, WV 25442

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
Northport Avenue	2013, 2008, 2003, 1999, 1995, 1992

Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, West Virginia 25442

Inquiry Number: 4865892.7
March 6, 2017

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

JEFFERSON ORCHARD INC.
NORTHPORT AVENUE
SHENANDOAH JUNCTION, WEST VIRGINIA 25442

RESEARCH SOURCE

Source 1: Jefferson Recorder
Jefferson County, West Virginia

Source 2: Jefferson Assessor
Jefferson County, West Virginia

PROPERTY INFORMATION

Deed 1:

Type of Deed:	Deed
Title is vested in:	Jefferson Orchards, Inc.
Title received from:	Malcola M. Brown and Lorena H. Brown
Deed Dated:	December 1, 1966
Deed Recorded:	December 3, 1966
Instrument:	2772

Legal Description:	**See Legal**
Legal Current Owner:	**Jefferson Orchards, Inc.**
Property Identifiers:	**08 12000100000000**

EDR Environmental Lien and AUL Search

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's: Found ☐ Not Found ☒

DEED EXHIBIT A

1084.

Malcolm M. Brown, et ux.

To: DEED OF B. & S.

Jefferson Orchards, Inc.

THIS DEED made and executed this 1st day of December, 1966, by and between Malcolm M. Brown and Lorena H. Brown, his wife, parties of the first part, and Jefferson Orchards, Inc., a West Virginia corporation, party of the second part:

WITNESSETH, That for and in consideration of the sum of $5.00, cash in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties of the first part do hereby grant, bargain, sell and convey and by these presents, have granted, bargained, sold and conveyed, to and unto the party of the second part, with general warranty, the following described real estate, situate in Middleway District of Jefferson County, West Virginia, more particularly described as follows:

"All those certain tracts or parcels of land situate in Middleway District, Jefferson County, West Virginia, together with all improvements thereon and appurtenances belonging thereto, described as follows:

FIRST PARCEL

Those three several tracts of land, which were heretofore conveyed to John W. Stewart by Charles J. Faulkner, Jr. and E. Boyd Faulkner, Trustees, by deed dated February 18, 1876, and recorded in the Office of the Clerk of the County Court of Jefferson County, West Virginia, in Deed Book D, page 104, containing in the aggregate about 208 acres, 2 roods and 30 perches, and described as follows:

TRACT NO. 1:

Beginning at a stone in the edge of James Hurst's field about 1 pole from the fence in the line of Blackborn and Paynes Patent, now James Hurst; thence with the line of said Patent, now James Hurst, and Joel Blue, S. 64° 40' E. 216.7 poles to a stone set in the ground in the line of said Patent, now Joel Blue, corner to Mrs. Ann Hunter, about 2 poles to Joel Blue's field; thence with the line of Mrs. Hunter N. 4° 3/4' E. 142 poles to a stone set in the ground in the line of Ann Hunter, now made corner to the heirs of A. S. Dandridge; thence, leaving Mrs. Hunter and running the division line, N. 64° 3/4' W. 165.7 poles to a stone standing nearly in the center between sundry marked white oaks; thence S. 25° 1/4' W. 133.5 poles to the beginning, containing 160 acres.

TRACT NO. 2:

Beginning at a stone in the line of Mrs. Ann Hunter, deceased, and corner to John

Snyder's purchase; thence with a line of the same N. 64° 3/4' W. 166.7 poles to a stone set in the ground in the center between sundry marked saplings, corner to his former purchase and David Moore's lot; thence leaving the line of the former survey N. 25° 1/4' E. 9.5 poles to a stone set in the ground and now corner to the heirs of A. S. Dandridge, deceased; thence S. 64° 54/60' E. 163 poles to a stone set in the ground over in the line of Ann Hunter, deceased, now corner to said heirs; thence with Ann Hunter's line S. 4° 3/4' W. 10.6 poles to the beginning, containing 10 acres.

TRACT NO. 3:

Beginning at a stone standing at and on the north side of a walnut tree, a corner to Adam S. Dandridge and James V. Moore, and on the south side of the B & O Railroad (fig. 1 in plat); running thence with said Moore S. 27° 40' W. 129 poles to a stone his corner, standing at the center of the old Furnace Road (fig. 2); thence again with said Moore and Mrs. Wright along the said road S. 61° 39' E. 62.6 poles to a stone at the center of the road in the line of William M. Snyder (fig. 3); thence with the same N. 27° 54' E. 82.8 poles to a stake standing 33 feet from the center of the railroad (fig. 4); thence following the curvature of said railroad, continuing 33 feet from the center thereof to the beginning; containing 38 acres, 2 roods and 30 perches.

LESS AND EXCEPTING, HOWEVER, from the foregoing, the following outsales:

(a) A parcel containing about 3,400 square feet that was conveyed to The Baltimore & Ohio Railroad Company by deed dated November 23, 1897, and recorded in the aforesaid Clerk's Office in Deed Book No. 84, page 273.

(b) A parcel containing about 0.57 acre that was conveyed to The Baltimore & Ohio Railroad Company by deed dated October 22, 1901, and recorded in said Clerk's Office in Deed Book No. 90, page 481.

(c) A parcel containing about 2.5 acres that was conveyed to James E. Goins by deed dated July 13, 1931, and recorded in said Clerk's Office in Deed Book No. 136, page 20.

(d) Also, all portion of The Baltimore & Ohio Railroad Company right-of-way or other property traversing said land, now owned by said corporation, from whatever source derived.

SECOND PARCEL

That certain other tract of real estate heretofore conveyed to William T. Stewart by deed from Charles J. Faulkner, Jr. and E. Boyd Faulkner, Trustees, dated January 17, 1877, and recorded in said County Clerk's Office in Deed Book E, at page 117, bounded and described as follows:

Beginning at a solid rock, corner to the Haselfield division; thence S. 82° 50' W. 67.8 poles to a stone; thence through the woods by line trees N. 7° 00' E. 40.2 poles to a stone in Thos. Licklider's line and corner in the Haselfield Division; thence with Licklider's line N. 80° 03' W. 81.5 poles to a corner in said Licklider's line and A. S. Dandridge; thence with Dandridge and Wm. M. Snyder S. 7° 01' W. 200.15 poles to corner to Hunter in said Snyder's line; thence with Hunter S. 79° 48' E. 125.3 poles to a stone 1/4 of a pole from center of large white oak, which is a corner to Haselfield Division; thence along center of fence N. 13° 40' E. 179.8 poles to the beginning; containing 158 acres, 2 roods and 16 perches, and being bounded on the East and North by Brown Hendricks and further on the North by Stanley and Miller, on the West by Stewart Orchard and farm, a portion of the lands herein described, and on the South by the B & O Railroad and Jacob S. Melvin.

THIRD PARCEL

That certain other tract of real estate heretofore conveyed by Daniel B. Lucas, Special Commissioner, to William T. Stewart, by deed dated April 6, 1880, and recorded in said

Clerk's Office in Deed Book H, at page 305, therein bounded and described as follows, to-wit:

Beginning at a black oak tree in the line of William T. Stewart and corner to Jacob J. Miller (Fig. 1 in Plat) and running thence with Stewart's line S. 8° 15' W. 104 poles to a stone (2); thence N. 62° 15' W. 152.3 poles to a stone (3); thence S. 28° 15' W. 9.5 poles to a stone, corner to Mrs. Rutherford's lot (4); thence with her line N. 61° 30' W. 58 poles to a stake at the eastern limit of the B & O Railroad (5); thence following the said road N. 5° 45' E. 20 poles (6) N. 9° 45' E. 124 poles (7) N. 8° 00' E. 26 poles (8), N. 6° 00' E. 40.6 poles to a stake at the railroad limit and corner to Harry Bitner (9); thence with said Bitner and Jacob J. Miller S. 68° 00' E. 202.2 poles to a stone, said Miller's corner (10); thence with his line S. 43° 15' W. 56.9 poles to a stone (11); thence S. 16° 37' W. 76 poles to a stone (12); thence S. 79° 15' E. 57.6 poles to the beginning; containing 249 acres, 1 rood and 15 perches.

LESS AND EXCEPTING, HOWEVER, from the foregoing, the following outsales:

(a) A parcel containing about one-half acre that was conveyed to the Trustees of the M. E. Church of Kearneysville, by deed dated July 3, 1889, and recorded in said Clerk's Office in Deed Book U, page 304.

(b) A parcel containing about one-half acre that was conveyed to the Trustees of the M. E. Church of Kearneysville, by deed dated November 12, 1890, and recorded in said Clerk's Office in Deed Book W, page 293.

(c) A tract containing 99 acres and 9 poles which was conveyed to A. D. Morris, et al, by deed dated March 26, 1890, and recorded in said Clerk's Office in Deed Book U, page 511.

(d) A tract containing about 5 acres which was conveyed to The Standard Lime & Stone Company, by H. H. Emmert, Special Commissioner, et al, by deed dated May 17, 1905, and recorded in said Clerk's Office in Deed Book No. 96, page 32.

EASEMENT

Also, all right, title and interest of the owners of said land in a right-of-way or easement through or over the property formerly owned by Standard Lime & Stone Company, and which is now used as a roadway in entering said real estate and the orchards located thereon.

Being the same real estate conveyed to Malcolm M. Brown by Elsye Boak Stewart, widow, by deed dated the 22nd day of November, 1948, and of record in the aforesaid Clerk's Office in Deed Book No. 174, page 427.

This conveyance is made subject to all rights-of-ways for power lines and other public utilities.

WITNESS the following signatures:

Malcolm M. Brown

Lorena H. Brown

Documentary stamps $152.90 affixed.
W.Va.Transfer stamps $305.80 affixed, 12/3/66.

STATE OF WEST VIRGINIA

COUNTY OF BERKELEY, to-wit:

I, Charles H. Bean, a Notary Public in and for the State and County aforesaid, do hereby certify that Malcolm M. Brown and Lorena H. Brown, his wife, whose names are signed to the writing hereto annexed, bearing date the 1st day of December, 1966, have this day acknowledged the same before me in my said County.

Given under my hand this 1st day of December, 1966.

Charles H. Bean, Notary Public

My commission expires:

Aug. 19, 1972.

DECLARATION OF CONSIDERATION OR VALUE

I hereby declare the total consideration paid for the property conveyed by the document to which this declaration is appended is $139,000.00.

Given under my hand this 1st day of December, 1966.

SIGNATURE Guy R. Avey Jr.
ADDRESS 126 East Burke St.
Martinsburg, W. Va.

This deed prepared by
Charles H. Bean,
Attorney at Law.

State of West Va., County of Jefferson, ss.

IN THE CLERK'S OFFICE OF COUNTY COURT: DECEMBER 3rd, 1966

This Deed of B. & S., dated December 1st, 1966 from Malcolm M. Brown, et ux. to Jefferson Orchards, Inc. was produced in this office and duly admitted to record.

Test,

Emily A. M. Stanley, Clerk of said Court

By Frances M. Banks, Deputy

Jefferson Orchard Inc.

Northport Avenue

Shenandoah Junction, WV 25442

Inquiry Number: 4865892.3

March 01, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

03/01/17

Site Name:	Client Name:
Jefferson Orchard Inc.	ERM Mid-Atlantic
Northport Avenue	13 Chase Drive
Shenandoah Junction, WV 254	Hurricane, WV 25526
EDR Inquiry # 4865892.3	Contact: David Connelly

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by ERM Mid-Atlantic were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # EE3D-459C-8E43

PO # 0407354

Project Project Shuttle

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: EE3D-459C-8E43

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

ERM Mid-Atlantic (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, WV 25442

Inquiry Number: 4865892.6
March 01, 2017

The EDR Property Tax Map Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

NO COVERAGE

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Jefferson Orchard Inc.

Northport Avenue

Shenandoah Junction, WV 25442

Inquiry Number: 4865892.4

March 01, 2017

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

03/01/17

Site Name:	Client Name:
Jefferson Orchard Inc.	ERM Mid-Atlantic
Northport Avenue	13 Chase Drive
Shenandoah Junction, WV 254	Hurricane, WV 25526
EDR Inquiry # 4865892.4	Contact: David Connelly

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by ERM Mid-Atlantic were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 0407354

Project: Project Shuttle

Coordinates:

Latitude:	39.375994 39° 22' 34" North
Longitude:	-77.878059 -77° 52' 41" West
UTM Zone:	Zone 18 North
UTM X Meters:	252087.63
UTM Y Meters:	4362454.37
Elevation:	580.00' above sea level

Maps Provided:

2014	1943, 1944
1994, 1997	1916
1984, 1988	1914
1978, 1979	1893
1971	1891
1955	1884
1953	
1944	

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2014 Source Sheets

Shepherdstown
2014
7.5-minute, 24000

Charles Town
2014
7.5-minute, 24000

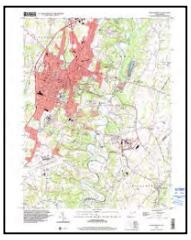
Martinsburg
2014
7.5-minute, 24000

Middleway
2014
7.5-minute, 24000

1994, 1997 Source Sheets

Shepherdstown
1994
7.5-minute, 24000
Aerial Photo Revised 1974

Charles Town
1997
7.5-minute, 24000
Aerial Photo Revised 1997

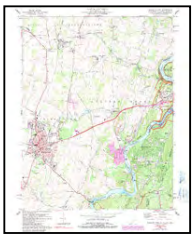


Martinsburg
1997
7.5-minute, 24000
Aerial Photo Revised 1997

1984, 1988 Source Sheets

Charles Town
1984
7.5-minute, 24000
Aerial Photo Revised 1980

Shepherdstown
1988
7.5-minute, 24000
Aerial Photo Revised 1974



Charles Town
1988
7.5-minute, 24000
Aerial Photo Revised 1980

1978, 1979 Source Sheets

Charles Town
1978
7.5-minute, 24000
Aerial Photo Revised 1974

Middleway
1978
7.5-minute, 24000
Aerial Photo Revised 1974

Shepherdstown
1978
7.5-minute, 24000
Aerial Photo Revised 1974

Martinsburg
1979
7.5-minute, 24000
Aerial Photo Revised 1974

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1971 Source Sheets

Shepherdstown
1971
7.5-minute, 24000
Aerial Photo Revised 1971

Martinsburg
1971
7.5-minute, 24000
Aerial Photo Revised 1971

Middleway
1971
7.5-minute, 24000
Aerial Photo Revised 1971

Charles Town
1971
7.5-minute, 24000
Aerial Photo Revised 1971

1955 Source Sheets

Martinsburg
1955
7.5-minute, 24000
Aerial Photo Revised 1943

Charles Town
1955
7.5-minute, 24000
Aerial Photo Revised 1943

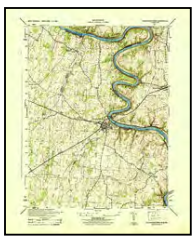
Middleway
1955
7.5-minute, 24000
Aerial Photo Revised 1943

1953 Source Sheets

Shepherdstown
1953
7.5-minute, 24000

Charles Town
1953
7.5-minute, 24000
Aerial Photo Revised 1943

1944 Source Sheets



Shepherdstown
1944
7.5-minute, 31680
Aerial Photo Revised 1943

Charles Town
1944
7.5-minute, 31680
Aerial Photo Revised 1943

Middleway
1944
7.5-minute, 31680
Aerial Photo Revised 1943

Martinsburg
1944
7.5-minute, 31680
Aerial Photo Revised 1943

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1943, 1944 Source Sheets

MIDDLEWAY
1943
7.5-minute, 25000

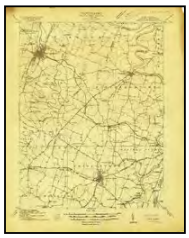
SHEPHERDSTOWN
1944
7.5-minute, 25000

CHARLES TOWN
1944
7.5-minute, 25000

1916 Source Sheets

Martinsburg
1916
15-minute, 62500

1914 Source Sheets



Martinsburg
1914
15-minute, 48000

1893 Source Sheets

Harpers Ferry
1893
30-minute, 125000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1891 Source Sheets

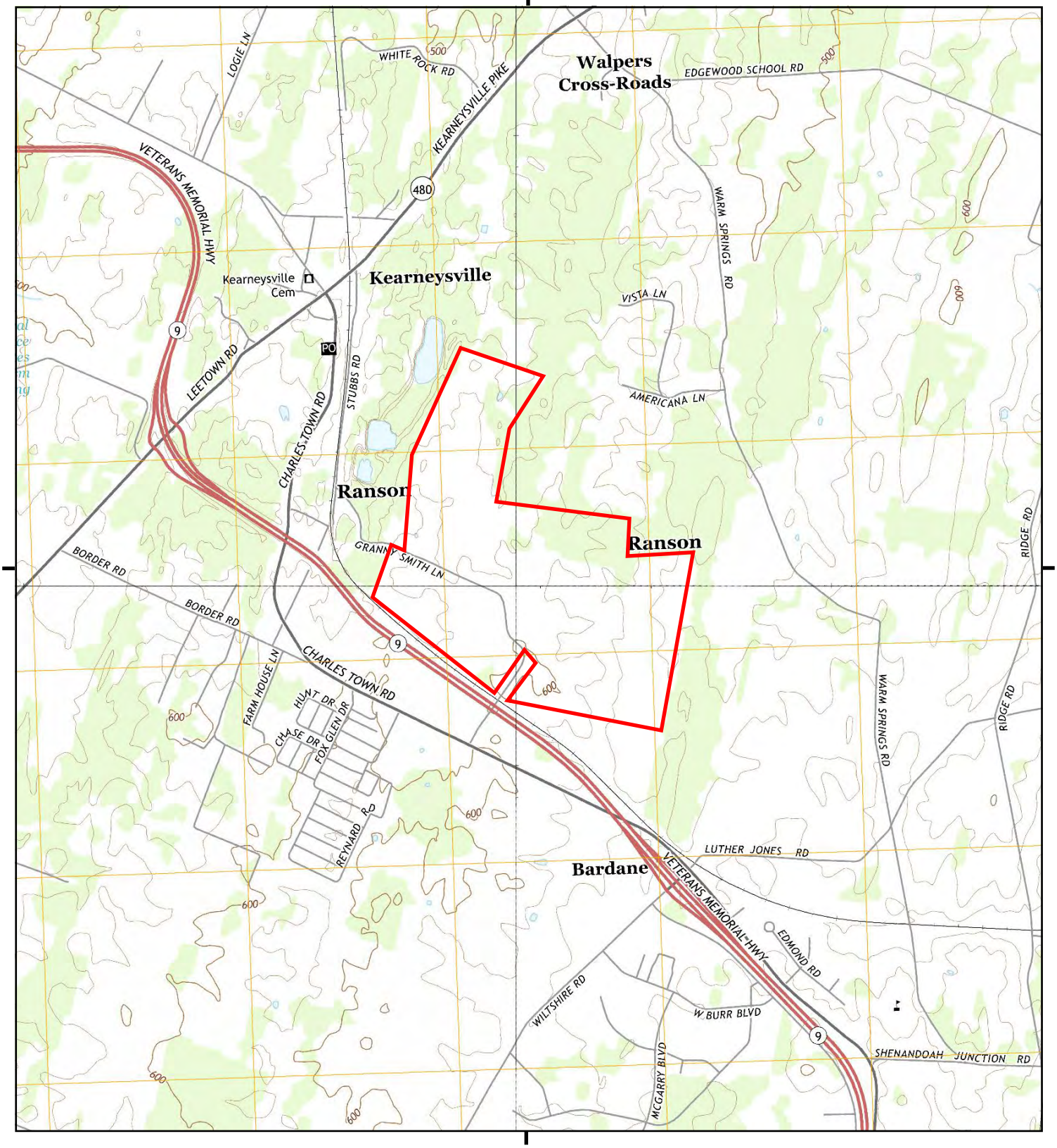
Harpers Ferry
1891
30-minute, 125000

1884 Source Sheets

Harpers Ferry
1884
30-minute, 125000

Historical Topo Map

2014



This report includes information from the following map sheet(s).

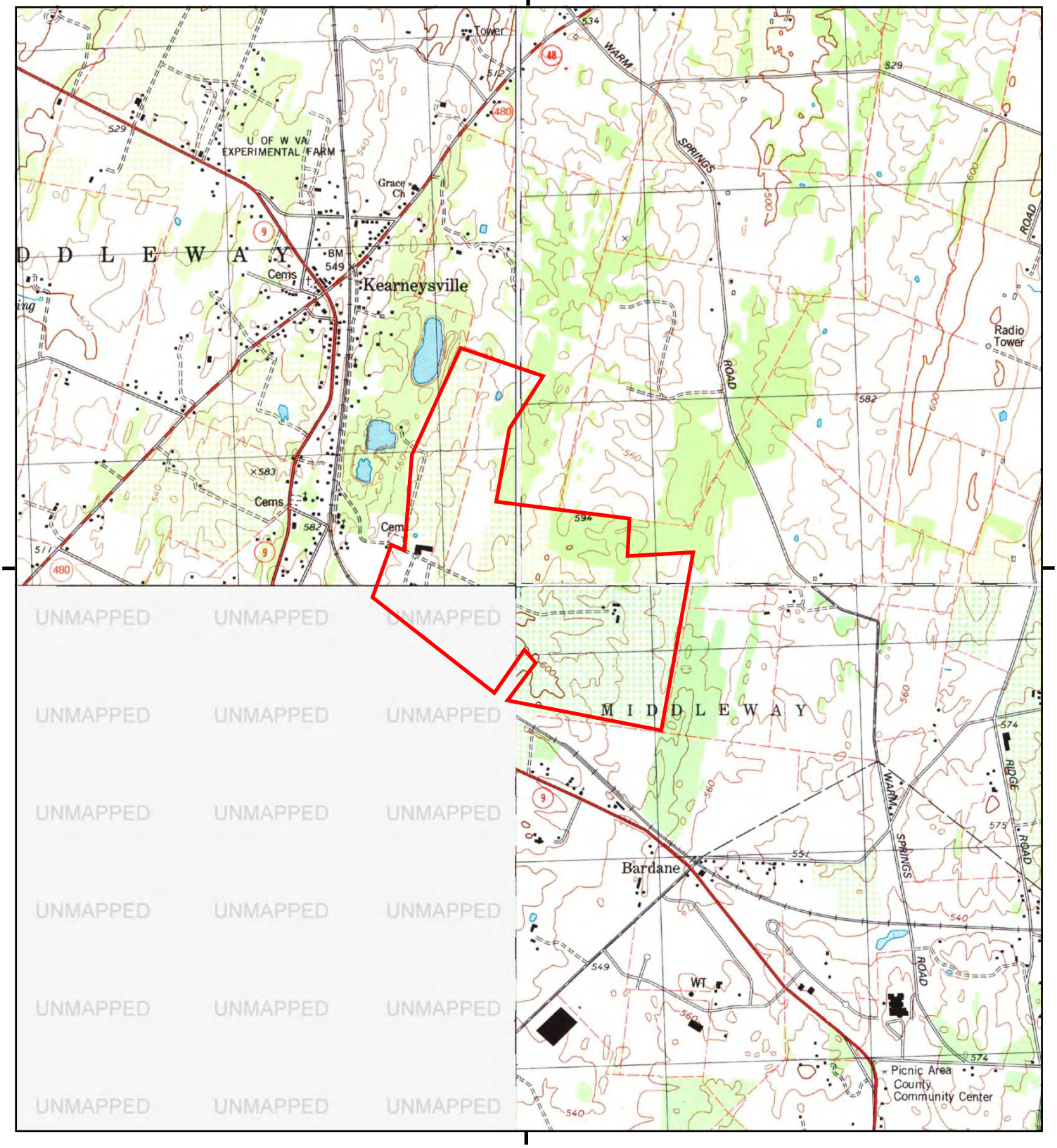
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Shepherdstown, 2014, 7.5-minute
SE, Charles Town, 2014, 7.5-minute
SW, Middleway, 2014, 7.5-minute
NW, Martinsburg, 2014, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

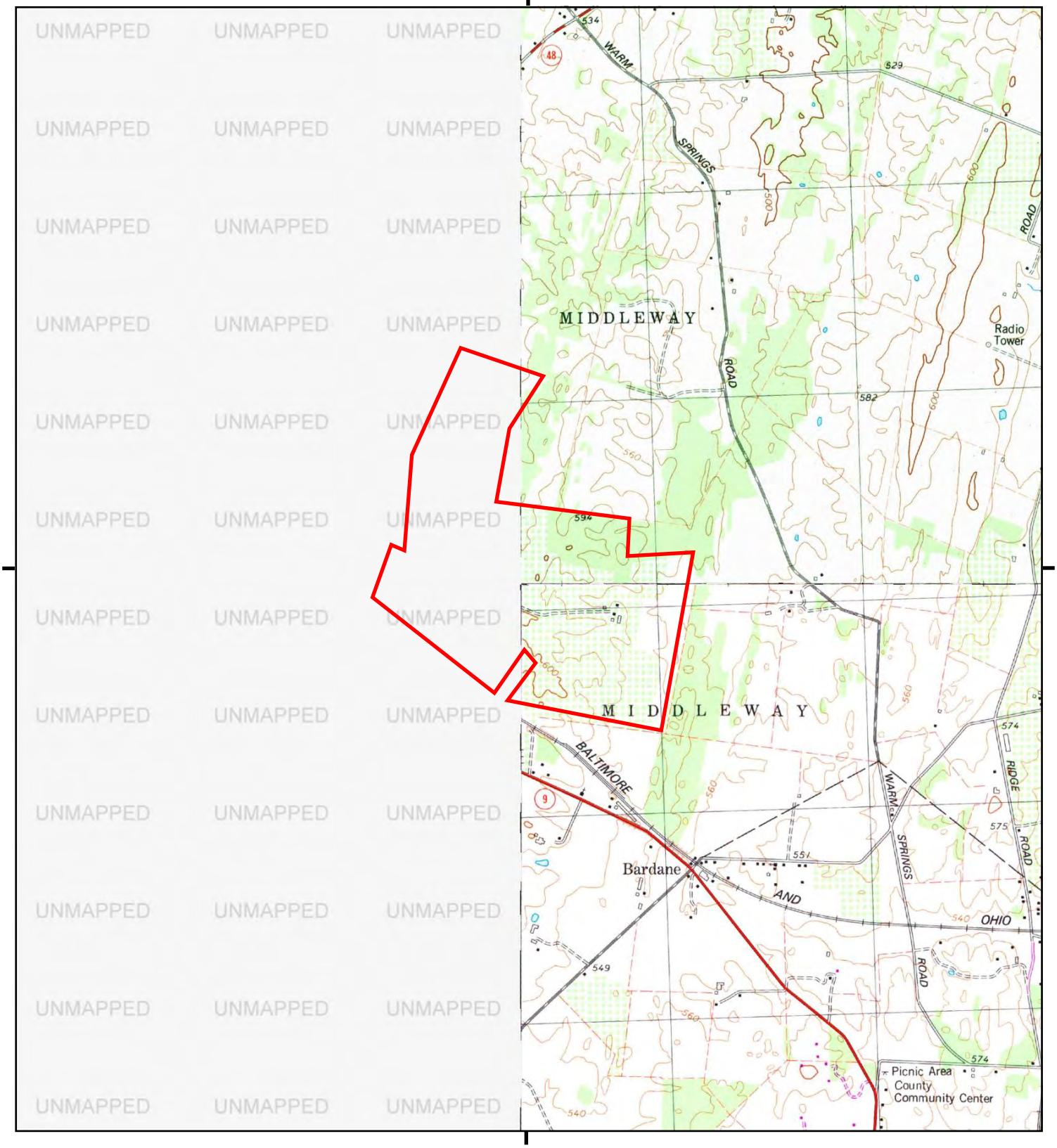
TP, Shepherdstown, 1994, 7.5-minute
SE, Charles Town, 1997, 7.5-minute
NW, Martinsburg, 1997, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N

Historical Topo Map

1984, 1988



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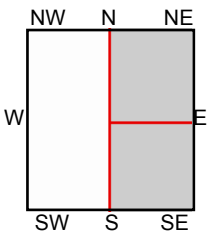
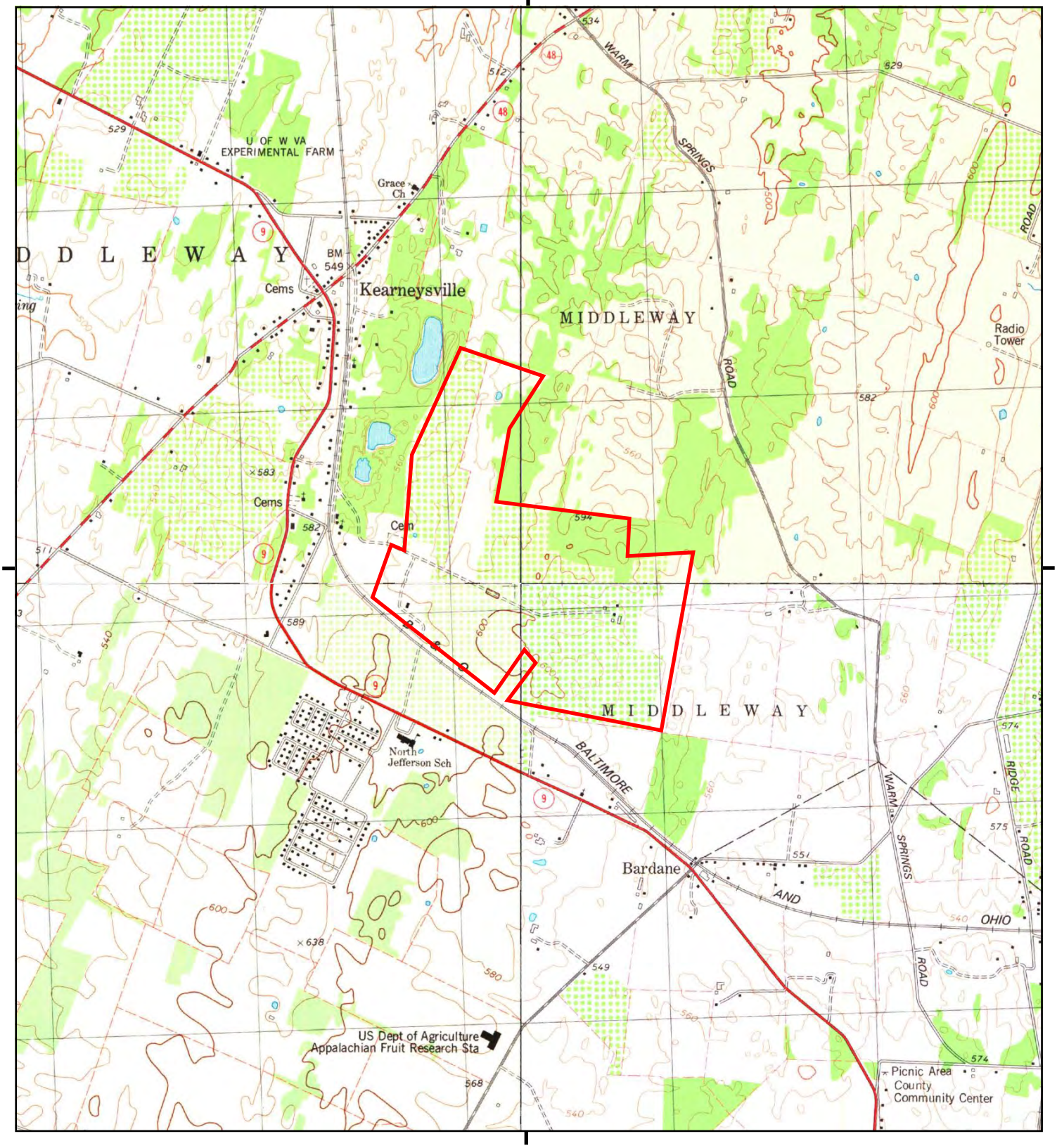
0 Miles 0.25 0.5 1 1.5



TP, Shepherdstown, 1988, 7.5-minute
SE, Charles Town, 1984, 7.5-minute
SE, Charles Town, 1988, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

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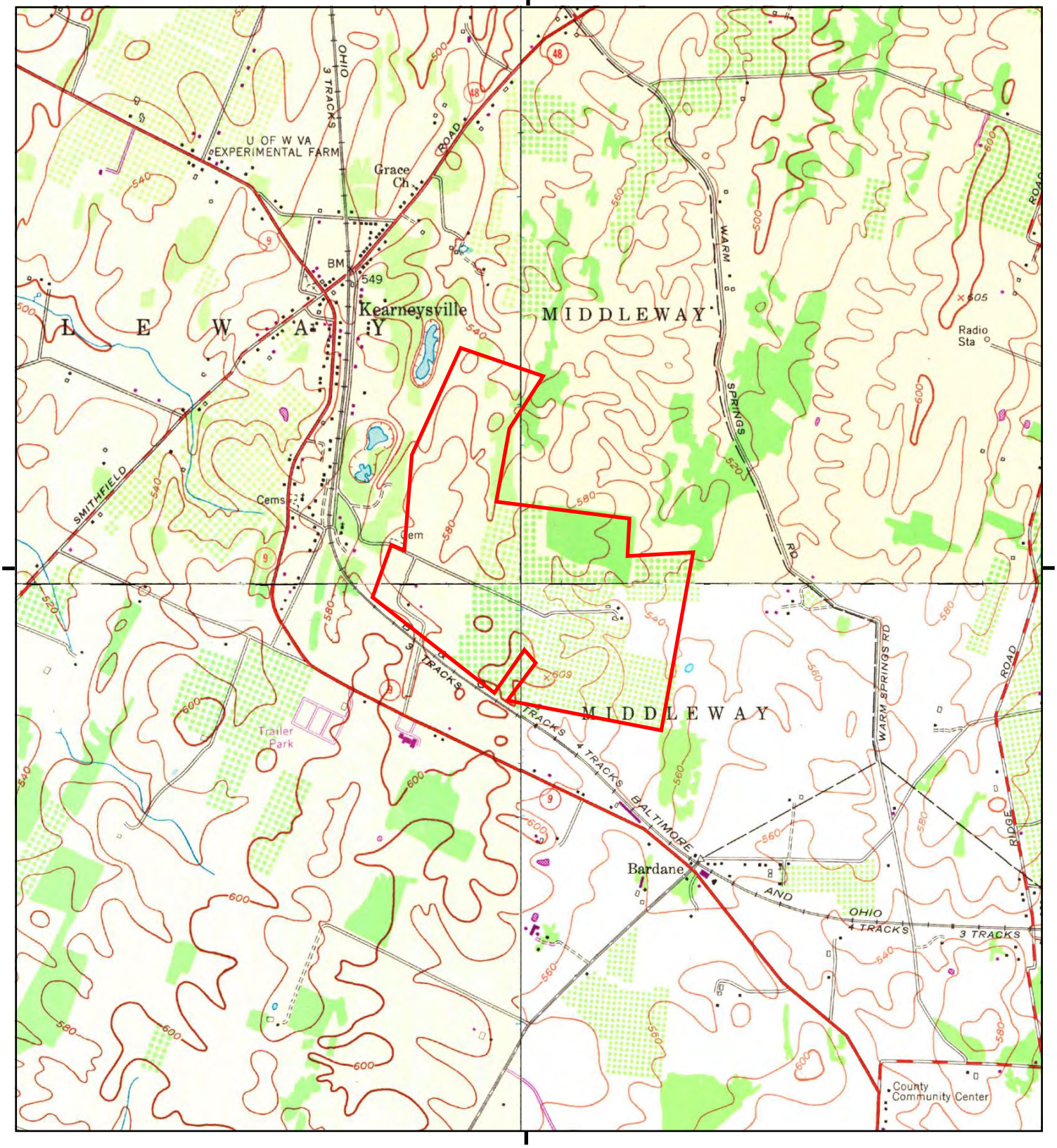
SE, Charles Town, 1978, 7.5-minute
SW, Middleway, 1978, 7.5-minute
NW, Martinsburg, 1979, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

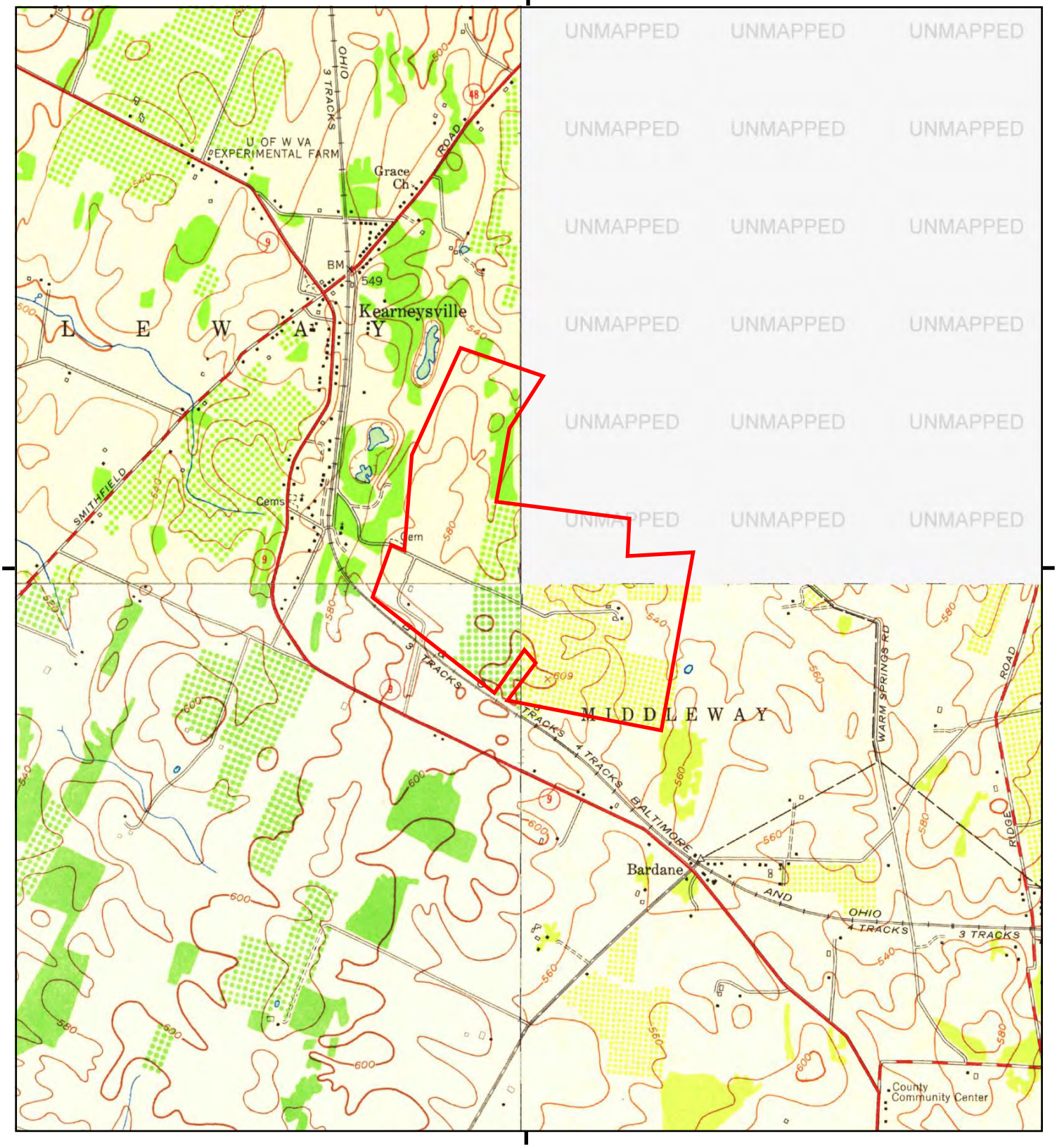
TP, Shepherdstown, 1971, 7.5-minute
SE, Charles Town, 1971, 7.5-minute
SW, Middleway, 1971, 7.5-minute
NW, Martinsburg, 1971, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N

Historical Topo Map

1955



This report includes information from the following map sheet(s).

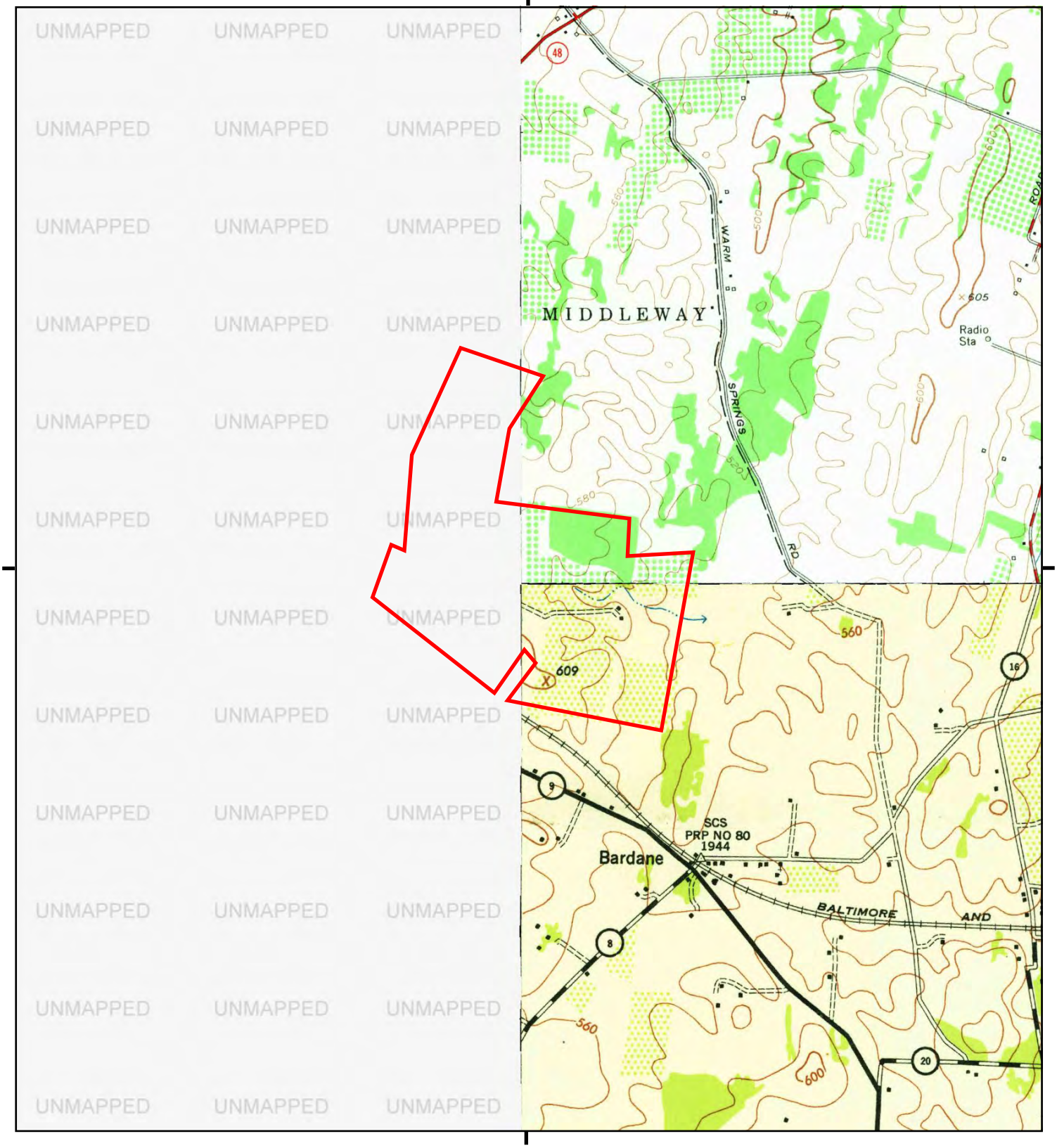
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

SE, Charles Town, 1955, 7.5-minute
SW, Middleway, 1955, 7.5-minute
NW, Martinsburg, 1955, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

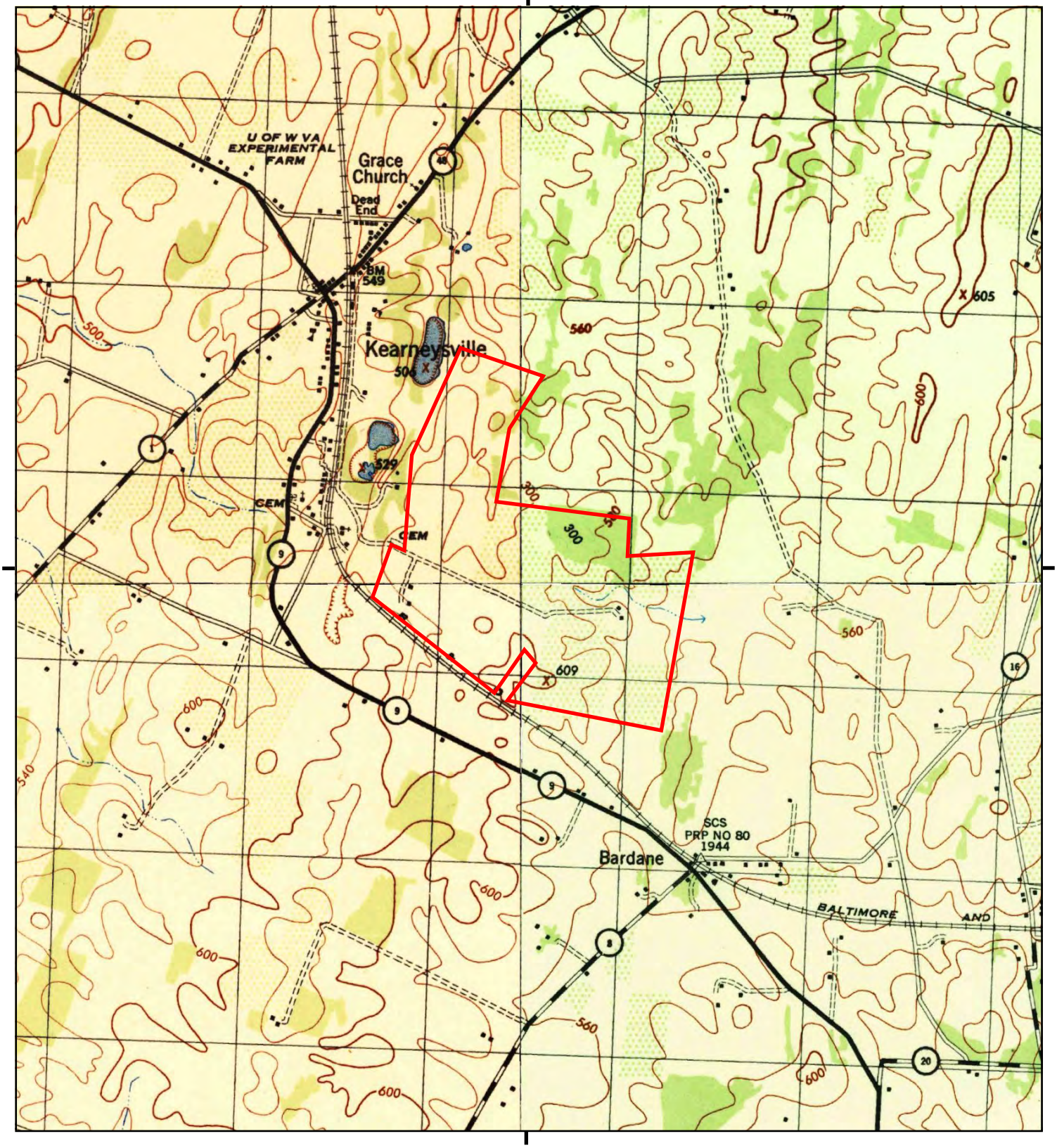
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Shepherdstown, 1953, 7.5-minute
SE, Charles Town, 1953, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

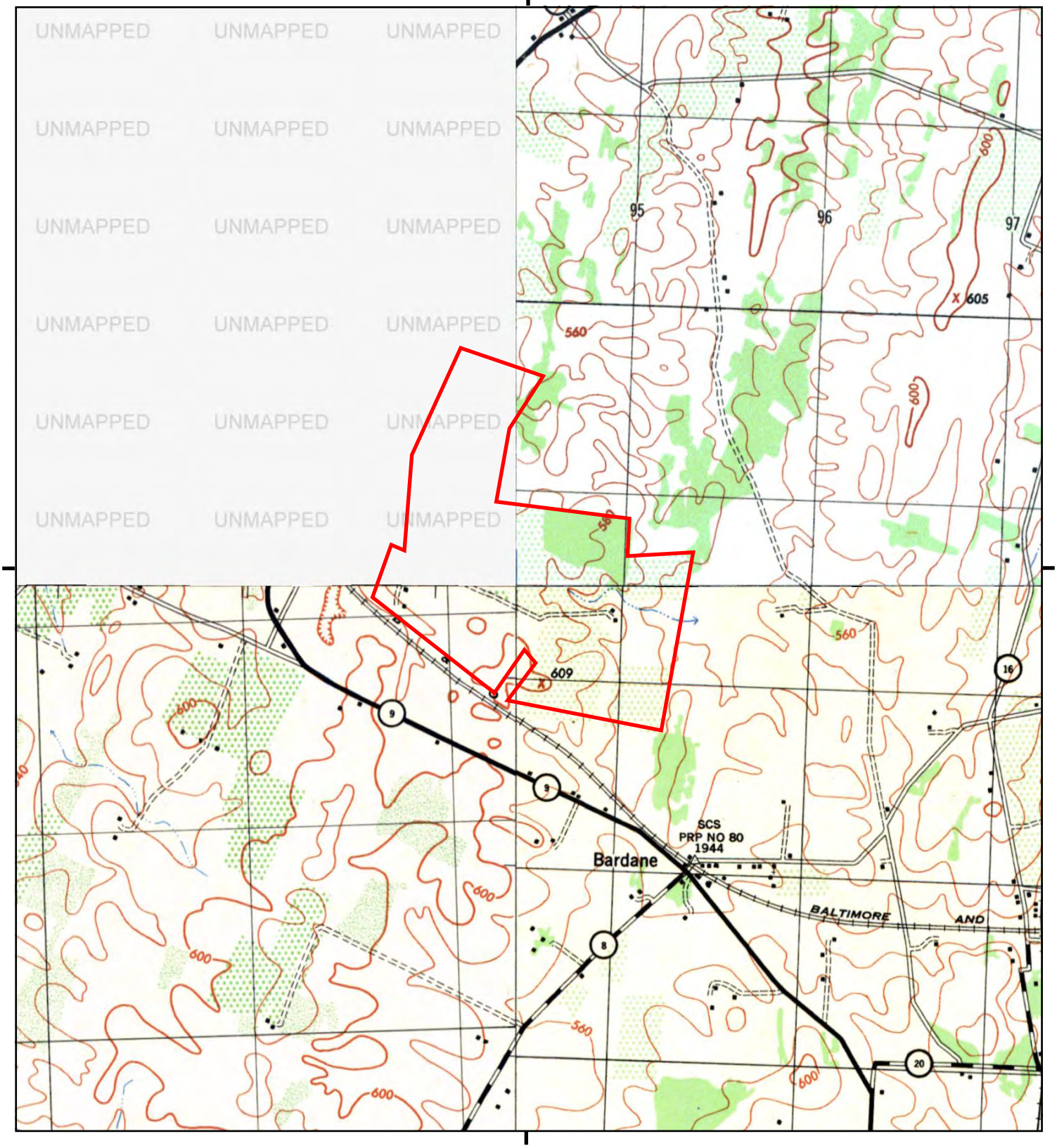
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Shepherdstown, 1944, 7.5-minute
SE, Charles Town, 1944, 7.5-minute
SW, Middleway, 1944, 7.5-minute
NW, Martinsburg, 1944, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

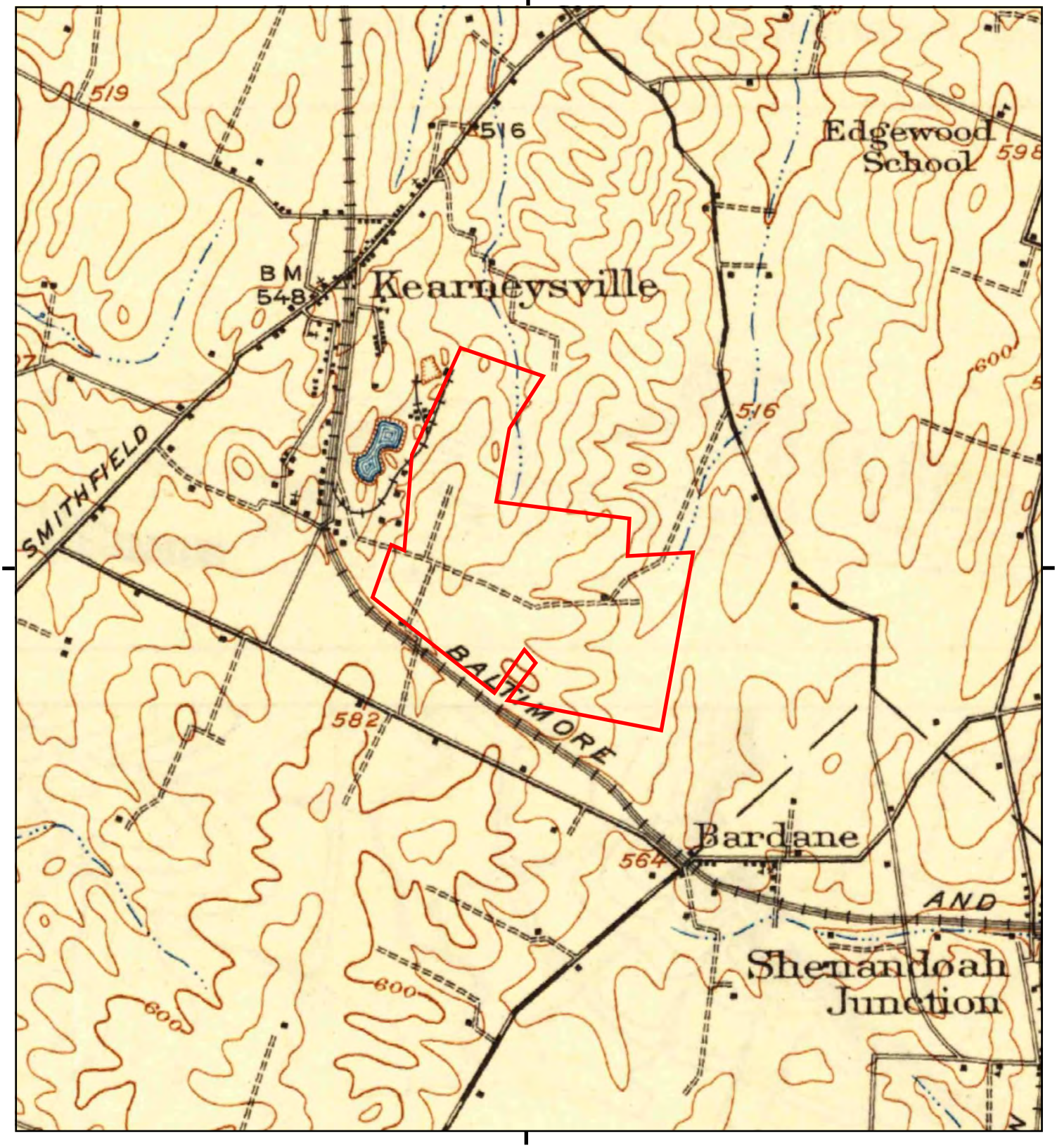
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, SHEPHERDSTOWN, 1944, 7.5-minute
SE, CHARLES TOWN, 1944, 7.5-minute
SW, MIDDLEWAY, 1943, 7.5-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

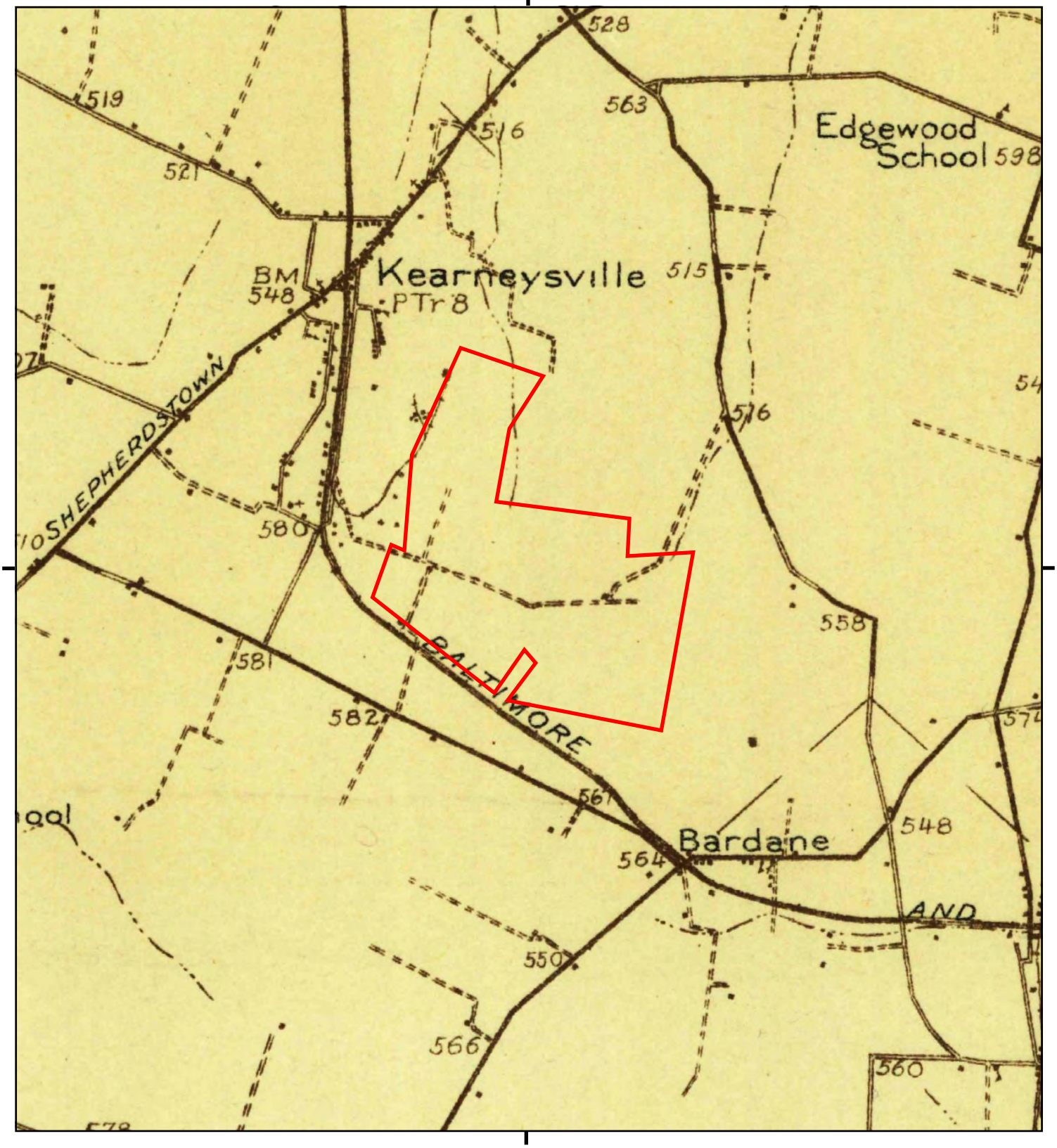
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Martinsburg, 1916, 15-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

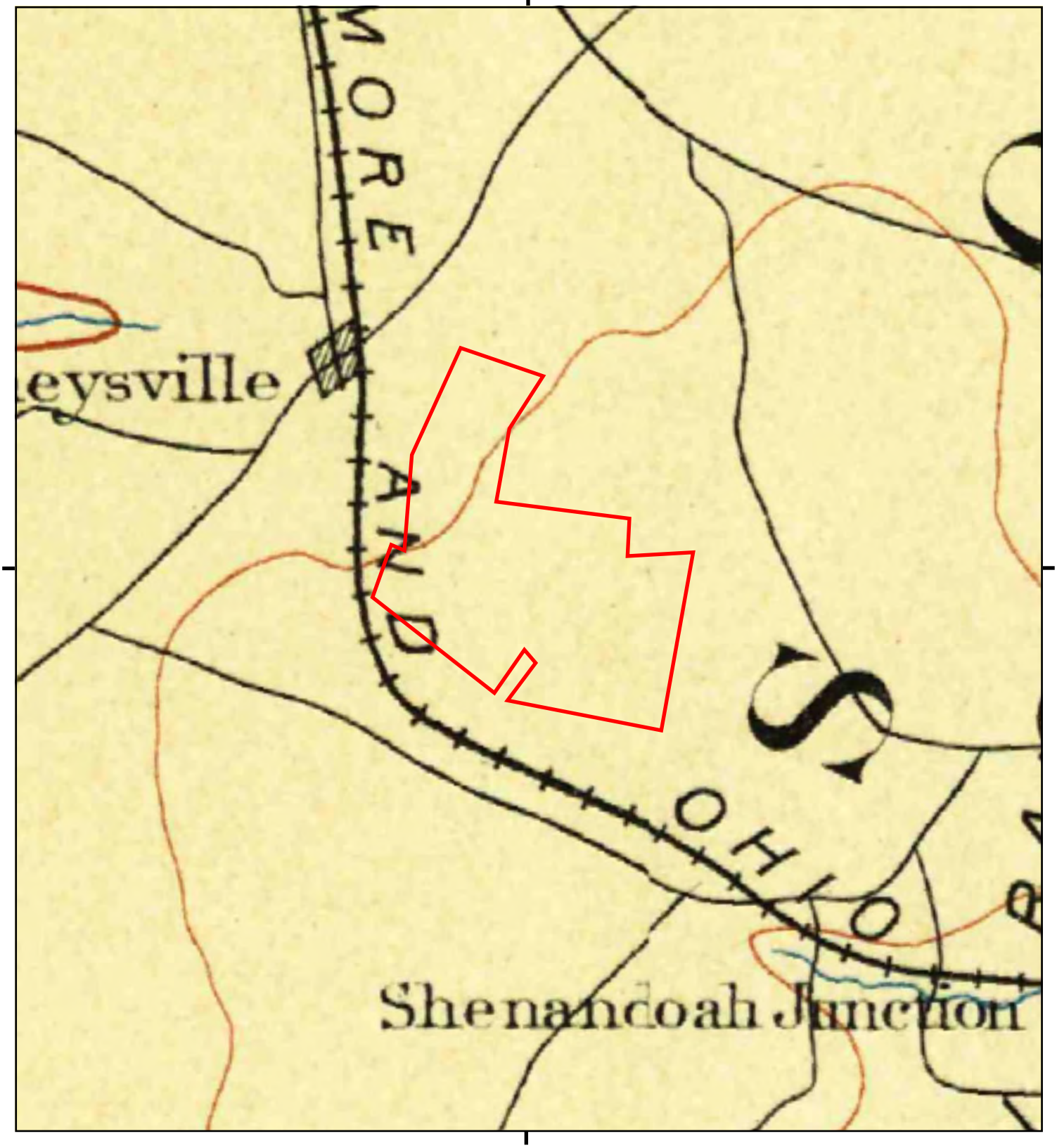
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Martinsburg, 1914, 15-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

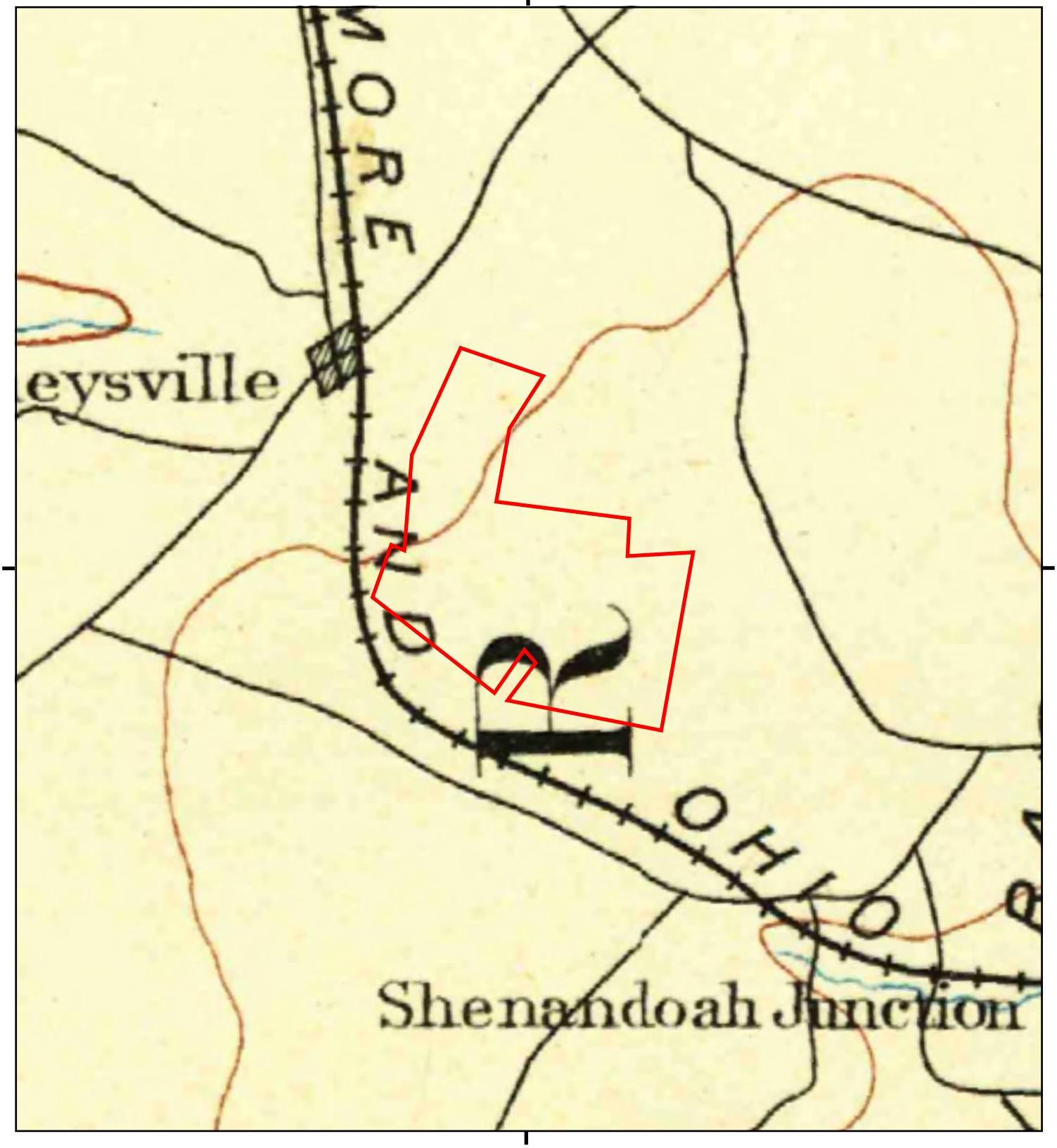
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Harpers Ferry, 1893, 30-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

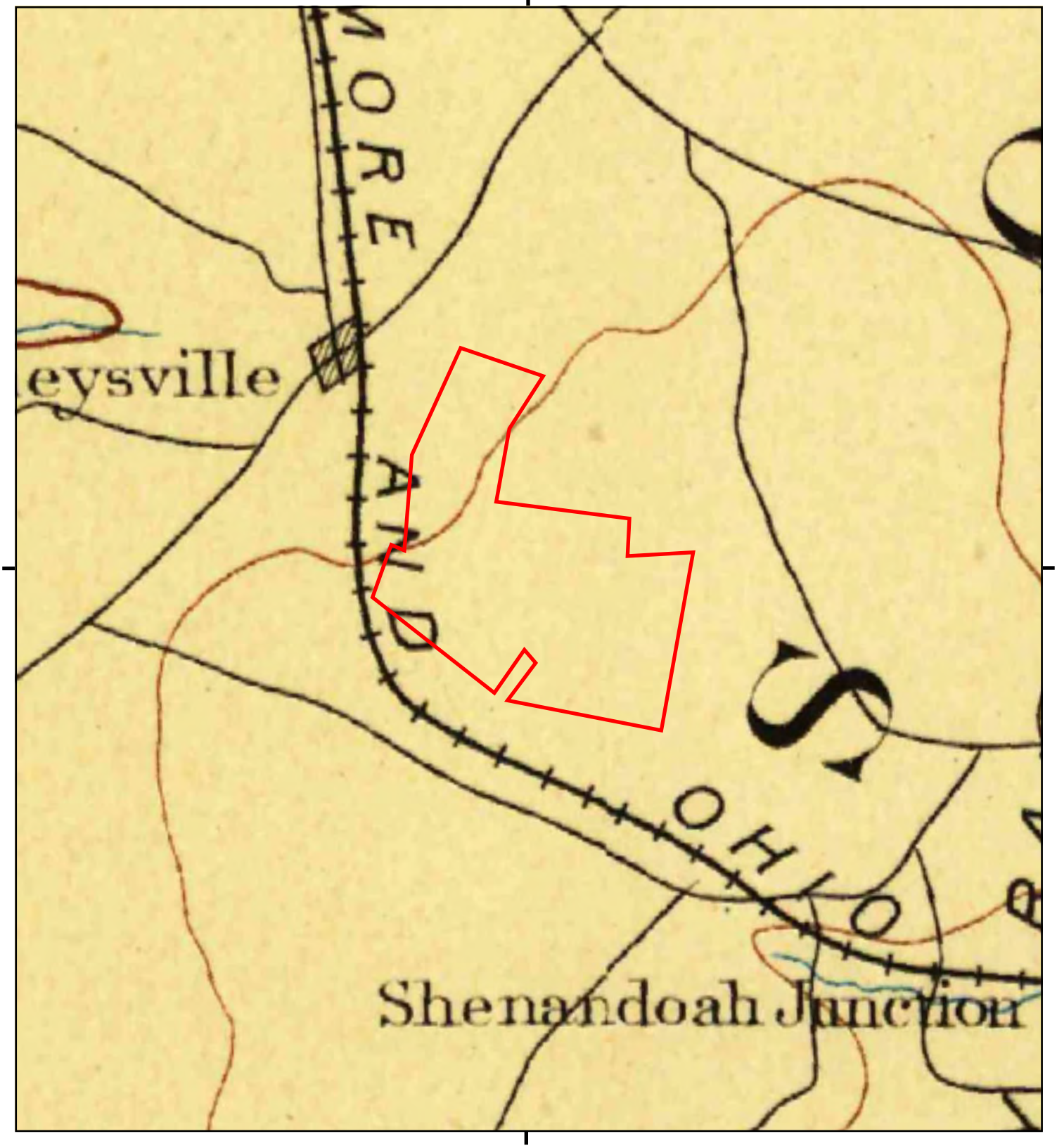
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Harpers Ferry, 1891, 30-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Harpers Ferry, 1884, 30-minute

SITE NAME: Jefferson Orchard Inc.
ADDRESS: Northport Avenue
Shenandoah Junction, WV 25442
CLIENT: ERM Mid-Atlantic

N

Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, WV 25442

Inquiry Number: 4865892.9s
April 5, 2017

EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

STANDARD ENVIRONMENTAL RECORDS	Maximum Search Distance*	Summary: property	1/10	1/10 - 1/3
Federal NPL	0.333	0	0	0
Federal CERCLIS	0.333	0	0	0
Federal RCRA CORRACTS facilities list	0.333	0	0	0
Federal RCRA TSD facilities list	0.333	0	0	0
Federal RCRA generators list	property	0	-	-
Federal institutional controls / engineering controls registries	0.333	0	0	0
Federal ERNS list	property	0	-	-
State and tribal - equivalent NPL	not searched	-	-	-
State and tribal - equivalent CERCLIS	0.333	0	0	0
State and tribal landfill / solid waste disposal	0.333	0	0	0
State and tribal leaking storage tank lists	0.333	0	0	0
State and tribal registered storage tank lists	property	0	-	-
State and tribal institutional control / engineering control registries	property	0	-	-
State and tribal voluntary cleanup sites	0.333	0	1	0
State and tribal Brownfields sites	0.333	0	0	0
Other Standard Environmental Records	0.333	0	0	0

HISTORICAL USE RECORDS				
Former manufactured Gas Plants	0.333	0	0	0
Historical Gas Stations	0.125	0	0	0
Historical Dry Cleaners	0.125	0	0	0
Exclusive Recovered Govt. Archives	property	0	-	-

*Each category may include several separate databases, each having a different search distance. For each category, the table reports the maximum search distance applied. See the section 'Record Sources and Currency' for information on individual databases.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

JEFFERSON ORCHARD INC.
NORTHPORT AVENUE
SHENANDOAH JUNCTION, WV 25442

COORDINATES

Latitude (North):	39.375994 - 39° 22′ 33.58429″
Longitude (West):	77.878059 - 77° 52′ 41.013794″
Elevation:	580 ft. above sea level

EXECUTIVE SUMMARY

PHYSICAL SETTING INFORMATION

Flood Zone:	Available
NWI Wetlands:	Available

AQUIFLOW®

Search Radius: 0.333 Mile.

No Aquiflow sites reported.

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	HAGERSTOWN
Soil Surface Texture:	silt loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.
Hydric Status:	Hydric Status: Soil does not meet the requirements for a hydric soil.
Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 80 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	8 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 6.00 Min: 0.60	Max: 6.50 Min: 4.50

EXECUTIVE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
2	8 inches	20 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 2.00 Min: 0.60	Max: 7.30 Min: 4.50
3	20 inches	72 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.10

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silty clay loam

Surficial Soil Types: silty clay loam

Shallow Soil Types: silt loam

Deeper Soil Types: channery - silt loam
stratified
loam
unweathered bedrock

EXECUTIVE SUMMARY

SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

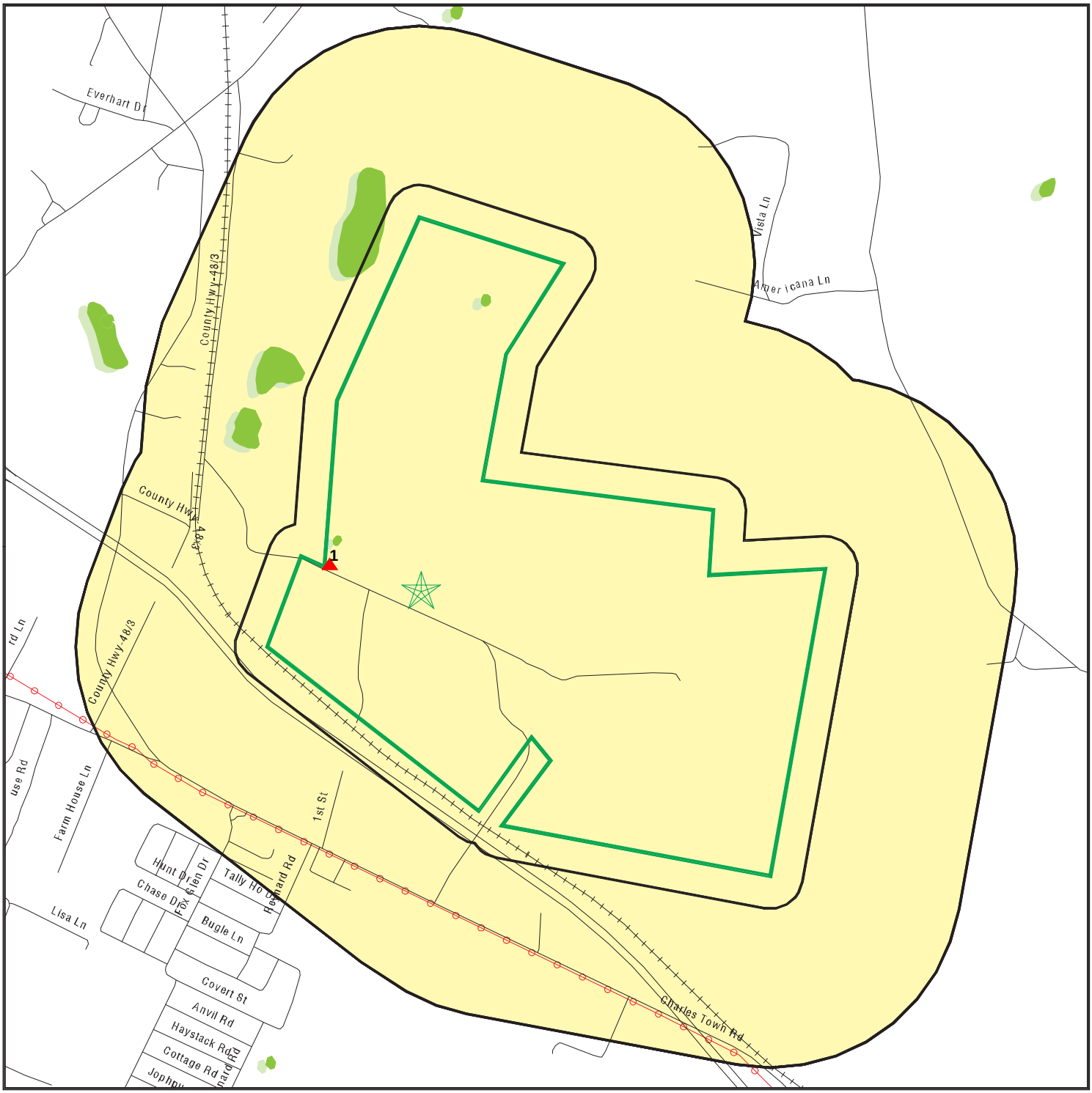
STANDARD ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
JEFFERSON ORCHARDS	365 GRANNY SMITH LN.	<1/10 WNW	▲ 1	10
VCP: State and tribal voluntary cleanup sites				

HISTORICAL USE RECORDS

Name	Address	Dist/Dir	Map ID	Page
Not Reported				

PRIMARY MAP - 4865892.9S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

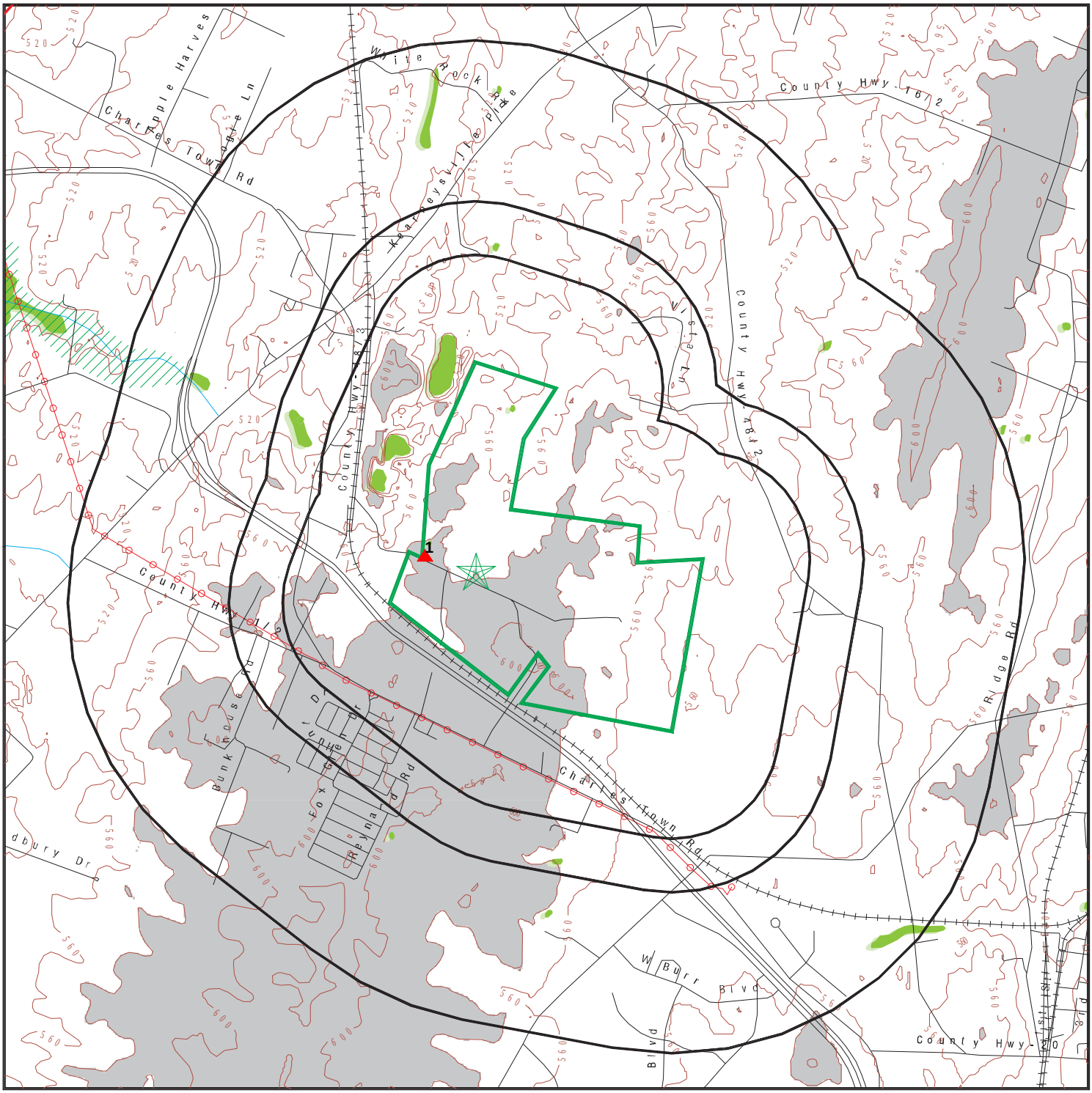
0 300 1/3 1/2 Miles

- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location

SITE NAME: Jefferson Orchard Inc. ADDRESS: Northport Avenue Shenandoah Junction WV 25442 LAT/LONG: 39.375994 / 77.878059	CLIENT: ERM Mid-Atlantic CONTACT: David Connelly INQUIRY #: 4865892.9s DATE: March 01, 2017 11:08 am

SECONDARY MAP - 4865892.9S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/3 1/2 1 Miles

Indian Reservations BIA

Contour Lines

County Boundary

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

SITE NAME:	Jefferson Orchard Inc.	CLIENT:	ERM Mid-Atlantic
ADDRESS:	Northport Avenue Shenandoah Junction WV 25442	CONTACT:	David Connelly
		INQUIRY #:	4865892.9s
LAT/LONG:	39.375994 / 77.878059	DATE:	March 01, 2017 11:07 am

AERIAL PHOTOGRAPHY - 4865892.9s

SITE NAME:	Jefferson Orchard Inc.	CLIENT:	ERM Mid-Atlantic
ADDRESS:	Northport Avenue Shenandoah Junction WV 25442	CONTACT:	David Connelly
LAT/LONG:	39.375994 / 77.878059	INQUIRY #:	4865892.9s
		DATE:	March 01, 2017 11:08 am

MAP FINDINGS

LEGEND

FACILITY NAME **FACILITY ADDRESS, CITY, ST, ZIP**		EDR SITE ID NUMBER
▼ MAP ID#	Direction Distance Range (Distance feet / miles) Relative Elevation Feet Above Sea Level	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.

Worksheet:

Comments:
Comments may be added on the online Vapor Encroachment Worksheet.

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

JEFFERSON ORCHARDS 365 GRANNY SMITH LN., SHENANDOAH JUNCTION, WV,			S106906441
▲ 1	WNW <1/10	(0 ft. / 0 mi.)	State and tribal voluntary cleanup sites
	5 ft. Higher Elevation	585 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

Conditions:

Not Applicable: YES

Groundwater Flow Gradient:

Upgradient or Indeterminate: YES

AQUIFLOW: YES

RECORD SOURCES AND CURRENCY

To maintain currency of the following databases, EDR contacts the appropriate agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

PRP: Potentially Responsible Parties

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013 Source: EPA

Number of Days to Update: 3 Telephone: 202-564-6023

Last EDR Contact :02/10/2017

RMP: Risk Management Plans

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2016 Source: Environmental Protection Agency

Number of Days to Update: 81 Telephone: 202-564-8600

Last EDR Contact :01/23/2017

2020 COR ACTION: 2020 Corrective Action Program List

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.25 Mile

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013 Source: Environmental Protection Agency

Number of Days to Update: 6 Telephone: 703-308-4044

Last EDR Contact :02/10/2017

COAL ASH DOE: Steam-Electric Plant Operation Data

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005 Source: Department of Energy

Number of Days to Update: 76 Telephone: 202-586-8719

Last EDR Contact :12/06/2016

RECORD SOURCES AND CURRENCY

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: 0.333 Mile

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Number of Days to Update: 40
Last EDR Contact :12/06/2016
Source: Environmental Protection Agency
Telephone: Not Reported

CONSENT: Superfund (CERCLA) Consent Decrees
Standard Environmental Record Source: Federal NPL
Search Distance: 0.333 Mile

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2016
Number of Days to Update: 77
Last EDR Contact :01/23/2017
Source: Department of Justice, Consent Decree Library
Telephone: Varies

CORRACTS: Corrective Action Report
Standard Environmental Record Source: Federal RCRA CORRACTS facilities list
Search Distance: 0.333 Mile

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/12/2016
Number of Days to Update: 44
Last EDR Contact :12/28/2016
Source: EPA
Telephone: 800-424-9346

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
Standard Environmental Record Source: State and tribal landfill / solid waste disposal
Search Distance: 0.333 Mile

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Number of Days to Update: 137
Last EDR Contact :01/23/2017
Source: EPA, Region 9
Telephone: 415-947-4219

DOCKET HWC: Hazardous Waste Compliance Docket Listing
Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016
Number of Days to Update: 91
Last EDR Contact :02/24/2017
Source: Environmental Protection Agency
Telephone: 202-564-0527

DOT OPS: Incident and Accident Data
Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Number of Days to Update: 42
Last EDR Contact :02/01/2017

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595

Delisted NPL: National Priority List Deletions

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: 0.333 Mile

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/05/2016
Number of Days to Update: 29
Last EDR Contact :01/05/2017

Source: EPA
Telephone: Not Reported

ECHO: Enforcement & Compliance History Information

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/11/2016
Number of Days to Update: 59
Last EDR Contact :12/20/2016

Source: Environmental Protection Agency
Telephone: 202-564-2280

EPA WATCH LIST: EPA WATCH LIST

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Number of Days to Update: 88
Last EDR Contact :02/03/2017

Source: Environmental Protection Agency
Telephone: 617-520-3000

ERNS: Emergency Response Notification System

Standard Environmental Record Source: Federal ERNS list
Search Distance: Property

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/26/2016
Number of Days to Update: 43
Last EDR Contact :12/28/2016

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180

FEMA UST: Underground Storage Tank Listing

Standard Environmental Record Source: State and tribal registered storage tank lists
Search Distance: Property

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Number of Days to Update: 55
Last EDR Contact :01/23/2017

Source: FEMA
Telephone: 202-646-5797

FINDS: Facility Index System/Facility Registry System

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/15/2016
Number of Days to Update: 65
Last EDR Contact :02/22/2017

Source: EPA
Telephone: Not Reported

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Number of Days to Update: 25
Last EDR Contact :02/17/2017

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Standard Environmental Record Source: Other Standard Environmental Records

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Number of Days to Update: 25
Last EDR Contact :02/17/2017

Source: EPA
Telephone: 202-566-1667

FUDS: Formerly Used Defense Sites

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Number of Days to Update: 97
Last EDR Contact :02/24/2017

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285

FUELS PROGRAM: EPA Fuels Program Registered Listing

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/21/2016
Number of Days to Update: 73
Last EDR Contact :02/22/2017
Source: EPA
Telephone: 800-385-6164

FUSRAP: Formerly Utilized Sites Remedial Action Program

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: 0.333 Mile

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Number of Days to Update: 52
Last EDR Contact :02/03/2017
Source: Department of Energy
Telephone: 202-586-3559

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Number of Days to Update: 40
Last EDR Contact :12/17/2007
Source: Environmental Protection Agency
Telephone: 202-564-2501

HMIRS: Hazardous Materials Information Reporting System

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/28/2016
Number of Days to Update: 37
Last EDR Contact :12/28/2016
Source: U.S. Department of Transportation
Telephone: 202-366-4555

ICIS: Integrated Compliance Information System

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Number of Days to Update: 79
Last EDR Contact :01/09/2017
Source: Environmental Protection Agency
Telephone: 202-564-5088

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal leaking storage tank lists
Search Distance: 0.333 Mile

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Number of Days to Update: 67
Last EDR Contact :01/26/2017
Source: EPA Region 1
Telephone: 617-918-1313

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
Standard Environmental Record Source: State and tribal leaking storage tank lists
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Number of Days to Update: 41
Last EDR Contact :01/26/2017
Source: EPA Region 10
Telephone: 206-553-2857

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
Standard Environmental Record Source: State and tribal leaking storage tank lists
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016
Number of Days to Update: 35
Last EDR Contact :01/24/2017
Source: EPA Region 4
Telephone: 404-562-8677

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Standard Environmental Record Source: State and tribal leaking storage tank lists
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016
Number of Days to Update: 37
Last EDR Contact :01/26/2017
Source: EPA, Region 5
Telephone: 312-886-7439

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
Standard Environmental Record Source: State and tribal leaking storage tank lists
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Number of Days to Update: 105
Last EDR Contact :01/26/2017
Source: EPA Region 6
Telephone: 214-665-6597

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
Standard Environmental Record Source: State and tribal leaking storage tank lists
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Number of Days to Update: 112
Last EDR Contact :01/26/2017
Source: EPA Region 7
Telephone: 913-551-7003

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
Standard Environmental Record Source: State and tribal leaking storage tank lists
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Number of Days to Update: 118
Last EDR Contact :01/26/2017
Source: EPA Region 8
Telephone: 303-312-6271

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal leaking storage tank lists

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Number of Days to Update: 37
Last EDR Contact :01/26/2017

Source: Environmental Protection Agency
Telephone: 415-972-3372

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Number of Days to Update: 52
Last EDR Contact :10/31/2016

Source: Environmental Protection Agency
Telephone: 703-308-8245

INDIAN UST R1: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

Search Distance: Property

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Number of Days to Update: 67
Last EDR Contact :01/26/2017

Source: EPA, Region 1
Telephone: 617-918-1313

INDIAN UST R10: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Number of Days to Update: 41
Last EDR Contact :01/26/2017

Source: EPA Region 10
Telephone: 206-553-2857

INDIAN UST R4: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016
Number of Days to Update: 35
Last EDR Contact :01/24/2017

Source: EPA Region 4
Telephone: 404-562-9424

INDIAN UST R5: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136

Last EDR Contact :01/26/2017

INDIAN UST R6: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015 Source: EPA Region 6
Number of Days to Update: 120 Telephone: 214-665-7591
Last EDR Contact :01/26/2017

INDIAN UST R7: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014 Source: EPA Region 7
Number of Days to Update: 65 Telephone: 913-551-7003
Last EDR Contact :01/26/2017

INDIAN UST R8: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016 Source: EPA Region 8
Number of Days to Update: 119 Telephone: 303-312-6137
Last EDR Contact :01/26/2017

INDIAN UST R9: Underground Storage Tanks on Indian Land

Standard Environmental Record Source: State and tribal registered storage tank lists

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016 Source: EPA Region 9
Number of Days to Update: 37 Telephone: 415-972-3368
Last EDR Contact :01/26/2017

INDIAN VCP R1: Voluntary Cleanup Priority Listing

Standard Environmental Record Source: State and tribal voluntary cleanup sites

Search Distance: Property

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015 Source: EPA, Region 1
Number of Days to Update: 142 Telephone: 617-918-1102
Last EDR Contact :12/27/2016

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

Standard Environmental Record Source: State and tribal voluntary cleanup sites

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Source: EPA, Region 7
Number of Days to Update: 27 Telephone: 913-551-7365
Last EDR Contact :04/20/2009

RECORD SOURCES AND CURRENCY

LEAD SMELTER 1: Lead Smelter Sites

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016
Number of Days to Update: 36
Last EDR Contact :01/05/2017

Source: Environmental Protection Agency
Telephone: 703-603-8787

LEAD SMELTER 2: Lead Smelter Sites

Standard Environmental Record Source: Other Standard Environmental Records

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Number of Days to Update: 36
Last EDR Contact :12/02/2009

Source: American Journal of Public Health
Telephone: 703-305-6451

LIENS 2: CERCLA Lien Information

Standard Environmental Record Source: Federal CERCLIS

Search Distance: Property

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Number of Days to Update: 37
Last EDR Contact :01/24/2017

Source: Environmental Protection Agency
Telephone: 202-564-6023

LUCIS: Land Use Control Information System

Standard Environmental Record Source: Federal institutional controls / engineering controls registries

Search Distance: 0.333 Mile

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Number of Days to Update: 13
Last EDR Contact :02/13/2017

Source: Department of the Navy
Telephone: 843-820-7326

MLTS: Material Licensing Tracking System

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Number of Days to Update: 43
Last EDR Contact :02/03/2017

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169

NPL: National Priority List

Standard Environmental Record Source: Federal NPL

Search Distance: 0.333 Mile

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/05/2016
Source: EPA
Number of Days to Update: 29
Telephone: Not Reported
Last EDR Contact :01/05/2017

NPL Site Boundaries

Sources:

EPA"s Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-566-0690

EPA Region 1
Telephone: 617-918-1102

EPA Region 2
Telephone: 212-637-4293

EPA Region 3
Telephone: 215-814-5418

EPA Region 4
Telephone: 404-562-8681

EPA Region 5
Telephone: 312-353-1063

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6118

EPA Region 9
Telephone: 415-947-4579

EPA Region 10
Telephone: 206-553-4479

NPL LIENS: Federal Superfund Liens

Standard Environmental Record Source: Federal NPL

Search Distance: Property

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Source: EPA
Number of Days to Update: 56
Telephone: 202-564-4267
Last EDR Contact :08/15/2011

ODI: Open Dump Inventory

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Source: Environmental Protection Agency
Number of Days to Update: 39
Telephone: 800-424-9346

Last EDR Contact :06/09/2004

PADS: PCB Activity Database System

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016 Source: EPA

Number of Days to Update: 127 Telephone: 202-566-0500

Last EDR Contact :01/13/2017

PCB TRANSFORMER: PCB Transformer Registration Database

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011 Source: Environmental Protection Agency

Number of Days to Update: 83 Telephone: 202-566-0517

Last EDR Contact :01/29/2016

Proposed NPL: Proposed National Priority List Sites

Standard Environmental Record Source: Federal NPL

Search Distance: 0.333 Mile

A site that has been proposed for listing on the NationalPriorities List through the issuance of a proposed rule in the Federal Register.EPA then accepts public comments on the site, responds to the comments,and places on the NPL those sites that continue to meet therequirements for listing.

Date of Government Version: 12/05/2016 Source: EPA

Number of Days to Update: 29 Telephone: Not Reported

Last EDR Contact :01/05/2017

RAATS: RCRA Administrative Action Tracking System

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Source: EPA

Number of Days to Update: 35 Telephone: 202-564-4104

Last EDR Contact :06/02/2008

RADINFO: Radiation Information Database

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/04/2017 Source: Environmental Protection Agency

Number of Days to Update: 35 Telephone: 202-343-9775

RECORD SOURCES AND CURRENCY

Last EDR Contact :01/06/2017

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/12/2016 Source: Environmental Protection Agency

Number of Days to Update: 44 Telephone: 703-308-8895

Last EDR Contact :12/28/2016

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

Standard Environmental Record Source: Federal RCRA generators list

Search Distance: Property

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016 Source: Environmental Protection Agency

Number of Days to Update: 44 Telephone: 703-308-8895

Last EDR Contact :12/28/2016

RCRA-LQG: RCRA - Large Quantity Generators

Standard Environmental Record Source: Federal RCRA generators list

Search Distance: Property

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016 Source: Environmental Protection Agency

Number of Days to Update: 44 Telephone: 703-308-8895

Last EDR Contact :12/28/2016

RCRA-SQG: RCRA - Small Quantity Generators

Standard Environmental Record Source: Federal RCRA generators list

Search Distance: Property

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/12/2016 Source: Environmental Protection Agency

Number of Days to Update: 44 Telephone: 703-308-8895

Last EDR Contact :12/28/2016

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

Standard Environmental Record Source: Federal RCRA TSD facilities list

Search Distance: 0.333 Mile

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/12/2016
Number of Days to Update: 44
Last EDR Contact :12/28/2016

Source: Environmental Protection Agency
Telephone: 703-308-8895

ROD: Records Of Decision

Standard Environmental Record Source: Federal NPL

Search Distance: 0.333 Mile

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Number of Days to Update: 74
Last EDR Contact :12/06/2016

Source: EPA
Telephone: 703-416-0223

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Number of Days to Update: 54
Last EDR Contact :02/03/2017

Source: Environmental Protection Agency
Telephone: 615-532-8599

SEMS: Superfund Enterprise Management System

Standard Environmental Record Source: Federal CERCLIS

Search Distance: 0.333 Mile

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/10/2016
Number of Days to Update: 78
Last EDR Contact :01/06/2017

Source: EPA
Telephone: 800-424-9346

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/10/2016 Source: EPA
Number of Days to Update: 78 Telephone: 800-424-9346
Last EDR Contact :01/06/2017

SSTS: Section 7 Tracking Systems

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009 Source: EPA
Number of Days to Update: 77 Telephone: 202-564-4203
Last EDR Contact :01/23/2017

TRIS: Toxic Chemical Release Inventory System

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014 Source: EPA
Number of Days to Update: 133 Telephone: 202-566-0250
Last EDR Contact :02/24/2017

TSCA: Toxic Substances Control Act

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012 Source: EPA
Number of Days to Update: 14 Telephone: 202-260-5521
Last EDR Contact :12/23/2016

UMTRA: Uranium Mill Tailings Sites

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: 0.333 Mile

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010 Source: Department of Energy
Number of Days to Update: 146 Telephone: 505-845-0011

Last EDR Contact :02/21/2017

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016 Source: EPA

Number of Days to Update: 100 Telephone: 202-564-2496

Last EDR Contact :12/22/2016

US AIRS MINOR: Air Facility System Data

Standard Environmental Record Source: Other Standard Environmental Records

A listing of minor source facilities.

Date of Government Version: 10/12/2016 Source: EPA

Number of Days to Update: 100 Telephone: 202-564-2496

Last EDR Contact :12/22/2016

US BROWNFIELDS: A Listing of Brownfields Sites

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/19/2016 Source: Environmental Protection Agency

Number of Days to Update: 52 Telephone: 202-566-2777

Last EDR Contact :12/20/2016

US CDL: Clandestine Drug Labs

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/30/2016 Source: Drug Enforcement Administration

Number of Days to Update: 67 Telephone: 202-307-1000

Last EDR Contact :02/28/2017

US ENG CONTROLS: Engineering Controls Sites List

Standard Environmental Record Source: Federal institutional controls / engineering controls registries

Search Distance: Property

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/15/2016
Number of Days to Update: 66
Last EDR Contact :02/28/2017
Source: Environmental Protection Agency
Telephone: 703-603-0695

US FIN ASSUR: Financial Assurance Information

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/11/2016
Number of Days to Update: 79
Last EDR Contact :02/15/2017
Source: Environmental Protection Agency
Telephone: 202-566-1917

US HIST CDL: National Clandestine Laboratory Register

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/30/2016
Number of Days to Update: 36
Last EDR Contact :02/28/2017
Source: Drug Enforcement Administration
Telephone: 202-307-1000

US INST CONTROL: Sites with Institutional Controls

Standard Environmental Record Source: Federal institutional controls / engineering controls registries

Search Distance: Property

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/15/2016
Number of Days to Update: 66
Last EDR Contact :02/28/2017
Source: Environmental Protection Agency
Telephone: 703-603-0695

US MINES: Mines Master Index File

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Number of Days to Update: 22
Last EDR Contact :02/28/2017
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

Standard Environmental Record Source: Other Standard Environmental Records

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Source: USGS
Number of Days to Update: 49
Telephone: 703-648-7709
Last EDR Contact :12/12/2016

US MINES 3: Active Mines & Mineral Plants Database Listing

Standard Environmental Record Source: Other Standard Environmental Records

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Source: USGS
Number of Days to Update: 97
Telephone: 703-648-7709
Last EDR Contact :12/02/2016

AIRS: Permitted Facility and Emissions Listing

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

Permitted facility and emissions information listing.

Date of Government Version: 11/06/2016
Source: Department of Environmental Protection
Number of Days to Update: 42
Telephone: 304-926-0499
Last EDR Contact :02/06/2017

AST: Aboveground Storage Tanks

Standard Environmental Record Source: State and tribal registered storage tank lists

Search Distance: Property

A listing of aboveground storage tank site locations.

Date of Government Version: 10/24/2016
Source: DEP
Number of Days to Update: 112
Telephone: 304-926-0499
Last EDR Contact :01/23/2017

BROWNFIELDS: Brownfields Sites Listing

Standard Environmental Record Source: State and tribal Brownfields sites

Search Distance: 0.333 Mile

Brownfields are abandoned, idle or underused commercial or industrial properties, where the expansion or redevelopment is hindered by real or perceived contamination. Brownfields vary in size, location, age, and past use -- they can be anything from a five-hundred acre automobile assembly plant to a small, abandoned corner gas station.

Date of Government Version: 05/14/2013
Source: Department of Environmental Protection
Number of Days to Update: 41
Telephone: 304-926-0455
Last EDR Contact :12/30/2016

CDL: Drug Lab Site Locations

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of clandestine drug lab site locations.

Date of Government Version: 11/02/2016
Source: Department of Environmental Protection
Number of Days to Update: 40
Telephone: 304-926-0499

Last EDR Contact :01/12/2017

COAL ASH: Coal Ash Landills

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.333 Mile

A listing of coal ash landfill site locations.

Date of Government Version: 11/20/2015
Source: Department of Environmental Protection
Number of Days to Update: 62
Telephone: 304-926-0499
Last EDR Contact :01/09/2017

DRYCLEANERS: Listing of Drycleaner Locations

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: 0.25 Mile

A listing of drycleaners which use perchloroethylene.

Date of Government Version: 08/05/2016
Source: Department of Environmental Protection
Number of Days to Update: 46
Telephone: 304-926-0475
Last EDR Contact :02/13/2017

Financial Assurance: Financial Assurance Informtion Listing

Standard Environmental Record Source: Other Standard Environmental Records

Search Distance: Property

A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 03/05/2013
Source: Department of Environmental Protection
Number of Days to Update: 29
Telephone: 304-926-0499
Last EDR Contact :02/27/2017

INST CONTROL: Sites with Institutional Controls

Standard Environmental Record Source: State and tribal institutional control / engineering control registries

Search Distance: Property

Sites that have institutional controls in place.

Date of Government Version: 10/28/2016
Source: Department of Environmental Protection
Number of Days to Update: 52
Telephone: 304-558-2508
Last EDR Contact :02/21/2017

LCP: Landfill Closure Program

Standard Environmental Record Source: State and tribal landfill / solid waste disposal

Search Distance: 0.333 Mile

The WV DEP's LCAP aids the owners/permittees of landfills that were required to cease operations because of certain statutory closure deadlines for non-composite lined facilities

Date of Government Version: 12/31/2015
Source: Department of Environmental Protection
Number of Days to Update: 28
Telephone: 304-926-0499
Last EDR Contact :12/05/2016

LUST: Leaking Underground Storage Tanks

Standard Environmental Record Source: State and tribal leaking storage tank lists

Search Distance: 0.333 Mile

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/17/2016
Source: Division of Environmental Protection
Number of Days to Update: 42
Telephone: 304-926-0455
Last EDR Contact :12/02/2016

NPDES: Wastewater Discharge Permits Listing

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

A listing of wastewater discharge permits.

Date of Government Version: 10/19/2016
Source: Department of Environmental Protection
Number of Days to Update: 66
Telephone: 304-926-0495
Last EDR Contact :01/17/2017

SPILLS: Spills Listing

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

A listing of spills and releases reported to the Office of Emergency Services, they do not include any TRI information.

Date of Government Version: 12/06/2016
Source: Office of Emergency Services
Number of Days to Update: 66
Telephone: 304-558-5380
Last EDR Contact :12/16/2016

SWF/LF: List of M.S.W. Landfills/Transfer Station Listing

Standard Environmental Record Source: State and tribal landfill / solid waste disposal
Search Distance: 0.333 Mile

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/26/2016
Source: Division of Environmental Protection
Number of Days to Update: 43
Telephone: 304-926-0499
Last EDR Contact :12/22/2016

UIC: Underground Injection Wells

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

A listing of underground injection well locations.

Date of Government Version: 01/24/2017
Source: Department of Environmental Protection
Number of Days to Update: 28
Telephone: 304-926-0499
Last EDR Contact :01/27/2017

UST: Underground Storage Tank Database

Standard Environmental Record Source: State and tribal registered storage tank lists
Search Distance: Property

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 11/21/2016
Number of Days to Update: 45
Last EDR Contact :02/27/2017

Source: Division of Environmental Protection
Telephone: 304-926-0495

VCP: Voluntary Remediation Sites

Standard Environmental Record Source: State and tribal voluntary cleanup sites
Search Distance: 0.333 Mile

Sites involved in the Voluntary Remediation Program.

Date of Government Version: 10/28/2016
Number of Days to Update: 52
Last EDR Contact :02/21/2017

Source: Department of Environmental Protection
Telephone: 304-558-2745

DOD: Department of Defense Sites

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: 0.333 Mile

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Number of Days to Update: 62
Last EDR Contact :01/13/2017

Source: USGS
Telephone: 888-275-8747

INDIAN RESERV: Indian Reservations

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Number of Days to Update: N/A
Last EDR Contact :01/13/2017

Source: USGS
Telephone: 202-208-3710

PWS: Public Water System Data

Standard Environmental Record Source: Other Standard Environmental Records
Search Distance: Property

This Safe Drinking Water Information System (SDWIS) file contains public water systems name and address, population served and the primary source of water

Date of Government Version: 12/17/2013
Number of Days to Update: 279
Last EDR Contact :02/27/2017

Source: EPA
Telephone: Not Reported

RECORD SOURCES AND CURRENCY

HISTORICAL USE RECORDS

EDR Hist Auto: EDR Exclusive Historic Gas Stations

Standard Environmental Record Source: Historical Gas Stations

Search Distance: 0.125 Mile

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: 02/20/2007 Source: EDR, Inc.

Number of Days to Update: 42 Telephone: Not Reported

Last EDR Contact :02/21/2007

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

Standard Environmental Record Source: Historical Dry Cleaners

Search Distance: 0.125 Mile

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: 02/20/2007 Source: EDR, Inc.

Number of Days to Update: 42 Telephone: Not Reported

Last EDR Contact :02/21/2007

EDR MGP: EDR Proprietary Manufactured Gas Plants

Standard Environmental Record Source: Former manufactured Gas Plants

Search Distance: 0.333 Mile

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: 08/28/2009 Source: EDR, Inc.

Number of Days to Update: 55 Telephone: Not Reported

Last EDR Contact :11/30/2012

RGA LF: Recovered Government Archive Solid Waste Facilities List

Standard Environmental Record Source: Exclusive Recovered Govt. Archives

Search Distance: Property

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Division of Environmental Protection in West Virgina.

Date of Government Version: Not Reported Source: Division of Environmental Protection

Number of Days to Update: 203 Telephone: Not Reported

Last EDR Contact :06/01/2012

RECORD SOURCES AND CURRENCY

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

Standard Environmental Record Source: Exclusive Recovered Govt. Archives

Search Distance: Property

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Division of Environmental Protection in West Virgina.

Date of Government Version: Not Reported
Number of Days to Update: 182
Last EDR Contact :06/01/2012

Source: Division of Environmental Protection
Telephone: Not Reported

RECORD SOURCES AND CURRENCY

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5' minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW® Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW® Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services. The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

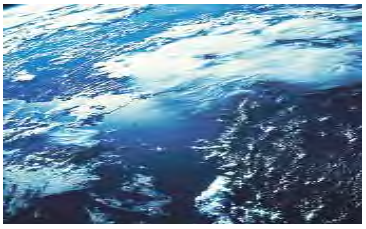
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

STREET AND ADDRESS INFORMATION

Appendix D
Environmental Regulatory Database Report



Jefferson Orchard Inc.
Northport Avenue
Shenandoah Junction, WV 25442

Inquiry Number: 4865892.2s
March 01, 2017

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NORTHPORT AVENUE
SHENANDOAH JUNCTION, WV 25442

COORDINATES

Latitude (North):	39.3759940 - 39° 22' 33.57''
Longitude (West):	77.8780590 - 77° 52' 41.01''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	252081.2
UTM Y (Meters):	4362245.5
Elevation:	580 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	6014637 SHEPHERDSTOWN, WV
Version Date:	2014
Southeast Map:	6009704 CHARLES TOWN, WV
Version Date:	2014
Southwest Map:	6010332 MIDDLEWAY, WV
Version Date:	2014
Northwest Map:	6010330 MARTINSBURG, WV
Version Date:	2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20141027
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
NORTHPORT AVENUE
SHENANDOAH JUNCTION, WV 25442

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	JEFFERSON ORCHARDS	365 GRANNY SMITH LN.	VCP	Higher	1 ft.
2	SHEETZ INC STORE #13	5437 CHARLES TOWN RD	LUST, UST	Lower	2406, 0.456, NNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS ---------- This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- List of M.S.W. Landfills/Transfer Station Listing
LCP ---------- Landfill Closure Program

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Underground Storage Tank Database
AST ---------- Aboveground Storage Tanks
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

INST CONTROL ---------- Sites with Institutional Controls

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ---------- Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register

CDL ---- Drug Lab Site Locations
US CDL ---- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
SPILLS ---- Spills Listing

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
FINDS ---- Facility Index System/Facility Registry System
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
UXO ---- Unexploded Ordnance Sites
AIRS ---- Permitted Facility and Emissions Listing
COAL ASH ---- Coal Ash Landills
DRYCLEANERS ---- Listing of Drycleaner Locations
Financial Assurance ---- Financial Assurance Informtion Listing
NPDES ---- Wastewater Discharge Permits Listing
UIC ---- Underground Injection Wells

FUELS PROGRAM ---------- EPA Fuels Program Registered Listing
ABANDONED MINES ---------- Abandoned Mines
ECHO ---------- Enforcement & Compliance History Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---------- EDR Exclusive Historic Gas Stations
EDR Hist Cleaner ---------- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Commerce, Labor & Environmental Resources' Leaking Underground Storage Tanks database.

A review of the LUST list, as provided by EDR, and dated 10/17/2016 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SHEETZ INC STORE #13 Facility ID: 1902014 Leak Number: 03-088 Leak Number: 97-094	***5437 CHARLES TOWN RD***	***NNW 1/4 - 1/2 (0.456 mi.)***	***2***	***8***

State and tribal voluntary cleanup sites

VCP: Sites involved in the Voluntary Remediation Program.

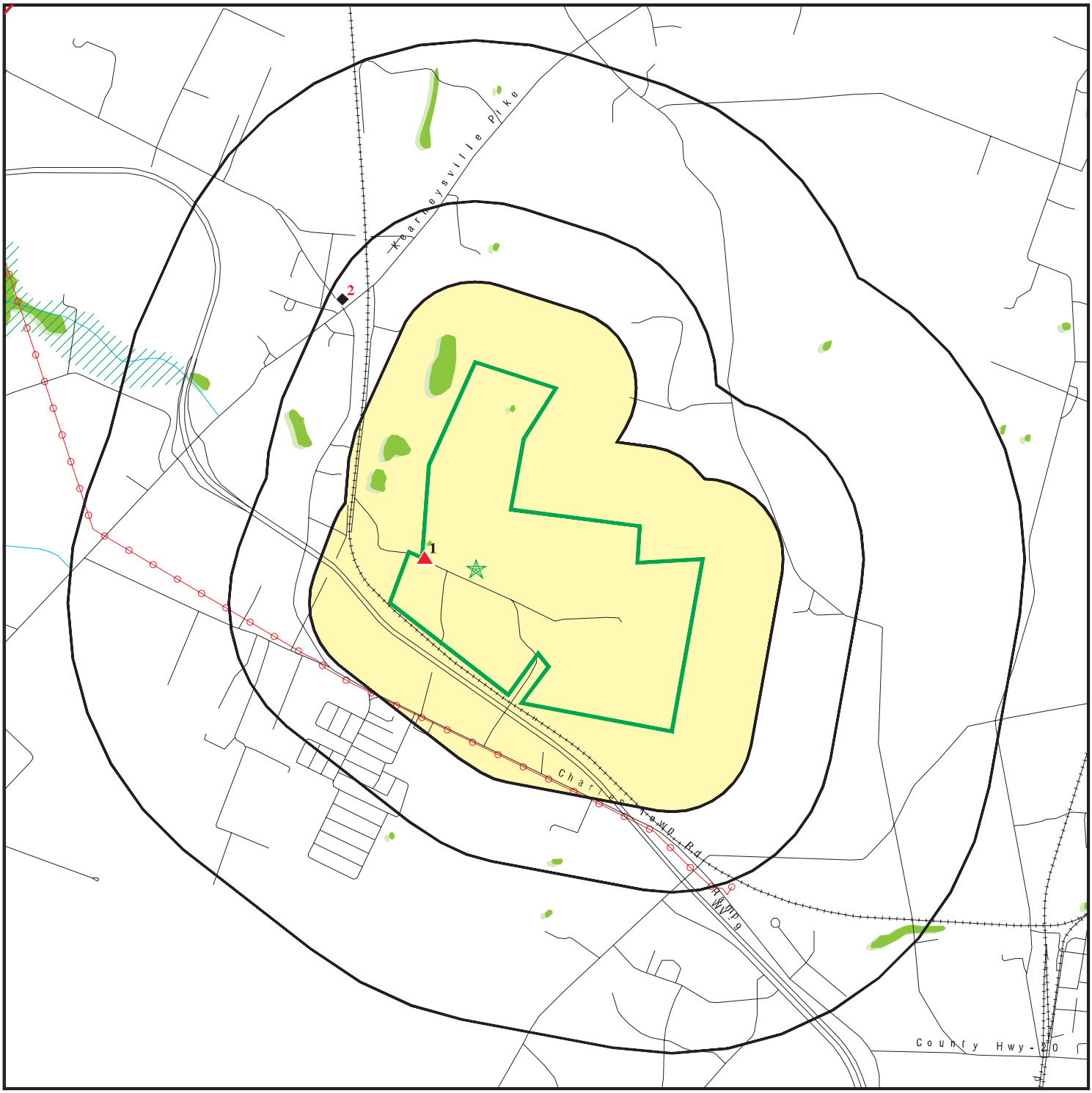
A review of the VCP list, as provided by EDR, and dated 10/28/2016 has revealed that there is 1 VCP site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JEFFERSON ORCHARDS Facility Id: W Vol. Rem Project Number: 06995	365 GRANNY SMITH LN.	0 - 1/8 (0.000 mi.)	1	8

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4865892.2S



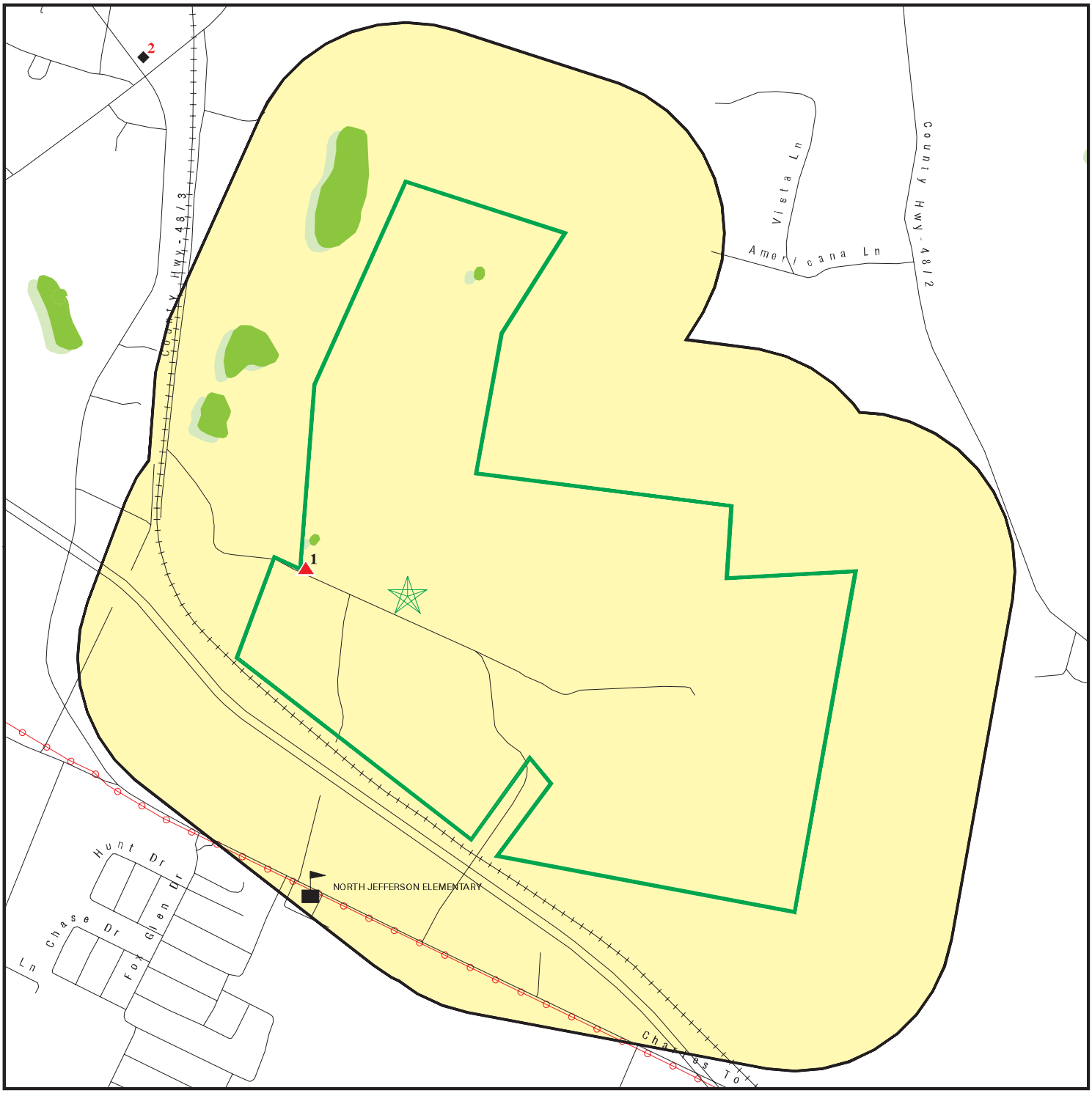
0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Jefferson Orchard Inc. ADDRESS: Northport Avenue Shenandoah Junction WV 25442 LAT/LONG: 39.375994 / 77.878059	CLIENT: ERM Mid-Atlantic CONTACT: David Connelly INQUIRY #: 4865892.2s DATE: March 01, 2017 10:21 am

DETAIL MAP - 4865892.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Jefferson Orchard Inc. ADDRESS: Northport Avenue Shenandoah Junction WV 25442 LAT/LONG: 39.375994 / 77.878059	CLIENT: ERM Mid-Atlantic CONTACT: David Connelly INQUIRY #: 4865892.2s DATE: March 01, 2017 10:21 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
LCP	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	1	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		1	0	0	NR	NR	1
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.500		0	0	0	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	1	0	1	0	0	2

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

1
< 1/8
1 ft.

JEFFERSON ORCHARDS — **VCP** — **S106906441**
365 GRANNY SMITH LN. — **N/A**
SHENANDOAH JUNCTION, WV

Relative:
Higher

Actual:
585 ft.

VCP:

Applicant Name:	Jefferson Orchards, Inc.
Project Manager:	Moore
Approximate Size In Acres:	Not reported
Project Site:	Not reported
Facility Id:	W
Project Number:	06995
Certificate Of Completion Date:	Not reported
Certificate Of Completion Acreage:	Not reported
Type Of Institutional Control:	Not reported
Name Of Contaminants:	Former Orchard

2
NNW
1/4-1/2
0.456 mi.
2406 ft.

SHEETZ INC STORE #137 — **LUST** — **U003760742**
5437 CHARLES TOWN RD — **UST** — **N/A**
KEARNEYSVILLE, WV 25430

Relative:
Lower

Actual:
553 ft.

LUST:

Facility ID:	1902014
Leak Number:	03-088
Priority:	0
Project Manager:	Moore, Sheena
Confirmed Release Date:	12/19/2003
Cleanup Initiated Date:	12/19/2003
Cleanup Complete Date:	06/16/2004
EDR Link ID:	1-902014
Decode For Priority Code:	Not reported

Facility ID:	1902014
Leak Number:	97-094
Priority:	Groundwater but no known drinking water contamination
Project Manager:	Moore, Sheena
Confirmed Release Date:	08/14/1997
Cleanup Initiated Date:	08/14/1997
Cleanup Complete Date:	Not reported
EDR Link ID:	1-902014
Decode For Priority Code:	Groundwater Contamination

UST:

Facility ID:	1902014
Owner:	SHEETZ, INC.
Owner Address:	ATTN: DIR OF ENV SERV
Owner Address 2:	5700 SIXTH AVE
Owner City,St,Zip:	ALTOONA, PA 16602
Owner Telephone:	(814) 946-3611

Tank ID:	1
Tank Status:	**Permanently Out of Service**
Tank Substance:	Gasoline
Tank Capacity:	10000
Date Last Used:	Not reported
Date Closed:	01/31/2011
Closure Status:	Tank removed from ground

SHEETZ INC STORE #137 (Continued) **U003760742**

Tank Material:	CP-Galvanic
Piping Material:	Not reported
Overfill Installed:	Yes
Installed Spill Protection:	Yes
Cathodic Protection Method:	Yes
Compartment:	N
Latitude:	Not reported
Longitude:	Not reported

Tank ID:	2
Tank Status:	**Permanently Out of Service**
Tank Substance:	Gasoline
Tank Capacity:	6000
Date Last Used:	Not reported
Date Closed:	01/31/2011
Closure Status:	Tank removed from ground
Tank Material:	CP-Galvanic
Piping Material:	Not reported
Overfill Installed:	Yes
Installed Spill Protection:	Yes
Cathodic Protection Method:	Yes
Compartment:	N
Latitude:	Not reported
Longitude:	Not reported

Tank ID:	3
Tank Status:	**Permanently Out of Service**
Tank Substance:	Gasoline
Tank Capacity:	6000
Date Last Used:	Not reported
Date Closed:	01/31/2011
Closure Status:	Tank removed from ground
Tank Material:	CP-Galvanic
Piping Material:	Not reported
Overfill Installed:	Yes
Installed Spill Protection:	Yes
Cathodic Protection Method:	Yes
Compartment:	N
Latitude:	Not reported
Longitude:	Not reported

Tank ID:	4
Tank Status:	**Permanently Out of Service**
Tank Substance:	Kerosene
Tank Capacity:	4000
Date Last Used:	Not reported
Date Closed:	01/31/2011
Closure Status:	Tank removed from ground
Tank Material:	CP-Galvanic
Piping Material:	Not reported
Overfill Installed:	Yes
Installed Spill Protection:	Yes
Cathodic Protection Method:	Yes
Compartment:	N

SHEETZ INC STORE #137 (Continued) **U003760742**

Latitude:	Not reported
Longitude:	Not reported

Tank ID:	D5
Tank Status:	**Permanently Out of Service**
Tank Substance:	Empty
Tank Capacity:	4000
Date Last Used:	08/01/1986
Date Closed:	08/01/1986
Closure Status:	Tank removed from ground
Tank Material:	Asphalt Coated or Bare Steel
Piping Material:	Unprotected Steel
Overfill Installed:	No
Installed Spill Protection:	No
Cathodic Protection Method:	No
Compartment:	N
Latitude:	Not reported
Longitude:	Not reported

Tank ID:	D6
Tank Status:	**Permanently Out of Service**
Tank Substance:	Empty
Tank Capacity:	4000
Date Last Used:	08/01/1986
Date Closed:	08/01/1986
Closure Status:	Tank removed from ground
Tank Material:	Asphalt Coated or Bare Steel
Piping Material:	Unprotected Steel
Overfill Installed:	No
Installed Spill Protection:	No
Cathodic Protection Method:	No
Compartment:	N
Latitude:	Not reported
Longitude:	Not reported

Tank ID:	D7
Tank Status:	**Permanently Out of Service**
Tank Substance:	Empty
Tank Capacity:	2000
Date Last Used:	08/01/1986
Date Closed:	08/01/1986
Closure Status:	Tank removed from ground
Tank Material:	Asphalt Coated or Bare Steel
Piping Material:	Unprotected Steel
Overfill Installed:	No
Installed Spill Protection:	No
Cathodic Protection Method:	No
Compartment:	N
Latitude:	Not reported
Longitude:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 29

Source: EPA
Telephone: N/A
Last EDR Contact: 01/05/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 29

Source: EPA
Telephone: N/A
Last EDR Contact: 01/05/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 29

Source: EPA
Telephone: N/A
Last EDR Contact: 01/05/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 09/14/2016
Date Data Arrived at EDR: 10/04/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/05/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/10/2016
Date Data Arrived at EDR: 10/20/2016
Date Made Active in Reports: 01/06/2017
Number of Days to Update: 78

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/06/2017
Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/10/2016
Date Data Arrived at EDR: 10/20/2016
Date Made Active in Reports: 01/06/2017
Number of Days to Update: 78

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/06/2017
Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/13/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/15/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/15/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 43

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: Department of Environmental Protection
Telephone: 304-926-0455
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: N/A

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: List of M.S.W. Landfills/Transfer Station Listing

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 43

Source: Division of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

LCP: Landfill Closure Program

The WV DEP's LCAP aids the owners/permittees of landfills that were required to cease operations because of certain statutory closure deadlines for non-composite lined facilities

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 12/05/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tanks

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/17/2016
Date Data Arrived at EDR: 12/02/2016
Date Made Active in Reports: 01/13/2017
Number of Days to Update: 42

Source: Division of Environmental Protection
Telephone: 304-926-0455
Last EDR Contact: 12/02/2016
Next Scheduled EDR Contact: 03/13/2017
Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/24/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Varies

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 01/13/2017
Number of Days to Update: 45
Source: Division of Environmental Protection
Telephone: 304-926-0495
Last EDR Contact: 02/27/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Annually

AST: Aboveground Storage Tanks
A listing of aboveground storage tank site locations.

Date of Government Version: 10/24/2016
Date Data Arrived at EDR: 10/28/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 112
Source: DEP
Telephone: 304-926-0499
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52
Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35
Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/24/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 119

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 120

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Semi-Annually

State and tribal institutional control / engineering control registries

INST CONTROL: Sites with Institutional Controls
Sites that have institutional controls in place.

Date of Government Version: 10/28/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 01/20/2017
Number of Days to Update: 52
Source: Department of Environmental Protection
Telephone: 304-558-2508
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Remediation Sites
Sites involved in the Voluntary Remediation Program.

Date of Government Version: 10/28/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 01/20/2017
Number of Days to Update: 52
Source: Department of Environmental Protection
Telephone: 304-558-2745
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Semi-Annually

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/27/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites Listing
Brownfields are abandoned, idle or underused commercial or industrial properties, where the expansion or redevelopment is hindered by real or perceived contamination. Brownfields vary in size, location, age, and past use -- they can be anything from a five-hundred acre automobile assembly plant to a small, abandoned corner gas station.

Date of Government Version: 05/14/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/15/2013
Number of Days to Update: 41
Source: Department of Environmental Protection
Telephone: 304-926-0455
Last EDR Contact: 12/30/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/19/2016
Date Data Arrived at EDR: 12/20/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/20/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/30/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: No Update Planned

CDL: Drug Lab Site Locations
A listing of clandestine drug lab site locations.

Date of Government Version: 11/02/2016
Date Data Arrived at EDR: 01/12/2017
Date Made Active in Reports: 02/21/2017
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 01/12/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 12/05/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 67

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/24/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/28/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 37

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

SPILLS: Spills Listing

A listing of spills and releases reported to the Office of Emergency Services, they do not include any TRI information.

Date of Government Version: 12/06/2016
Date Data Arrived at EDR: 12/20/2016
Date Made Active in Reports: 02/24/2017
Number of Days to Update: 66

Source: Office of Emergency Services
Telephone: 304-558-5380
Last EDR Contact: 12/16/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Varies

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/03/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/11/2016
Date Data Arrived at EDR: 11/16/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/15/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/03/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/10/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/23/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/06/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/10/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 04/28/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 127

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/09/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/17/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/17/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 02/03/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/06/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/06/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2016
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/04/2017
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 35
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/06/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/01/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 77

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/03/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/05/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 09/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/12/2016
Next Scheduled EDR Contact: 03/13/2017
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/02/2016
Next Scheduled EDR Contact: 03/13/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/15/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 65

Source: EPA
Telephone: (215) 814-5000
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67

Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 01/20/2017
Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 91

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Varies

AIRS: Permitted Facility and Emissions Listing

Permitted facility and emissions information listing.

Date of Government Version: 11/06/2016
Date Data Arrived at EDR: 12/02/2016
Date Made Active in Reports: 01/13/2017
Number of Days to Update: 42

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 02/06/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Varies

COAL ASH: Coal Ash Landills

A listing of coal ash landfill site locations.

Date of Government Version: 11/20/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/15/2016
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 01/09/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Varies

DRYCLEANERS: Listing of Drycleaner Locations

A listing of drycleaners which use perchloroethylene.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 10/07/2016
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 304-926-0475
Last EDR Contact: 02/13/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Varies

Financial Assurance: Financial Assurance Informtion Listing

A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 03/05/2013
Date Data Arrived at EDR: 03/07/2013
Date Made Active in Reports: 04/05/2013
Number of Days to Update: 29

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 02/27/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Varies

NPDES: Wastewater Discharge Permits Listing

A listing of wastewater discharge permits.

Date of Government Version: 10/19/2016
Date Data Arrived at EDR: 11/08/2016
Date Made Active in Reports: 01/13/2017
Number of Days to Update: 66

Source: Department of Environmental Protection
Telephone: 304-926-0495
Last EDR Contact: 01/17/2017
Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Varies

UIC: Underground Injection Wells

A listing of underground injection well locations.

Date of Government Version: 01/24/2017
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 02/24/2017
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 01/27/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 81

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/09/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 73

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/11/2016
Date Data Arrived at EDR: 12/20/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/20/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Division of Environmental Protection in West Virgina.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/20/2014
Number of Days to Update: 203

Source: Division of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Division of Environmental Protection in West Virgina.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: Division of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 01/03/2017
Number of Days to Update: 96

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/09/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 02/01/2017
Date Made Active in Reports: 02/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/01/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 07/22/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 123

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/12/2017
Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/12/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Center List
Source: Office of Social Services
Telephone: 304-558-7980

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: US Fish & Wildlife Service
Telephone: 703-358-2171

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

JEFFERSON ORCHARD INC.
NORTHPORT AVENUE
SHENANDOAH JUNCTION, WV 25442

TARGET PROPERTY COORDINATES

Latitude (North):	39.375994 - 39° 22' 33.58''
Longitude (West):	77.878059 - 77° 52' 41.01''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	252081.2
UTM Y (Meters):	4362245.5
Elevation:	580 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6014637 SHEPHERDSTOWN, WV
Version Date:	2014
Southeast Map:	6009704 CHARLES TOWN, WV
Version Date:	2014
Southwest Map:	6010332 MIDDLEWAY, WV
Version Date:	2014
Northwest Map:	6010330 MARTINSBURG, WV
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

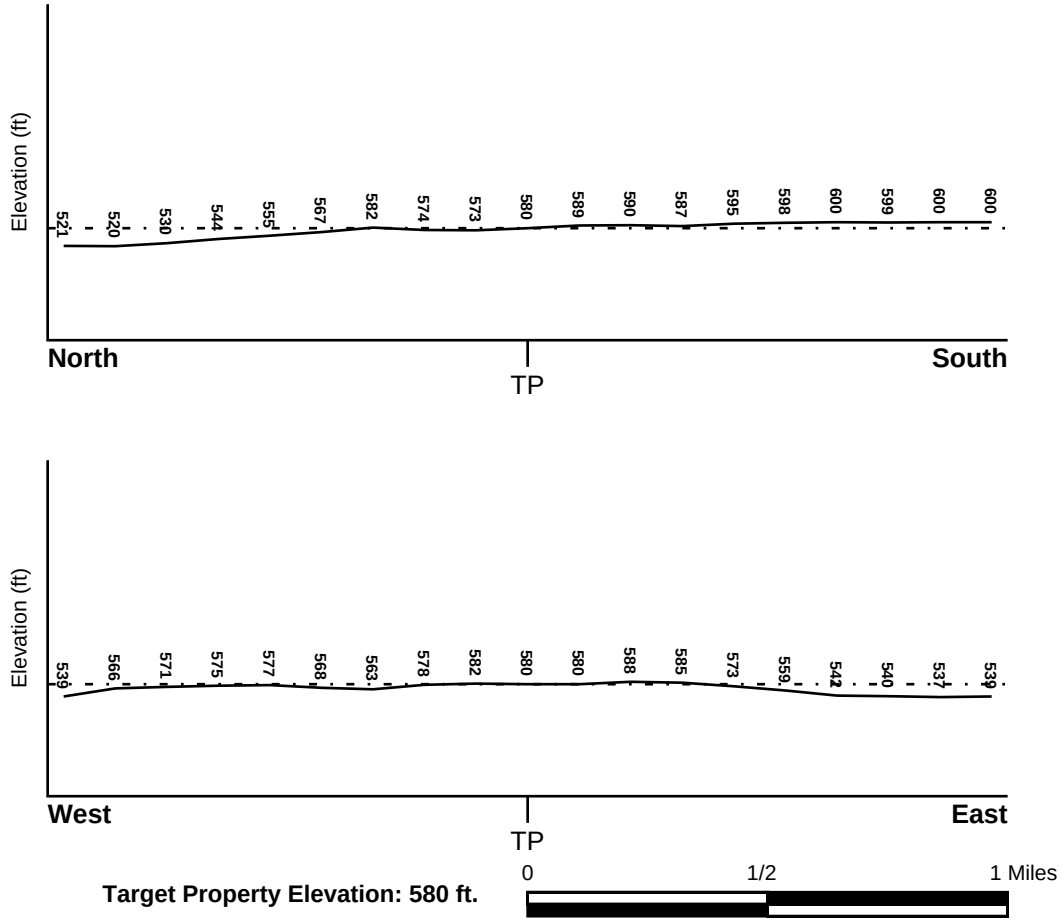
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
54003C0170E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
54037C0040E	FEMA FIRM Flood data
54037C0020E	FEMA FIRM Flood data
54037C0130E	FEMA FIRM Flood data
54037C0110E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MARTINSBURG	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Cambrian
Series:	Cambrian
Code:	C *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	HAGERSTOWN
Soil Surface Texture:	silt loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 80 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	8 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 6.00 Min: 0.60	Max: 6.50 Min: 4.50
2	8 inches	20 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 2.00 Min: 0.60	Max: 7.30 Min: 4.50
3	20 inches	72 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.10

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silty clay loam

Surficial Soil Types: silty clay loam

Shallow Soil Types: silt loam

Deeper Soil Types: channery - silt loam
stratified
loam
unweathered bedrock

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	USGS40001303817	1/2 - 1 Mile SSW
4	USGS40001303892	1/2 - 1 Mile West
A8	USGS40001303823	1/2 - 1 Mile SW
B9	USGS40001303833	1/2 - 1 Mile SW
B10	USGS40001303828	1/2 - 1 Mile SW
C13	USGS40001303798	1/2 - 1 Mile SSW
C14	USGS40001303794	1/2 - 1 Mile SSW
15	USGS40001303865	1/2 - 1 Mile WSW
16	USGS40001303906	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

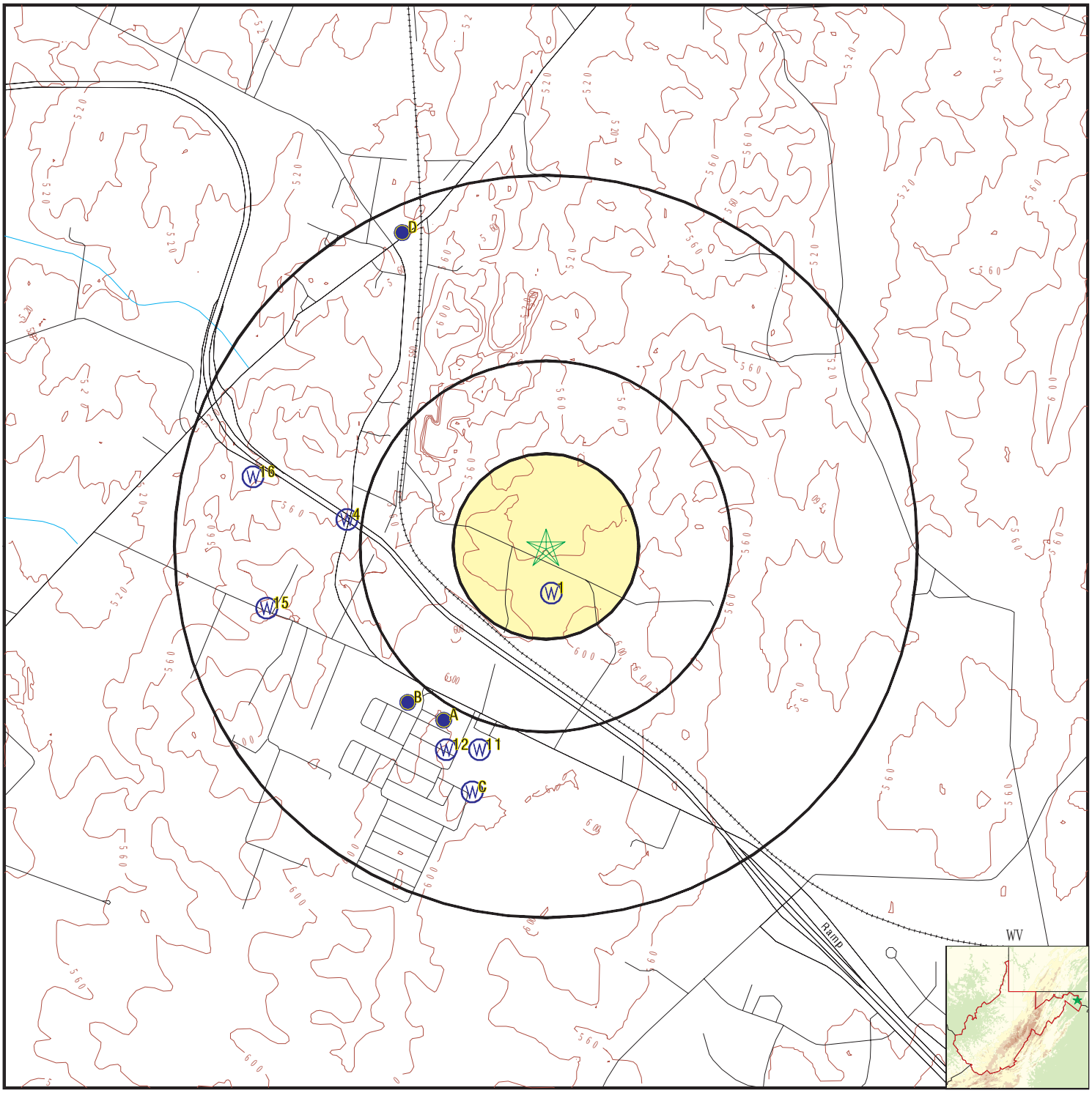
MAP ID	WELL ID	LOCATION FROM TP
D17	WV9919064	1/2 - 1 Mile NNW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	WVWELL1705	1/8 - 1/4 Mile South
A2	WVWELL0014	1/2 - 1 Mile SSW
A5	WVWELL0718	1/2 - 1 Mile SSW
B6	WVWELL0717	1/2 - 1 Mile SW
B7	WVWELL0716	1/2 - 1 Mile SW
11	WVWELL1709	1/2 - 1 Mile SSW
12	WVWELL1196	1/2 - 1 Mile SSW
D18	WVWELL1721	1/2 - 1 Mile NNW

PHYSICAL SETTING SOURCE MAP - 4865892.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- Oil, gas or related wells

SITE NAME:	Jefferson Orchard Inc.	CLIENT:	ERM Mid-Atlantic
ADDRESS:	Northport Avenue Shenandoah Junction WV 25442	CONTACT:	David Connelly
		INQUIRY #:	4865892.2s
LAT/LONG:	39.375994 / 77.878059	DATE:	March 01, 2017 10:22 am

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
South
1/8 - 1/4 Mile
Higher

WV WELLS **WVWELL1705**

Id number:	723	Pwsid:	WV9919024
Sys name:	JEFFERSON ORCHARD LABOR CAMP		
Facility id:	565685		
Fac name:	WV9919024#01		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	25	Sys type:	Non Community
Latitude:	39.374167	Longitude:	-77.877778
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	1250	Conv facto:	50
Calc pop:	25	Seasonbegi:	7/1/00
Season end:	10/31/00	Facility type:	Well

A2
SSW
1/2 - 1 Mile
Higher

WV WELLS **WVWELL0014**

Id number:	102	Pwsid:	WV3301908
Sys name:	FOX GLEN UTILITIES		
Facility id:	564067		
Fac name:	WELL #1		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	683	Sys type:	Community
Latitude:	39.369167	Longitude:	-77.882778
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	0	Conv facto:	0
Calc pop:	0	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

A3
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40001303817**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392208077525801		
Monloc name:	Jef-0477		
Monloc type:	Well		
Monloc desc:	Original station name was JP161		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3689891
Longitude:	-77.8824959	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	600.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	441
Welldepth units:	ft	Wellholedepth:	441
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

4
West
1/2 - 1 Mile
Lower

FED USGS **USGS40001303892**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392237077531801		
Monloc name:	Jef-0375		
Monloc type:	Well		
Monloc desc:	Original station name was 2102005		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3770446
Longitude:	-77.8880516	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	575.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	19230101	Welldepth:	170
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

A5
SSW
1/2 - 1 Mile
Higher

WV WELLS **WVWELL0718**

Id number:	2028	Pwsid:	WV3301908
Sys name:	FOX GLEN UTILITIES		
Facility id:	564067		
Fac name:	WELL #5		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	683	Sys type:	Community
Latitude:	39.369444	Longitude:	-77.883611
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	0	Conv facto:	0
Calc pop:	0	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

B6
SW
1/2 - 1 Mile
Higher

WV WELLS **WVWELL0717**

Id number:	2027	Pwsid:	WV3301908
Sys name:	FOX GLEN UTILITIES		
Facility id:	564067		
Fac name:	WELL #4		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	683	Sys type:	Community
Latitude:	39.370278	Longitude:	-77.885278
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	0	Conv facto:	0
Calc pop:	0	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

B7
SW
1/2 - 1 Mile
Higher

WV WELLS **WVWELL0716**

Id number:	2026	Pwsid:	WV3301908
Sys name:	FOX GLEN UTILITIES		
Facility id:	564067		
Fac name:	WELL #3		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	683	Sys type:	Community
Latitude:	39.37	Longitude:	-77.885
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	0	Conv facto:	0
Calc pop:	0	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

A8
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40001303823**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392209077530301		
Monloc name:	Jef-0478		
Monloc type:	Well		
Monloc desc:	Original station name was JP159		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3692669
Longitude:	-77.8838849	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	600.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	421
Welldepth units:	ft	Wellholedepth:	421
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

B9
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40001303833**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392211077530701		
Monloc name:	Jef-0491		
Monloc type:	Well		
Monloc desc:	Original station name was JP162		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3698225
Longitude:	-77.884996	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	600.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	19830101	Welldepth:	500
Welldepth units:	ft	Wellholedepth:	500
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

B10
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40001303828**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392210077530601		
Monloc name:	Jef-0479		
Monloc type:	Well		
Monloc desc:	Original station name was JP158		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3695447
Longitude:	-77.8847182	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	600.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	403
Welldepth units:	ft	Wellholedepth:	403
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

11
SSW
1/2 - 1 Mile
Higher

WV WELLS **WVWELL1709**

Id number:	727	Pwsid:	WV9919031
Sys name:	NORTH JEFFERSON ELEMENTARY SCHOOL		
Facility id:	565692		
Fac name:	WELL #1		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Local	Daily prod:	0
Sys popula:	526	Sys type:	Non Transient Non Community
Latitude:	39.368056	Longitude:	-77.881389
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	Not Reported
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	13150	Conv facto:	25
Calc pop:	526	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

12
SSW
1/2 - 1 Mile
Higher

WV WELLS **WVWELL1196**

Id number:	2502	Pwsid:	WV3301908
Sys name:	FOX GLEN UTILITIES		
Facility id:	564067		
Fac name:	WELL 6		
City:	KEARNEYSVILLE	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	683	Sys type:	Community
Latitude:	39.368056	Longitude:	-77.883056
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	0	Conv facto:	0
Calc pop:	0	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

C13
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40001303798**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392159077525601		
Monloc name:	Jef-0476		
Monloc type:	Well		
Monloc desc:	Original station name was JP160		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3664892
Longitude:	-77.8819404	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	590.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	468
Welldepth units:	ft	Wellholedepth:	468
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C14
SSW **FED USGS** **USGS40001303794**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392158077525301		
Monloc name:	Jef-0578		
Monloc type:	Well		
Monloc desc:	Orig staname Fox Glen Utilit. #5 well		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3663417
Longitude:	-77.8815722	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	600
Vert measure units:	feet	Vertacc measure val:	010
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NAVD88	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Conococheague Group		
Aquifer type:	Unconfined single aquifer		
Construction date:	19990319	Welldepth:	300
Welldepth units:	ft	Wellholedepth:	300
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

15
WSW
1/2 - 1 Mile
Higher

FED USGS **USGS40001303865**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392225077533201		
Monloc name:	Jef-0635		
Monloc type:	Well		
Monloc desc:	Jane Demoss		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3735833
Longitude:	-77.8920833	Sourcemap scale:	24000
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	574
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Global Positioning System		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	105
Welldepth units:	ft	Wellholedepth:	105
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
2004-04-20	43.08	

16
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40001303906**

Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-392243077533501		
Monloc name:	Jef-0378		
Monloc type:	Well		
Monloc desc:	Original staname was 037176 HOLLIS-LOWMAN		
Huc code:	02070004	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.3787112
Longitude:	-77.892774	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	540.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Valley and Ridge aquifers		
Formation type:	Beekmantown Group		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	65
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1974-09-19	29	

D17
NNW **FRDS PWS** **WV9919064**
1/2 - 1 Mile
Lower

Epa region:	03	State:	WV
Pwsid:	WV9919064		
Pwsname:	JEFFERSON ORCHARD BAKERY		
City served:	Not Reported	State served:	WV
Zip served:	Not Reported	Fips county:	54037
Status:	Closed	Pop srvd:	25
Pwssvcconn:	15	Source:	Groundwater
Pws type:	TNCWS	Owner:	Private
Contact:	JEFFERSON ORCHARD BAKERY		
Contactor gname:	Not Reported		
Contact phone:	304-725-9149	Contact address1:	PO BOX 700
Contact address2:	Not Reported	Contact city:	KEARNEYSVILLE
Contact state:	WV	Contact zip:	25430
Activity code:	I		

Location Information:

Name:	JEFFERSON ORCHARD BAKERY		
Pwstypcd:	TNCWS	Primsrccd:	GW
Popserved:	25		
Add1:	PO BOX 700		
Add2:	Not Reported		
City:	KEARNEYSVILLE	State:	WV
Zip:	25430	Phone:	304-725-9149
Cityserv:	Not Reported	Cntyserv:	Not Reported
Stateserv:	WV	Zipserv:	Not Reported

PWS ID: WV9919064
Date Initiated: 9108 Date Deactivated: Not Reported
PWS Name: JEFFERSON ORCHARD BAKERY
PO BOX 700
KEARNEYSVILLE, WV 25430

Addressee / Facility: System Owner/Responsible Party
RONALD STONAKER
PO BOX 700
KEARNEYSVILLE, WV 25430

Facility Latitude: 39 23 17 Facility Longitude: 077 53 08
City Served: Not Reported
Treatment Class: Untreated Population: 00000025

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name:	JEFFERSON ORCHARD BAKERY		
Violation Type:	Monitoring, Regular		
Contaminant:	NITRATE		
Compliance Period:	1994-01-01 - 1994-12-31		
Violation ID:	9500808		
Enforcement Date:	1994-12-20	Enf. Action:	State Formal NOV Issued
System Name:	JEFFERSON ORCHARD BAKERY		
Violation Type:	Monitoring, Regular		
Contaminant:	NITRATE		
Compliance Period:	1994-01-01 - 1994-12-31		
Violation ID:	9500808		
Enforcement Date:	1994-12-20	Enf. Action:	State Public Notif Requested

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D18
NNW
1/2 - 1 Mile
Lower

WV WELLS **WVWELL1721**

Id number:	741	Pwsid:	WV9919059
Sys name:	SHEETZ STORE #137		
Facility id:	565717		
Fac name:	WELL		
City:	Not Reported	County:	JEFFERSON
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	750	Sys type:	Non Community
Latitude:	39.388333	Longitude:	-77.885278
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Descriptio:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Karst	Whp radius:	2000
Prod gpd:	18750	Conv facto:	25
Calc pop:	750	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

EPA Region 3 Statistical Summary Readings for Zip Code: 25442

Number of sites tested: 25.

Maximum Radon Level: 19.0 pCi/L.
Minimum Radon Level: 1.2 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
7 (28.00%)	13 (52.00%)	5 (20.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Federal EPA Radon Zone for JEFFERSON County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: US Fish & Wildlife Service
Telephone: 703-358-2171

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

West Virginia Water Well Information
Source: Bureau of Public Health
Telephone: 304-558-6765

OTHER STATE DATABASE INFORMATION

West Virginia Oil and Gas Well Database
Source: Department of Environmental Protection
Telephone: 304-926-0450
Oil and Gas well locations in the state.

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

EPA Region 3 Statistical Summary Readings
Source: Region 3 EPA
Telephone: 215-814-2082
Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

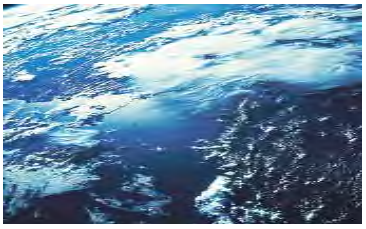
Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

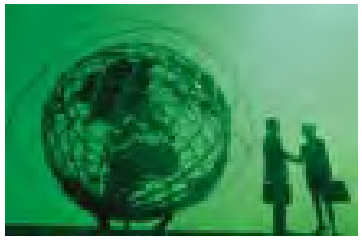
PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

Appendix E
Professional Profiles



David L. Carpenter, P.E., LRS



Mr. Carpenter is the Branch Manager for ERM's Charleston, West Virginia office. He is a registered professional engineer and licensed remediation specialist in the state of West Virginia. He has over 23 years of experience in environmental engineering, consulting and project management. Mr. Carpenter has experience in management of large, multi-scope programs and large, complex projects including the permitting of oil and gas natural resource projects.

He has experience with many project aspects, including: assembling, coordinating, and leading project teams; contracting and management of subcontractors; budget monitoring and scope management; liaison with state, federal and local regulatory agencies, legal counsel, and contract laboratories; preparation of bid specifications, work plans, sampling and analysis plans, complex permit applications and submittals, remedial action plans, risk-based assessment and remediation reports, site assessment reports, and contamination assessments; pilot-scale testing of contaminant delineation innovative remedial technologies; Brownfield site redevelopment; National Environmental Policy Act (NEPA); Surface Mining Control and Reclamation Act (SMCRA), Resource Conservation and Recovery Act (RCRA)/ Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site investigations; Underground Storage Tank (UST) closures; Long Term Monitoring (LTM) plans; hydrogeologic studies; environmental due diligence; engineering design; waste permitting/compliance; Leak Detection and Repair (LDAR) program development and management; and preparation of reports in support of expert witness testimony. In addition, he has certified hundreds of documents, including: Spill Prevention, Control & Countermeasure (SPCC) plans; Facility Response Plans (FRP); Integrated Contingency Plans (ICP); Oil Discharge Contingency (ODC) Plans; National Pollution Discharge Elimination System (NPDES), Storm Water Pollution Prevention Plans (SW3P); erosion and sedimentation control plans; and Groundwater Protection Plans (GPP).

Professional Affiliations & Registrations

- Professional Engineer, WV, PA, OH, KY
- Licensed Remediation Specialist, WV
- Certified Monitoring Well Driller, WV
- Member status American Society of Civil Engineers
- Member WV Independent Oil & Gas Association
- Member WV Oil & Natural Gas Association
- Member WV Chamber of Commerce
- Member WV Manufacturer's Association
- Board Member WV Air and Waste Association
- 40 Hr HAZWOPER Training, 1993
- 8 Hr Refresher - Annually, ERM, 2010

Association Involvement

- WV Brownfield Association
- WV Oil & Natural Gas Association Environmental Committee
- WV Chamber of Commerce Environmental Committee
- WV Manufacturer's Association Environmental Committee

Project Management Skills

- Over 12 years of experience as a project manager and over 8 years experience as a Sr. Project Manager leading high performance teams.
- Successfully completed numerous multi-scope projects requiring diverse project teams.
- Routinely manage projects requiring innovative and strategic solutions to complex problems.
- Excel at executing the three fundamentals of project management - scope, schedule & budget.
- Responsible and accountable in resource allocation and scope management.
- Performed as Program Manager that involved multi-scoped, multi-year environmental compliance projects.

Industry Experience

- Over 23 years of environmental consulting experience in working with industry.

- Performed as expert in support of a litigation case involving a release from a newly installed underground storage tank. Witnessed the removal of an improperly installed UST and prepared a report to support expert witness testimony.
- Provided oral expert testimony on site investigation findings before the Mason County School Board on behalf of the State of West Virginia to support their request for a new school siting at a former state agricultural testing facility.
- Expert in the West Virginia Voluntary Remediation Program. Entered over 20 sites into the WV Voluntary Remediation Program as a Licensed Remediation Specialist.
- Site assessments and remediation of waste sites involving natural gas production and transmission facilities, chemical manufacturing and industrial faculties, bulk oil storage facilities, underground storage tanks, coal mining facilities, industrial and sanitary landfills and oil/fuel spill sites, CERCLA and RCRA.
- Coordinated and led field teams to perform numerous contamination assessments in support of Consent Order requirements for assessment and remediation. Contamination assessments included collection multi-media samples including soil, sediment, ground water and surface water. Contaminants included EPA's list of priority pollutants as well as other unique contaminants.
- Prepared several site sampling plans in response to regulatory enforcement actions. Conducted numerous site assessments and site remediation's of commercial, industrial and public utility facilities. Coordinated and led a field team to perform several RCRA facility assessments in response to potential violations associated with on-site storage, handling and disposal of regulated hazardous substances and wastes. Contaminants of concern included PCBs, mercury, arsenic, petroleum hydrocarbons and various volatile and semi-volatile compounds.
- Performed remediation oversight of several remote natural gas facilities subsequent to RCRA remedial investigations and feasibility studies throughout WV, OH and KY. Conducted remedial investigations to further delineate affected soils. Coordinated large scale excavations for the removal of hazardous waste. Monitored excavation confirmation sampling in compliance with EPA protocol.
- Completed numerous PCB assessment and remediation projects involving concrete chip and core sampling and concrete scarification and encapsulation. As well as confirmation sampling, site reclamation and reporting.
- Utilized field immunoassay test kits such as ENSYS and XRF technology to determine the presence of contaminants in real-time thus saving significant time and cost.

Other Areas of Expertise

- Remedial pilot scale testing and design of innovative remedial technologies including Soil Vapor Extraction (SVE), Dual & Multi Phase Extraction (DPE), In-Situ Chemical Oxidation (ISCO) and Bio-augmentation and the design and installation of full-scale remediation systems.
- Preparation and certification of numerous Spill Prevention Control and Countermeasure Plans (SPCC) for industrial, commercial, mining and retail facilities.
- Environmental due diligence/Phase I environmental site assessments for industrial, commercial, mining, retail and vacant/native land.
- Conducted frac water flow back sampling and analysis in support of a waste characterization study relating to the Marcellus shale play.
- Supported the development of a Marcellus shale gas play permitting roadmap.
- Prepared numerous E&S plans, SW3Ps and GPPs for the natural gas industry.
- Active in ERM's climate change initiative around the Oil and Gas industries.
- Supported engineering and environmental studies for Environmental Impact Assessments (EIAs) for pipeline expansion programs.
- Sr. Project Manager for environmental due diligence of properties for expansion of natural gas infrastructure such as compressor stations and pipeline market expansion projects.
- Sr. Project Manager and certifying engineer for numerous SPCC Plans for natural well head sites, compressor stations and maintenance facilities.

- Sr. Project Manager for extensive Phase 2 Environmental Site Assessments at numerous natural gas compressor and metering faculties.
- Sr. Project Manager for remediation of soil and groundwater at numerous natural gas facilities for contaminants including crude oil, PCBs, mercury and other metals and VOCs.
- Supported engineering and environmental studies for Environmental Impact Assessments (EIAs) for pipeline expansion programs.
- Engineering design support and construction quality assurance (CQA) for construction of a multifaceted landfill expansion that included steep slope liner design, overfill liner design, subtitle D closure of an old landfill cell, rehabilitation of a leachate holding pond, construction of new sedimentation control structures.
- Leak Detection and Repair (LDAR) program development and management.

Education

- M.S. Environmental Engineering, Marshall University Graduate College, South Charleston, WV 2000
- B.S. Civil/Environmental Engineering, Clarkson University, Potsdam, NY 1993
- B.S. Physics and Geology, State University of New York at Fredonia, Fredonia, NY 1992

West Virginia Voluntary Remediation Program/Brownfield Experience

Licensed Remediation Specialist/Project Manager (LRS/PM) for completion of Voluntary Remediation Applications and Agreements associated with the West Virginia Voluntary Remediation & Redevelopment Act (VRRA) also known as the WV Voluntary Remediation Program (VRP). Performed as the LRS/PM for over eighteen (18) VRP sites. Project tasks have included; Phase I & Phase II investigations, comprehensive search of historical site activities, site visit with regulatory agency, development of detailed list of source areas and potential contaminates of concern, evaluating data gaps, preparing sampling & analysis plans, remediation work plans, management of human health and ecological risk assessment, groundwater modelling, preparing information for public notice and presentations and regular liaison with regulatory agency, preparation of final reports and land use covenants.

Sites vary from industrial hazardous waste sites, former 46 acre glass container plant, former chemical manufacturing plant, several bulk petroleum facilities, refineries and several retail gasoline/service station facilities (LUST sites). Prepared or supervised the preparation of numerous sampling and analysis plans in accordance with the West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual. Implementation of Sampling & Analysis Plans, management of risk assessments and groundwater models, preparation of remedial action plans, final reports, land use covenants and certificate of completions. Have completed several sites through the entire process of the VRRA. Contaminants of concern range from petroleum hydrocarbons constituents to dioxin, PCBs, pesticides, herbicides, VOCs, SVOCs and inorganics.

Project Manager and Licensed Remediation Specialist (LRS) for a former chemical manufacturing plant assessment and clean-up performed under the WV Voluntary Remediation Program (VRP). The project involved extensive environmental assessment including the use of CPT and MIP technologies for lithology and contaminant characterization. The primary contaminant of concern (COC) was carbon tetrachloride, however other COCs include various other VOCs as well as SVOCs and pesticides. Bench and/or pilot scale testing of innovative remedial technologies which included High Vacuum Soil Vapor Extraction, in-situ chemical oxidation (ISCO) using caustic activated sodium persulfate and chelated iron activated sodium persulfate, and bio-augmentation and bio-stimulation. Coordinated quarterly regulatory progress updates and developed annual project summary and milestone schedule. Gave periodic project update presentations to Public Advisory Group (PAG).

RCRA/CERCLA Assessment & Remediation

Project Manager for Phase I/II environmental site assessment of several crude oil pumping and pipeline stations located in West Virginia. The stations consisted of crude oil loading and unloading areas, storage tanks, pumps for pumping into pipeline system. The

assessments included the use of membrane interface probe (MIP) technology at select sites, direct-push soil sampling, hand auger soil sampling, groundwater monitoring well installation, monitoring well development, sampling and slug testing. The primary contaminants of concern included TPH, benzene, arsenic and lead. As a result of significant impact at some sites, including free-phase crude oil, mobile treatment events were implemented using a high vacuum multi-phase extraction unit. Vacuum and groundwater draw-down readings were collected to determine radius of influence (ROI) of the treatment system.

Project Manager for lab pack at a chemical package and mixture facility. The facility had numerous chemicals, some labelled and many not labelled, stored and stages throughout warehouses and dock areas. The project included characterizing and categorizing the chemical containers into hazardous groups for proper disposal. Some of the unlabeled chemicals were identified by historical review of records. Chemicals that could not be identified were sampled and characterized for proper packaging and disposal.

Coordinated and led a field team to perform several modified Phase I audits in preparation for a real estate transaction of over 30 natural gas facilities within West Virginia. The audits included facility compliance with RCRA, CERCLA, TSCA, Clean Water Act and the Air Pollution Control Act. Samples were collected from potential sources and obvious areas of concern. Contaminants of concern included PCBs, mercury, petroleum hydrocarbons and various volatile and semi-volatile compounds. Subject sites were remote natural gas compressor facilities and well sites.

Project Manager for a site assessment of a proposed consolidated high school site. The project focused on a detailed history review, interviews with past property managers/owners, research of past chemicals applied to the site, collection and analysis of soil and surface water samples and presentation of project progress at monthly school board meetings. Suspect contaminants included agricultural chemicals and compounds associated with production of TNT. A detailed project report was completed and presented to the school board.

Project Manager for the site assessment of a bronze casting facility. The project included preparation of a site assessment plan, liaison with attorneys, collection of soil and groundwater samples, installation of additional groundwater monitoring wells, groundwater modelling and preparation of a detailed report. Contaminants of concern included target heavy metals.

Project Manager for the remediation of an active scrap yard and nine separate water storage tank facilities impacted with lead contaminated soils. Remediation included removal of affected soil to achieve the site specific risk-based clean-up goals.

TSCA

Performed several site assessments in response to the release or suspicion of release of PCBs to the environment. Details of these projects are included other project experience with in this resume.

Underground Storage Tanks Experience

Program Manager for the West Virginia Department of Environmental Protection leaking underground storage tank contract. Responsibilities include senior project management of Phase I and Phase II site assessments, pilot-scale testing, remedial action plans, interim corrective actions, remedial system design and specification, installation oversight, operation and maintenance for abandoned leaking UST sites (LUST sites).

Supervised numerous underground storage tank removals; conducted several extensive soil and groundwater investigations for retail gasoline stations in accordance with Bureau of Underground Storage Tank Regulations (BUSTR), performed innovative remedial technology pilot-scale testing, full-scale design and installation of remedial technologies including air sparging, venting, multiple-phase high vacuum extraction, soil vapor extraction/vacuum enhanced groundwater recovery, in-situ and ex-situ bioremediation.

Due Diligence/Phase I Environmental Assessments

Partner/Project Manager for over 100 Phase I Environmental Assessments for oil & gas, commercial, industrial, and mining real estate property transactions in accordance with the American Society of Testing Materials standards and EPA AAI. Many of these Phase I's included review of large complex assets spread across large regions of geography using a systematic approach for risk evaluation with liability threshold limits.

Solid Waste Experience

Project Manager for the landfill cap design at the Rehe (Preston County) landfill completed under the West Virginia Division Environmental Protection Landfill Closure Assistance Program (LCAP). Project activities included preparation of a groundwater monitoring plan, installation, sampling, slug testing of groundwater monitoring wells, statistical variance modeling of groundwater analytical data, leachate study and modeling, aerial boundary survey, location of edge of waste, borrow area analysis, cap and storm water control system design, slope stability analysis, sediment control system design, gas management/vent system design, leachate management plan, leachate tank and pumping station design, revegatation plan, engineering cost estimate, and preparation of construction plans and specifications. The project also included construction quality assurance (CQA) which involved the assurance that all components were installed according to engineering design and specifications.

Assisted with project engineering of a Subtitle D landfill including; storm sewer sizing, design of leachate collection and detection lines, grading plans, borrow area suitability analysis, leachate force main design and other engineering work for a permit application/modification.

Performed on-site engineering and construction quality assurance (CQA) for a 4.5 acre landfill expansion. The landfill expansion included steep slope (2:1) and overfill composite liner system installation, Subtitle D cap for a closed cell, construction of a sediment control pond and relining of a leachate collection pond. CQA activities included construction monitoring and documentation, verification of construction and assisting with the completion of a certification report.

Preparation of an erosion and sedimentation control plan. The plan described the general steps to minimize erosion of areas that had been disturbed from previous construction and site operation.

NPDES, SPCC, LDAR and General Compliance Experience

Project Manager for NPDES permit modification involving a dye study & ecological impact study along the Kanawha River. The study was performed to demonstrate adequate mixing was taking place in the near field & far field mixing zones. The dye study and aquatic habitat study demonstrated sufficient mixing was occurring and additional treatment of effluent was not required. A revised permit was issued saving the client hundreds of thousands of dollars in plant upgrades or potential remote POTW connection.

Project Manager/Engineer for the completion of NPDES permit renewal with anti-degradation study and the permitting of a new barge dock with mooring cell for an industrial facility located Marietta, Ohio on the Ohio River. Project included significant interaction and liaisons with the OEPA, ODNR, and Huntington District of the ACOE, the development of a site wide storm water model, site engineering and design for storm water re-routing, the development of best management practices (BMPs) and guidance on implementation of BMPs, and completion of a detailed anti-degradation evaluation as part of the permit renewal. Anti-degradation evaluation included socio-economic studies of the facility, surrounding community, and receiving stream. Due to our strong relationship with the regulatory agencies, the facility was successful in receiving their permit renewal in a timely manner, and with minimal facility modifications which saved the client ten of thousands of dollars.

Project Manager for several ACOE 404 wetland delineation studies to support land development projects. These studies were conducted by certified wetland delineators and included delineation, mapping and professional surveying of the wetlands. Some of these wetland projects included a wetland mitigation

evaluation and feasibility study, wetland bank alternative study, and associated regulatory liaisons.

Project Manager for an NPDES permitted outfall re-routing design study and evaluation. Due to closure of part of the chemical manufacturing facility and impending sale of the outfall via duct, there was a rapid need to re-route the permitted outfall. The design study included evaluation of several storm water management, containment, and routing options. The study also included regulatory interaction, meetings, and other liaisons to develop the most viable approach. The final design utilized much of the existing, unutilized, facility infrastructure to re-route storm water through two new internal outfalls thus saving the client over $250,000 in WWTP upgrades and storm water piping infrastructure.

Project Manager and Certifying Engineer for several SPCC Plans prepared in accordance with 40 CFR 112. The SPCC plans were prepared for various types of facilities including bulk oil storage facilities, hydrocarbon manufacturing plants, natural gas compressor stations, construction sites, scrap yards, heavy equipment storage yards, chemical plants, automotive maintenance facilities and wrecker yards.

Project Manager for LDAR program development and implementation at a complex chemical manufacturing facility. The program included review of all applicable regulations, verification of component count, review and editing of numerous isometric drawings, audit of tagless system, update and validation of FEMs database, development of new monitoring schedule and performance of rountine monitoring and reporting.

Project Manager/Engineer for preparation and completion of toxic release inventory (TRI) reporting for Form R's for several mining facilities. The TRI Form R's were prepared in response to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act and Section 6607 of the Pollution Prevention Act.

Project Manager and certifying engineer for the preparation of four Integrated Contingency Plans (ICP). Two of the facilities consist of large bulk oil storage facilities that transfer oil over water. The ICPs included SPCC Plans, Storm Water Pollution Prevention Plans (SWPPP), Groundwater Protection Plans (GPP), Oil Pollution Act of 1990 (OPA 90) Facility Response Plan, and a emergency response action plan.

Assisted a major natural gas corporation with preparing for the implementation of the TSCA amendment ("Megarule") regarding the disposal of PCBs, review and auditing of several transformer inventories associated with site assessments, coordinated and monitored remediation of PCBs in soil.

Mining

Performed Phase I/II waterline extension feasibility study to determine if water supplies had been affected by pre-law coal mining. The study included a detailed hydrogeologic investigation, resident interviews, mine map searches, mine permit reviews, AML problem inventory file review, county health department well data review, published document review, area reconnaissance, collecting water samples and analysis review, cost analysis of feasibility alternatives and preparation of a detailed report.

Performed a modified Phase I/II environmental liability assessment for a coal handling and load-out facility. The assessment included a site reconnaissance, facility file review, air, water, waste and mine permit review, historical records review, interviews with personnel familiar with the facility, collection of soil, sediment and surface water samples. Potential contaminant sources were USTs, ASTs, heavy equipment maintenance facility, mine motor storage building, sludge drying lagoons, and drain pipe discharge points. Potential contaminants of concern included petroleum hydrocarbons, heavy metals, PCBs and various VOCs and SVOCs. A detailed report was prepared which included assessment findings and recommendations.

Reclamation and environmental liability assessment of a 3000-acre tract of property for a commercial property transaction. Assessment included a review of mine permits and associated reclamation requirements, environmental compliance record review, site reconnaissance including environmental sampling and

documentation. Results along with cost estimate of liabilities presented in a report.

Monitoring and emergency warning plan preparation which included a dam breach analysis for flood routing and evacuation control.

Railroad Transportation Experience

Performed as senior project manager for Environmental and Engineering related projects.

Environmental projects have included site assessment and remediation of diesel spills and overfills at rail yards, free-product recovery programs and remedial design, waste removal from open dumping at railroad properties, security improvements at inactive properties, due diligence reviews of leased properties, 3rd party oversight of site assessment and remediation of petroleum spills and leaks, liaison with legal counsel, 3rd party document review and approval, train derailment emergency response air monitoring, quarterly reserve forecasting and budget monitoring.

Engineering projects have included preparation and professional engineer certification of numerous SPCC plans, Oil Discharge Contingency (ODC) plans and Facility Response Plans (FRP). Managing a system wide SPCC program. Sr. Project Manager for miscellaneous design projects such as waste water treatment plant upgrades, petroleum storage tank replacements and upgrades, lagoon and holding pond lining, permeability verification, security improvements/facility hardening and storm water management systems.

Publications

William Cutler, James Bodamer, Philip Block, Stewart Abrams, David Carpenter, Michael Hayes, Tarek Ladaa, George Robertson and Duane Root, Use of CPT/MIPS to Determine Optimal ISCO Injection Zones, AEHS Conference, San Diego, CA, 2005

Tarek Ladaa, David Carpenter, Stew Abrams, Philip Block and Bill Cutler, In Situ Chemical Oxidation Pilot Test Using Activated Persulfate, Partnering-Clients, and Remediation Technologies, Orlando, FL, 2005

Philip Block, James Bodamer, David Carpenter, Tarek Ladaa and Duane Root, Pilot Scale Application of Activated Persulfate to Treat Chlorinated Methanes, University of Massachusetts, Boston, MA, 2005

David T. Connelly

Mr. Connelly is a Project Manager based in ERM's Charleston, West Virginia office and has over 15 years of experience in environmental compliance, transaction services, and contaminated site management. His project management experience includes multi-scope and complex projects and programs, supervision of multi-discipline personnel, managing budget cost and control, client relationship development, regulatory agency interaction, data collection and computation, and training and mentoring of junior staff.

Mr. Connelly has a strong background in environmental compliance for a broad range of industry including oil & gas, chemical, manufacturing, transportation and retail petroleum. He has experience with facility auditing, National Pollution Discharge Elimination System (NPDES) permits, Spill Prevention Control & Countermeasures (SPCC) Plans, Storm Water Pollution Prevention Plans (SWPPPs), Groundwater Protection Plans (GPPs), Best Management Practices (BMP) Plans, Toxic Substances Contol Act (TSCA), Tier II Reporting, Toxic Release Inventory (TRI) Form R Reporting, and waste characterization and disposal. Mr. Connelly is very familiar with the stormwater permitting process for West Virginia sites and is proficient with using the West Virginia Department of Environmental Protection (WVDEP) Electronic Submission System (ESS) for permit application submittals, Notice of Intent (NOI), electronic discharge monitoring report (DMR) submittals, and permit modifications.

Mr. Connelly is highly experienced in environmental due diligence and transaction services associated with industrial and commercial property transactions. He has conducted over 60 Phase I Environmental Site Assessments (ESAs) for large industrial sites, commercial properties and former coal mining sites. He has developed cost effective remedial strategies to address recognized environmental concerns and provided strategic advice to clients concerning property acquisitions.

Mr. Connelly has extensive experience in contaminated site management, site remediation and brownfields redevelopment. He is a Licensed Remediation Specialist (LRS) in the state of West Virginia and has managed sites participating in the West Virginia Voluntary Remediation Program (VRP). Mr. Connelly's management of contaminated sites includes site characterization, development of sampling and analysis plans, evaluation of remedial strategies, and human health and ecological risk assessment.

Professional Affiliations & Registrations

- 40 Hr HAZWOPER Training, Compliance Solutions, February 2000
- 8 Hr Refresher – Annually
- Member WV Air and Waste Management Association (AWMA)
- Licensed Remediation Specialist (LRS)

Fields of Competence

- Nine years of experience as a project manager
- Compliance Assurance including preparation of spill prevention plans, performance of compliance reviews and chemical inventories
- Transaction Services including Phase I ESAs and limited compliance reviews
- Contaminated Site Management including VRRP sites, PCB-contaminated sites, retail petroleum sites, former chemical manufacturing sites and commercial facilities

Education

- B.S. Environmental Resource Management, The Pennsylvania State University, 1999

KEY PROJECTS

Performance Assurance

EQT
Mr. Connelly managed an aboveground storage tank (AST) project pursuant to guidelines established under the WV AST Act §22-30. The project involved the coordination of multiple field personnel, conducting AST inspections at natural gas well pad sites and compressor stations, over a large geographic area in the southern part of West Virginia. The project also involved the preparation of Spill Prevention Response Plans (SPRPs) and inspection certifications for over 2,200 ASTs. Mr. Connelly coordinated the submittal of SPRPs and inspection certifications to the state agency via the Electronic Submission System (ESS). As a cost-savings measure, a general SPRP was developed for the client and individual SPRP coversheets for each well pad or compressor station. Tank inspection data was managed using a Microsoft Access database developed by ERM, capable of generating individual tank inspection records and facility SPRP coversheets.

Mr. Connelly has also provided technical consulting services for compliance-related client opportunities at active EQT oil and natural gas sites including, performance of SPCC inspections and review of SPCC Plans, development of integrated SWPPP, GPP and BMP Plans, and performance of facility audits.

Confidential Client
Mr. Connelly coordinated the construction storm water permitting process for a large multi-phase, capital expenditure project in West Virginia, along the Ohio River. His familiarity with West Virginia's General Permit for Stormwater Associated with Construction Activities, streamlined the Site Registration Application (SRA) process and submittal of the Notice of Intent (NOI). Mr. Connelly coordinated the development of a comprehensive SWPPP and GPP, including pre and post-construction stormwater discharges, stormwater BMP design, procedures for material storage and handling, facility inspection checklists and a training program for personnel for stormwater management during construction activities.

Schlumberger
Mr. Connelly managed environmental compliance for several Schlumberger-owned facilities in West Virginia, including SPCC and storm water inspections, renwal of NPDES storm water permits, development and coordination of waste profiles, implementation of BMPs, training of facility personnel with respect to oil storage and handling practices, preparation and submittal of discharge monitoring reports (DMRs) through the West Virginia Department of Environmental Protection (WVDEP) Electronic Submission System (ESS). He also registered and inspected qualifying ASTs, in accordance with the WV AST Act §22-30.

Walker Machinery
Mr. Connelly mananged a portfolio of sites in West Virginia and Ohio, providing 5-year review and update of SPCC Plans and development of integrated SWPPPs and GPPs in support of compliance with general storm water NPDES permits.

Armacell
Mr. Connelly conducted an environmental facility audit, providing valuable insight on overall compliance of the facility and performance of operations. He was responsible for reviewing and updating the facility SPCC Plan and Integrated SWPPP and GPP.

WV/NPDES General Storm Water Permit
Mr. Connelly is very knowledgeable and proficient in use of the WVDEP ESS and has assisted multiple facilities with renewal of storm water permits and submission of electronic DMRs through the system. He has also prepared construction storm water permit site registration applications for companies proposing to construct new facilities or expand existing operations.

Confidential Oil & Gas Client
Mr. Connelly managed a multi-site portfolio of natural gas transmission sites for a large client in West Virginia and eastern Ohio. He was responsible for conducting SPCC Plan audits and verifying the completion of engineering upgrades conducted at various sites. Mr. Connelly also conducted numerous site visits to perform the 5 year review of existing SPCC Plans. In addition,

Mr. Connelly provided weekly updates to the client regarding facility compliance, field visit scheduling and status of deliverables. Mr. Connelly was also involved with updating the client's SPCC database with site-specific information obtained during facility compliance audits.

Transaction Services Experience

Mr. Connelly's Transaction Services experience includes visual inspections of facilities, review of federal and state environmental databases, interviews with regulatory personnel and review of facility environmental records.

Confidential Capital Investor – Mr. Connelly conducted a due diligence assessment of a natural gas processing facility and pipeline expansion capital expenditure project in northwestern West Virginia. The project included evaluation of expansion of existing processing facilities and pipeline infrastructure, and potential development of a brownfield site along the Ohio River.

Exterran – Mr. Connelly conducted facility exit assessments for two natural gas processing facilities in West Virginia and Ohio, including a review of existing site conditions, facility permits, spill prevention practices, and historical site activities.

Chevron – Mr. Connelly conducted several Phase I ESAs at injection well facilitys in West Virginia and Ohio, as part of the client's third party waste stewardship program. Findings of the assessments were used by the client to determine potential liabilities associated with potential use of these facilities.

Project Franklin – Conducted a Phase I ESA and limited compliance review of an active zinc production facility in support of a large oil & gas facility acquisition. Active facility included a coal-fired power plant, raw materials storage areas, metals processing operations, a wastewater treatment facility, maintenance areas, rail yards, stormwater management, and lay-down yards.

Boy Scouts of America - Mr. Connelly conducted a Phase I ESA (ASTM E 2247-08) and limited compliance review of two tracts of land (11,600 acres and 1,700 acres), in support of a large capital expenditure project involving the development of a new high-adventure scout camp facility in central West Virginia. Assessment findings facilitated additional state agency response to address abandoned mine land (AML) issues on the properties, resulting in an overall cost savings to the client.

Other key Phase I ESA projects conducted by Mr. Connelly include:

- Confidential Client – Conducted a Phase I ESA of a 131-acre cast iron foundry site which involved extensive historical research of industrial activities at the site over the past 100 years.
- Resco – Conducted Phase I ESAs and limited compliance reviews for two refractory brick production facilities in northern West Virginia and western Pennsylvania. This work was in support of a multi-facility acquistion transaction by the client.
- Manitowic, Inc. – Conducted Phase I ESAs and limited compliance audits at two crane manufacturing facilities in southwestern Virginia.
- Colony Realty Partners – Conducted due diligence investigations of warehouse and light industrial facilities in various locations in preparation of property acquisitions.

Mr. Connelly has conducted many other due diligence Phase I ESAs of former chemical manufacturing sites, retail gas stations, food handling facilities, automotive repair shops and other industrial facilities. He has prepared site assessment reports and documents with recommendations for remedial action or additional investigation as necessary to meet compliance and property transaction objectives.

Contaminated Site Management

Toxic Substances Control Act (TSCA) Experience

FMC

Mr. Connelly was responsible for preparation of a poly chlorinated biphenyl (PCB) clean up plan for the remediation of residual PCBs at a former chemical production facility in West Virginia. The plan was prepared pursuant to the self-implementing on-site cleanup requirements of 40 CFR § 761.61(a) and was

approved by the United States Environmental Protection Agency (U.S. EPA), Region III. Mr. Connelly also coordinated the implementation of the cleanup plan, which involved removal and disposal of concrete and soil impacted with residual PCBs, and collection of confirmation samples in accordance with 40 CFR 761, Subpart O.

Confidential Client
Mr. Connelly managed a large-scale PCB waste characterization project in West Virginia for a former process building and associated structures. The project included the collection of over 300 concrete chip samples from concrete flooring, former process water trenches and thermal pits, and cooling tower basins. Scope of work included a rough order of magnitude estimate of remedial strategies and disposal options, based on analytical results.

West Virginia Division of Highways
Mr. Connelly coordinated the characterization, removal and disposl of former air conditioning units containing residual PCBs, in support of a capital project to upgrade the former state road commission building at the District One Headquarters facility in Charleston, West Virginia.

Confidential Client
Mr. Connelly coordinated the excavation of PCB-impacted soil at a lubricant and oils blending facility in northern New Jersey. He conducted immunoassay testing to delineate excavation limits and collected confirmation soil samples for laboratory analysis. Mr. Connelly managed environmental subcontractors and field sampling teams to ensure the appropriate level of cleanup was conducted with respect to state and TSCA cleanup guidelines and future land use of the site.

Oil & Gas CSM Experience

Mr. Connelly has managed several subsurface investigations at active oil and natural gas facilities (e.g. well-heads, compressor stations, etc.), including characterization of soil and groundwater conditions, delineation of impacted soils and installation of groundwater monitoring wells. He has providedcost-effective cleanup solutions to clients ranging from excavation of shallow impacted soils to remediation through participation in the VRRP.

West Virginia VRP Experience

FMC
Mr. Connelly has coordinated site investigations and remediation activities associated with the West Virginia VRP for two former FMC industrial sites in West Virginia. His experience includes management of long-term groundwater monitoring programs and additional site characterizations, implementation of remedial action work plans (e.g. removal of concrete foundations and soil excavation), coordination of waste characterization and disposal of hazardous wastes, development of sampling and analysis plans and site characterization reports, review of human health and ecological risk assessments, and preparation of final reports and certificate of completion submittals.

SNF Holdings
Mr. Connelly is the designated Licensed Remediation Specialist (LRS) for an SNF Holding site being remediated through the West Virginia VRP. He has managed site investigation activities, including both soil and groundwater sampling events, preparation of VRP deliverables including site characterization reports and risk assessments. He also coordinated the excavation and disposal of impacted soil at the site and conducted confirmation sampling to verify proper removal of contaminants.

Owens Brockway
Mr. Connelly has assisted in the management of VRP activities at the former Owens Brockway Glass Manufacturing facility in Huntington, West Virginia. He has taken the lead role in preparing human health and ecological risk assessments for various portions of the property. Mr. Connelly has also conducted oversight for remedial actions involving redevelopment of several areas of the facility.

ExxonMobil
Mr. Connelly managed several ExxonMobil retail petroleum facilities participating in the West Virginia VRP. He was responsible for coordinating field

investigation activities, preparing sampling analysis plans and site characterization reports and evaluating future land use based on risk assessment reports. Mr. Connelly played a significant role in earning Certificates of Completion for three ExxonMobil West Virginia VRP sites.

Other Contaminated Site Management Projects

West Virginia Division of Highways
Mr. Connelly managed the characterization and disposal of impacted soil in support of two WVDOH capital expenditure projects including the construction of new district one headquarters building and construction of the Dick Henderson Bridge in Nitro, WV. He was able to streamline the waste profile approval process, allowing the client to properly dispose of soil in an efficient manner, consistemt with the timeline of each project.

Stray Gas Litigation Support

Confidential Client, West Virginia
Mr. Connelly assisted with an evaluation of alleged impacts to a water supply well and residence from nearby natural gas exploration and production activities. The work was performed for a joint defense council on behalf of an Oil and Gas Sector client and included site reconnaissance, soil and groundwater sampling, preparation of technical documents and submittal of expert witness testimony. Mr. Connelly assisted with compilation and review of relevant information including local natural gas exploration and production activities, well construction records, and previous hydrogeological studies and other technical reports, to develop a detailed understanding of local conditions. Mr. Connelly also supported local sampling efforts at the property owner's residence including the collection of water and soil samples, and supported the preparation of an expert witness report of findings. Mr. Connelly's effort was instrumental in assisting the client from being released from further litigation and liability related to this case.

Mining

Mr. Connelly conducted site characterizations of several abandoned mine land (AML) sites for the United States Forest Service (USFS) in the eastern portion of West Virginia. Characterization activities included sampling of refuse piles, mine drainage areas, ponds and streams, collecting stream flow measurements, identifying the locations of former coal mining structures and documenting the presence of high walls.

Mr. Connelly also conducted an environmental liability risk review of a large tract of land in southern West Virginia to evaluate potential risks to humans and the environment, associated with current and historical coal mining activities. This project involved an extensive review of the following mining and environmental databases:

- Office of Surface Mining Reclamation and Enforcement (OSMRE) inventory of AMLs
- West Virginia Geographic and Economic Survey (WVGES) listing of historical underground mines
- Coal Impoundment Location and Information System (CILIS)

Megan Innis

Project Scientist

Ms. Megan Innis is a project scientist in ERM's Hurricane, West Virginia, office with 5 years of professional experience in environmental consulting. Ms. Innis has supported multiple site investigation and remediation projects throughout the Mid-Atlantic region for transactional services, Maryland's and West Virginia's Voluntary Cleanup Program and the USEPA Resource Conservation and Recovery Act (RCRA) Program.

Ms. Innis has overseen the installation of monitoring wells, piezometers, lysimeters, and soil gas probes using hydraulic direct push and hollow stem auger drilling techniques. Ms. Innis is proficient with low-flow sampling techniques to collect ground water samples while using multi-parameter probes to collect field-measured water quality parameters. She is adept in the collection of soil samples for site characterization and waste profiling, and logging of soils using ASTM and USCS protocols. She is also proficient and knowledgeable with Quality Assurance/Quality Control (QA/QC) protocols for environmental sample collection and documentation of all field activities.

Ms. Innis routinely prepares health and safety plans for projects work activities including the development of Job Hazard Analyses and Standard Work Procedures. She is OSHA 40-Hour HAZWOPER certified and an ERM Subsurface Clearance Experienced Person (EP).

Ms. Innis has prepared monthly groundwater and free product monitoring reports. She has experience with writing remediation reports and supplemental site assessments.

Professional Affiliations & Registrations

- Phi Beta Kappa

Education

- B.A., Geology, The College of Wooster, Wooster, OH, USA

Fields of Competence

- Soil logging and sampling
- Monitoring well installation, development, and abandonment
- Low-flow sampling methods for ground water in addition to lysimeter installation and sampling
- Drilling and installation of vapor pins
- Surface water and sediment sampling
- Soil gas and indoor/outdoor air sampling
- Calibration and operation of multiple field screening meters
- Wetland Express and Trimble GPS operation
- Spreadsheet data management
- Database management and report preparation with tables and figures
- Data evaluation for development of remediation goals
- Support of human health and ecological risk assessments

Training, Certifications & Affiliations

- Occupational Safety and Health Administration (OSHA) 40-hour Hazardous Waste Site Operations (HAZWOPER)
- First Aid/CPR
- Subsurface Clearance Experienced Person (EP)

Languages

- English, native speaker
- German, fluent

Key Projects

Becton Dickinson, Pylesville, Maryland
Conducted the site assessment and report preparation for a Phase I ESA of a former agricultural facility in support of divestiture of the property. Subsequent activities included support for oversight of the removal of subgrade structures that supported the operations and identification of hazardous and non-hazardous soils requiring excavation and off-site disposal. Identification of toxaphene was determined real-time using test kits. Responsible for the tracking of shipment of over 900 tons of impacted soils including review of manifests, driver certifications/licenses, truck licenses and weights.

Celanese, Narrows, Virginia
Served as field team member for an aquatic impingement study at a large plant facility on the river. Samping occurred in a 24hr period at 6hour intervals once a month. Served as West Virginia's office coordinator and responsible for assisting in the field.

Clover Companies, Tysons Corner, Virginia
Served as project field geologist and site health and safety officer for ground water and soil gas sampling. Field work included use of organic vapor analyzers, multi-parameter water quality meters during low flow sampling, and measurement of water levels. Oversaw the installation of shallow and deep soil-gas ports and collection of field samples with Summa canisters.

Dublin Superfund TCE Site, Dublin, PA
Assisted in a major air samples event of commercial and residential buildings with a team of 8 ERM colleagues. Drilled and installed subslab vapor pins, helium tested each location, and collected 8 and 24 hour air samples with Summa Canisters.

FMC Avtex Superfund Site, Front Royal, Virginia.
Conducted extensive low flow ground water sampling and assisted in site-wide well development in support of post-closure O&M for EPA Region 3 Superfund Program. Responsible for the preparation of well and soil-boring logs, tabulation of field data, preparation of report tables, graphs and figures.

Served as project field geologist and QAQC officer for the Horizontal Directional Drilling (HDD) project. Responsibilites included taking field notes, monitoring subcontractors, oversight of drilling activities, and communication with multiple parties on site and in different offices.

Oversaw multiple contractors during the installation of landfill gas vents and liner and geotextile materials.

FMC Baltimore, Baltimore, Maryland
Conducted low flow ground water sampling and assisted in the installation of several monitoring wells via Geoprobe.

FMC- East Plant, South Charleston, West Virginia
Served as project field geologist for several phases of the project. Responsibilites included gauging NAPL product in source area, multiple groundwater sampling events, air sampling, overseeing installation of soil borings and temporary wells including the collection of soil/groundwater samples, and coordinating and overseeing multiple contrators.

FMC- Spring Hill, South Charleston, West Virginia
Served as project field geologist for the demolition of a former hydrogen peroxide plant. Responsibilities included soil sampling, measurement of soil vapors, subcontractor management, abandonment of monitoring wells, and manifest management for soil and sludge waste removal/disposal.

Halliburton, Salisbury, Maryland
Served as field geologist for the installation of several monitoring wells via hollow-stem auger drilling techniques. Responsibilties included coordinating and overseeing contractors, preparation of Health and Safety Plans and Job Hazard Analyses, conducting several low flow groundwater sampling events, and manifest coordination for waste disposal.

Kodak, Middleway, West Virginia.
Conducted surface water sampling events and several low flow groundwater sampling events in addition to soil vapor sampling. Responsible for implementation of the quality assurance program and documentation of sampling protocol. Also responsible for the conduct of site-wide inspections of the former industrial landfill and NPDES outfalls.

Keystone XL Pipeline Project
Prepared discussion on regional and local geologic resources for the Environmental Impact Statement.

Collaborated on research and newly written portions of report.

NextEra, Grant County, West Virginia
Assisted in a wetland delineation for a wind turbine Phase I. Responsible for assisting the team lead in identifying wetlands, mapping them using a GPS trimble, and working in remote areas.

NiSource, Hagerstown, Maryland
Served as project geologist overseeing the TarGOST® investigation at a former Manufactured Gas Plant (MGP). TarGOST® was used to identify MGP residuals at the site and nearby tar pond, and distinguish impacts from non-MPG contamination. Responsible for implementation of the health and safety program including subsurface utility clearance and management of subcontractors.

Served as project geologist overseeing the Willowstick investigation identifying ground water flow in the karst subsurface. Responsibilities included oversight of subcontractor, operating new Willowstick surveying equipment, and implementation of health and safety program.

PEMCO, Baltimore, Maryland
Served as project field geologist overseeing the installation of a new monitoring well, logging of soil characteristics from split-spoon samples, installing soil gas points, and collecting ground water and soil gas samples. Field work included use of organic vapor analyzers, multi-parameter water quality meters during low flow sampling, GPS surveying equipment, Summa Canisters for soil gas sampling, and measurement of water levels. Responsible for the on-site management of multiple subcontractors and preparation of health and safety plans, job hazard analyses, and work authorizations. Assisted in the preparation of the Site Characterization & Risk Assessment Report.

Power Plant Research Project
Assisted in assembling the annual Coal Combustion Byproducts (CCBs) report. Contacted Maryland power plant operators for generation reports and tabulated data for inclusion in reports. Assisted in completing a paper to address Maryland's proposed regulations for the beneficial use of CCBs.

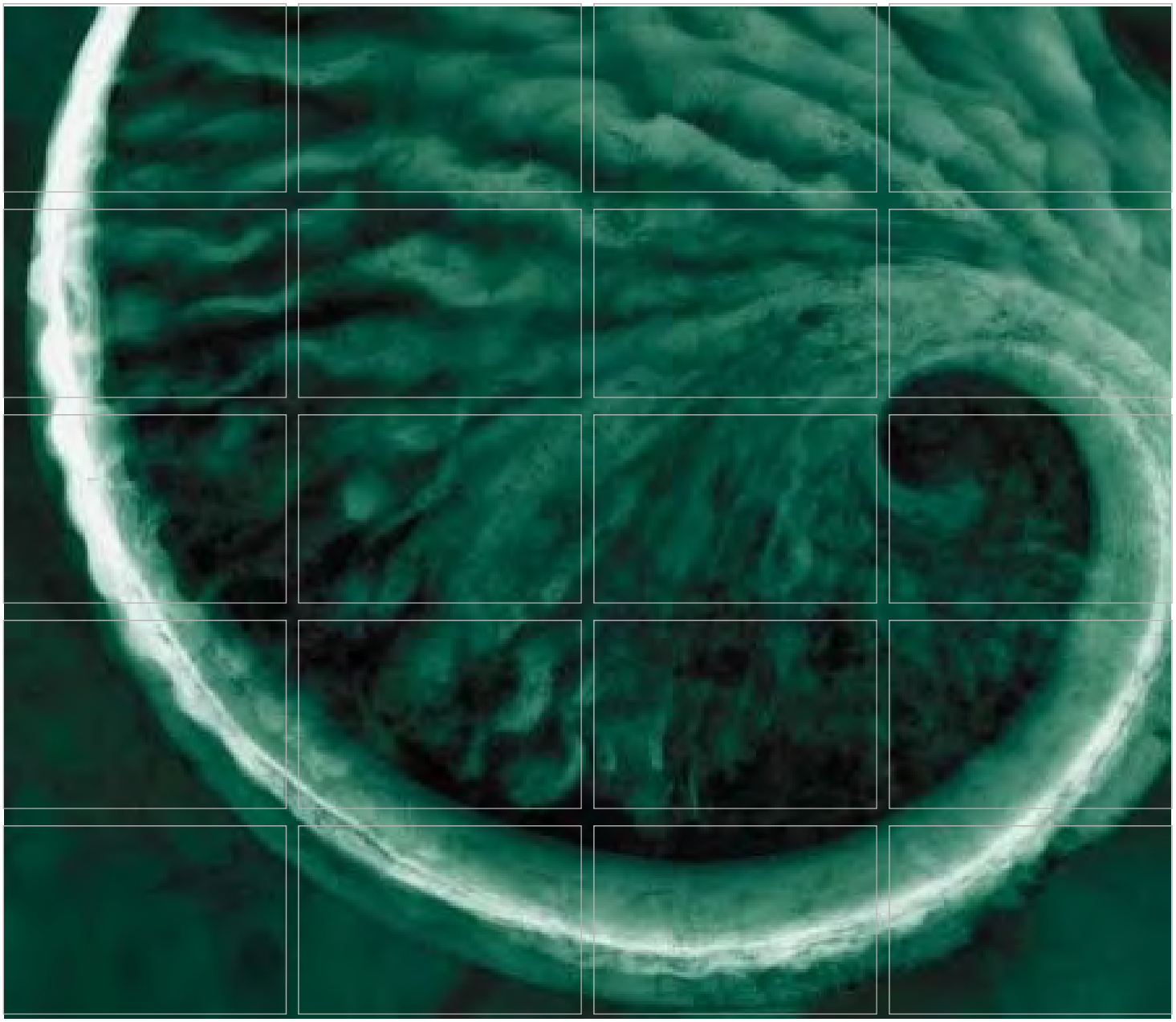
QDI Chemical Leaman Tank Line, Bridgeport, New Jersey
Served as main field support for a monthly groundwater and air sampling event at a contaminated site using an insitu thermal remediation system. Responsible for monthly sampling and ensuring general heath and safety practices at the site.

Undergraduate Thesis, College of Wooster, Ohio
Subject expert and author of undergraduate thesis in paleontology titled "Bioerosion on oysters across the Cretaceous-Paleogene boundary in Alabama and Mississippi (USA)". Thesis was awarded departmental honors. Presented at a campus-wide faculty/student presentation series and the annual Geological Society of America conference on October 12, 2011 in Minneapolis, Minnesota. Field research was conducted in Alabama and Mississippi. Laboratory research was completed at the College of Wooster, Wooster, Ohio.

WB Xpress, Monongahela National Forest, West Virginia
ERM's field lead and representative for a large task withing a visual impact assessment to upgrade existing natural gas pipeline right-of-ways. Responsible for daily safety briefings, communication between field and office teams, navigation to designated key observation points, and generally ensuring safety of entire team. This work was conducted in remote locations of the national forest.

West Virginia Department of Highways (WVDOH)
The WVDOH project includes five different sites and involves quarterly groundwater sampling and reports. Served as project field geologist overseeing the installation of a several soil borings and temporary wells in addition to collecting soil and ground water samples. Responsible for the on-site management and coordination of multiple subcontractors and preparation of health and safety plans, and job hazard analyses. Also responsible for compiling quarterly reports and assisting with offsite investigation reports.

ERM Phase II Environmental Site Assessment (April 2017)



Project Shuttle

Phase II Environmental Site Assessment - Jefferson Orchard Site

April 2017

204 Chase Drive
Hurricane, WV 25526
(304) 757-4777

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Phase II Environmental Site Assessment - Jefferson Orchard Site

April 2017

Project No. 0397010

David L. Carpenter, P.E.
Partner-in-Charge

James Hemme, P.E.
Project Manager

Environmental Resources Management
204 Chase Drive
Hurricane, WV 25526
T: 304-757-4777

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ERM conducted a baseline Phase II investigation at the Jefferson Orchard Site near Kearneysville, West Virginia, on March 15 - 17, 2017 to perform a due diligence baseline environmental assessment in anticipation of a potential transaction involving the Site.

Four soil borings were advanced to ten feet below ground surface (bgs) for the collection of soil samples. Additionally, four groundwater samples were collected from existing potable wells. Soil and groundwater samples were submitted to West Virginia certified laboratories for analysis. Laboratory analytical data conducted on the samples collected by ERM indicated concentrations of the pesticide dieldrin above West Virginia Industrial Soil De Minimis Standards. Additionally, laboratory analytical results indicated concentrations of chloroform and dieldrin above the West Virginia Groundwater De Minimis Standards. Sample results reviewed by ERM from a previously conducted Phase II assessment by others provided evidence of former orchard activities at the Site.

Based on the limited nature of this environmental assessment relative to the size of the Site, an additional Phase II investigation is recommended to more adequately characterize soil and groundwater conditions at the Site.

1.0 INTRODUCTION

Environmental Resources Management, Inc. (ERM) conducted a baseline Phase II Environmental Site Assessment (ESA) for Project Shuttle (Client) at the Jefferson Orchard Site (hereinafter referred to as the "Site") located at 365 Granny Smith Lane near Kearnyesville, West Virginia. A site location map is included as **Figure 1**.

1.1 BACKGROUND

The Client is considering the purchase and development of the Site for the construction of a manufacturing and warehouse facility. Currently, the Site is being used for agricultural crops (field corn and soybean).

1.2 PURPOSE AND OBJECTIVES

Based on the Jefferson Orchard property being utilized as an orchard since the 1940's, the Client retained ERM to conduct a Phase II Environmental Site Assessment (ESA) on the proposed facility property (hereinafter referred to as the "Site" or "Subject Property"). Jefferson Orchard is a total of 400 acres and Client is interested in acquiring approximately 152 acres for development. The goal of this Phase II ESA was to conduct an Environmental Due Diligence (EDD) investigation to assess the baseline conditions of soil and groundwater at the Site. Field activities were conducted from March 15 – 17, 2017 and consisted of four soil boring advancements and the collection of soil and groundwater samples. Groundwater was not encountered during the site investigation and therefore groundwater samples were collected from existing onsite potable wells.

1.2.1 Site Description

The Site is located in an area predominantly characterized by karst topography and is situated at an elevation of approximately 580 feet above mean sea level (amsl). Several limestone rock outcrops are visible throughout the Subject Property. Topography across the Site consists of gentle to moderate slopes and elevation ranges from approximately 530 feet to 602 feet amsl. The Site is bound to the north and east by agricultural fields, wooded areas, a former quarry and a single family residence to the west, and to the south by CSXT railroad and West Virginia Route 9.

1.2.2 Phase I Site Investigation

ERM conducted a Phase I Site investigation on March 6 - 7, 2017. The investigation included a site reconnaissance field visit and supplemental research. The supplemental research included a desktop review of operational history and environmental activities associated with the Subject Property, with a focus on historical analytical sampling data. Based on a review of documentation obtained through a Freedom of Information Act (FOIA) request made to the United States Environmental Protection Agency (USEPA) and the West Virginia Department of Environmental Protection- Division of Land Restoration (WVDEP-DLR), the soil and groundwater associated with the Site, have been potentially impacted by former orchard operations. ERM interviewed the general manager, Mr. Ron Slonaker, during the site reconnaissance visit on March 6, 2017, to obtain more information regarding the site and its previous uses. During the interview, Mr. Slonaker mentioned a previous soil and groundwater study from 2003 for the Site. ERM obtained a portion of this report from the Client and reviewed the analytical data.

Based on identified historical Site information, the interview with Mr. Slonaker, and findings of the field visit and desktop study, the Phase I report recommended a Phase II ESA at the Site to further assess site soils and groundwater.

1.3 SITE VICINITY AND SURROUNDING AREAS

1.3.1 Adjacent Properties

The following properties are located directly adjacent to or in the immediate vicinity of the Subject Property:

North: The Site is bordered to the north by additional Jefferson Orchard property. North of the additional Jefferson Orchard property is agricultural land owned by Ms. Miller.

West: The Site is bordered to the west by a single family residence, forest/woods and a limestone rock quarry owned by Ms. Sarah Walker.

South: The Site is bordered to the south by West Virginia Route-9 and railroad tracks owned and operated by CSX.

East: The Site is bordered to the east by additional Jefferson Orchard property, specifically the Labor Camp Area. East of the additional Jefferson Orchard property is agricultural land.

1.4 GEOLOGICAL SETTING

According to the United States Department of Agriculture Natural Resources Conservation Service web soil survey data, the Site geology is characterized by Hagerstown silt loam/silt clay and Vertrees silt loam/silt clay deposits. The silt loams and clays are underlain by Stonehenge Limestone bedrock, which is underlain by Conococheague Formation. The Hagerstown silt loam/silt clay and Vertrees silt loam/silt clay deposits are characterized as prime areas for farmland and are well drained soils. These sequences average 0 to 7 feet in thickness and were deposited on top of the Stonehenge Limestone bedrock unit. The Stonehenge Limestone bedrock is characterized as gray, thin-bedded to massive, fossiliferous limestone, largely mechanically deposited, with small black chert nodules and beds of "edgewise" conglomerate (Cardwell, et al., 1986).

Depth to bedrock beneath the Site varies due to the nature of limestone karst topography and may range from 5 to 35 feet below ground surface (bgs). The bedrock underlying the Hagerstown silt loam/ silt clay and Vertrees silt loam/silt clay deposits is part of the Conococheague Formation of the Cambrian-System. The Conococheague Formation is predominately algal and mechanically deposited limestone, with interbeds of aphanitic limestone and dolomite. The Formation contains siliceous and dolomitic laminations (Cardwell, et al., 1986).

1.5 SITE HEALTH AND SAFETY PROGRAM

The ERM Site-Specific Health and Safety Plan (HASP) documents the policies and procedures which protect workers and the public from potential hazards posed by site work. Field work was conducted in accordance with the HASP and in a manner minimizing the probability of near misses, equipment and property damage, and personal injury. The HASP was reviewed by each site worker and the HASP Certification was signed by ERM and subcontractor personnel that actively participated in the project. ERM conducted field operations using Level D personal protective equipment (PPE).

2.0 PHASE II ESA

This Phase II ESA was conducted in accordance with the sampling strategy outlined in ERM's proposal dated February 15, 2017. Phase II activities were conducted on March 15 – 17, 2017 and included the advancement of four soil borings to ten feet bgs and the collection of soil samples and four groundwater samples. Drilling activities were conducted by West Virginia certified driller Mr. Jesse Morgan. Locations of soil borings and existing monitoring wells are illustrated on **Figure 2**.

2.1 PROCEDURES AND METHODOLOGIES

ERM conducted an underground utility clearance with Underground Services Inc., (SoftDig), on March 13th, 2017 prior to the commencement of field activities. Ground penetrating radar was used to scan the area within a 20 foot radius of each proposed boring location. No underground utilities were found in the near vicinity of the four proposed boring locations. ERM installed pin flags to mark the proposed boring locations.

Procedures and methodologies associated with equipment decontamination, soil and groundwater sample collection, direct-push soil boring advancement, and waste handling are outlined in the following sections.

2.1.1 Decontamination

Decontamination of equipment was performed to remove residual chemical contamination before using the equipment to collect samples for environmental analysis. Sampling equipment was decontaminated using the following procedures:

1. Post-Sample Collection Cleanup – Residual visible soil was removed as much as possible by scraping and shaking.

2. Gross Wash and Water Rinse – The equipment was washed with laboratory-grade, phosphate-free detergent (Liquinox or Alconox) in water and rinsed with distilled water to remove visible particulates.

3. 10% Nitric Acid Rinse – Prior to collecting samples to be analyzed for metals, stainless steel and glass sampling equipment was rinsed with 10% nitric acid (HNO_3) solution. The nitric acid solution was applied

using a labeled laboratory-grade Nalgene® spray bottle.

4. Analyte-Free Water Rinse – Decontaminated equipment was rinsed with deionized (DI) certified analyte-free water supplied by Preiser Scientific, Inc. DI water was applied using a labeled laboratory-grade Nalgene® spray bottle.

5. Hexane Rinse – Prior to collecting samples to be analyzed for polycyclic aromatic hydrocarbons (PAH) and polychlorinated biphenyls (PCBs), stainless steel sampling equipment was rinsed with a hexane solution. The hexane solution was applied using a labeled laboratory-grade Nalgene® spray bottle.

6. Analyte-Free Water Rinse – Decontaminated equipment was rinsed with DI certified analyte-free water supplied by Preiser Scientific, Inc. DI water was applied using a labeled laboratory-grade Nalgene® spray bottle.

7. Solvent Rinse – Prior to collecting samples to be analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), sample equipment was rinsed with reagent grade isopropanol. Isopropanol was applied using a labeled laboratory-grade Nalgene® spray bottle.

8. Second Analyte-Free Rinse – Decontaminated equipment was rinsed with DI, and applied using a labeled laboratory-grade Nalgene® spray bottle.

9. Protective Wrap – Decontaminated equipment was allowed to air dry and stored in a designated storage location, free from sources of contamination.

2.1.2 Soil Sample Collection

Subsurface soil samples were collected from four locations at the Site including SB-JO-1, SB-JO-2, SB-JO-4, and SB-JO-7. One duplicate sample was collected at SB-JO-7 and called SB-JO-DUP1. Continuous soil samples were collected in five foot intervals down to ten feet bgs via direct-push methods using a macro-tube sample collection device. Soil boring locations are illustrated on Figure 2.

Atmospheric VOC concentrations were monitored during drilling activities using a multi-gas meter to assess potential health and safety hazards. The multi-gas meter was calibrated daily prior to use and a

calibration log is included as Appendix A. Subsurface soil samples were collected from soil borings using a track-mounted 7720DT Geoprobe®, employing direct-push techniques. The Geoprobe® unit was positioned at each soil boring location and the drive unit was hydraulically raised on its base so the weight of the vehicle and a hydraulically powered percussion hammer pushed the probe with an attached five (5) foot long 2 ⅛-inch outside diameter outer core barrel into the ground. Direct-push soil samples were collected using a specially designed stainless steel sample tube or core barrel with an inner polyvinyl chloride (PVC) macrocore sleeve. Following the retrieval of the PVC sleeve, each soil sample was removed from the core barrel and the sleeve split open using a decontaminated knife equipped with a stainless steel blade.

Immediately upon retrieval, ERM logged the soils and screened each foot interval using a MiniRAE 2000 Photoionization Detector (PID). The tip of the PID probe was placed above freshly disturbed soil within the core and the reading was recorded on the boring logs. The PID was calibrated daily prior to use and a calibration log is included in Appendix A. The PID was available for use on March 17th, 2017, and one of the four soil boring cores was screened for VOCs during the site investigation. The soils were logged and classified according to the Unified Soils Classification system in accordance with ASTM Method D 2488 90. Soil sample descriptions, sample depth intervals, PID readings (for one sample location), and sample identification names were recorded on boring logs and are included in Appendix B.

Grab soil samples were collected from four intervals at each boring location. The four sample depth intervals included: 0 - 6 inches; 12 - 18 inches; 4.5 – 5.0 feet; and 9.5 – 10 feet. One sample was collected from 5.0 - 5.5 feet due to the lack of recovery in the first 5-foot PVC macrocore sleeve. Samples collected for chemical analysis were placed in appropriate sample containers with required preservatives, labeled for proper identification, packed in a cooler with ice, and submitted to two West Virginia certified laboratories, ALS Environmental and Reliance Laboratories Inc. Both labs were selected based on their location in proximity to the Site and their ability to provide courier services, which prevented the need for sample shipment.

2.1.3 Groundwater Sampling

ERM observed three existing groundwater wells on the Subject Property and one groundwater well on the offsite east adjacent property. ERM collected two samples and a duplicate sample from two of the onsite wells (Packing Shed well and Residential well) and one sample from the offsite

well (Labor Camp well) to characterize the Site and Site area groundwater conditions.

Groundwater samples were collected using existing pumps and piping associated with the wells. After 30 seconds of purging, ERM collected groundwater samples directly from well spigots into laboratory supplied bottle-ware. All water samples were collected prior to being treated by a water softener in an effort to collect samples representative of Site groundwater conditions. Water quality measurements including temperature, pH, and conductivity were collected from the two onsite well locations as the water quality meter, YSI 63, was not available during the offsite groundwater sample collection. Existing groundwater well locations are illustrated on **Figure 2** and groundwater sample collection logs are included in **Appendix C**.

2.1.4 Waste Material Handling

2.1.4.1 General Garbage

General garbage may include such items as packaging material, unused sample jars, and any other non-contaminated garbage. Non-contaminated garbage was disposed as general trash.

2.1.4.2 Soil and Water Investigation Derived Waste (IDW)

After collecting the four soil sample intervals, any remaining soil cuttings were returned to the borehole and decontamination water was discharged to the ground surface near the borehole.

2.1.5 Sampling Parameters

Soil and groundwater sampling parameters and analytical methodology for this investigation were selected based on findings in ERM's Phase I report and previous sampling analytical results from previous studies at the Site. Soil and groundwater sampling parameters and analytical methods included the following:

Analytical Parameter	Analytical Method	Sample Media
TPH- GRO/ORO/DRO	8015D	Soil / Groundwater
PAH	8270D/8270 SIMS	Soil / Groundwater
BTEX	8260B	Soil
TCL VOCs	8260B	Groundwater
RCRA 8 Metals (Dissolved-Lab filtered)	6020A	Groundwater
RCRA 8 Metals (Total)	6020A/7471B	Soil / Groundwater
PCBs	8082A	Soil / Groundwater
Herbicides	8151A	Soil / Groundwater
Pesticides	8081B	Soil / Groundwater
Phenol	9066	Groundwater
Formaldehyde	NIOSH 3500	Groundwater
Ammonia	D6919-09	Groundwater
pH	9045D	Soil / Groundwater
Alkalinity	S2510B-97	Soil / Groundwater
Conductivity	S2510B-97	Groundwater

Notes:
BTEX: Benzene, Ethylbenzene, Toluene, and Xylenes (VOC parameters)
DRO- Diesel Range Organics
GRO- Gasoline Range Organics
ORO- Oil Range Organics
PAH- Polycyclic Aromatic Hydrocarbons
PCB- Polychlorinated biphenyl
RCRA – Resource Conservation and Recovery Act
TCL - Target Compound List
TPH – Total Petroleum Hydrocarbons
VOCs - Volatile organic compounds

2.1.6 Laboratory Analyses

Samples collected as part of this investigation were submitted to ALS Environmental in Middletown, Pennsylvania, and Reliance Laboratories Inc., in Martinsburg, West Virginia. ALS and Reliance are West Virginia certified laboratories. Samples were analyzed in accordance with USEPA approved procedures such as those set forth by SW-846, Methods of Chemical Analysis for Water and Wastes (USEPA 600/4 79 010) 3rd edition, update 1 (November, 1990). ALS and Reliance meet Occupational Safety and Health Administration (OSHA) requirements, and has a Quality Assurance Program consistent with USEPA guidance document "Guidance for Data Quality Assessment: Practical Methods for Data Analysis EPA/600/R-96/084, July 2000."

3.0 SOIL AND GROUNDWATER ANLYTICAL RESULTS

Soil analytical results were compared to the West Virginia Industrial Soil De Minimis Standards and groundwater analytical results were compared to the West Virginia Groundwater De Minimis Standards.

3.1 SOIL ANALYTICAL RESULTS

3.1.1 BTEX

No BTEX constituents were detected above their respective laboratory reporting limits or their respective West Virginia Industrial Soil De Minimis Standards in samples collected from the Site during the March 15 - 17, 2017 sampling activities.

3.1.2 PAHs

No PAHs were detected above their respective West Virginia Industrial Soil De Minimis Standards during March 15 - 17, 2017 sampling activities.

3.1.3 Pesticides

Dieldrin was detected above the West Virginia Industrial Soil De Minimis Standard of 1.5 mg/kg in sample SB-JO-7 (0-6″) at a concentration of 3.87 mg/kg. This sample is located in the vicinity of the former pesticide mixing station.

No other pesticides were detected above their respective West Virginia Industrial Soil De Minimis Standards in samples collected from the Site during the March 15 - 17, 2017 sampling activities.

3.1.4 Herbicides

No herbicides were detected above the above their respective laboratory reporting limits or their respective West Virginia Industrial Soil De Minimis Standards in samples collected from the Site during the March 15 - 17, 2017 sampling activities.

3.1.5 Inorganics (RCRA 8 Metals)

No inorganics were detected above the above their respective West Virginia Industrial Soil De Minimis Standards in samples collected from the Site during the March 15 -17, 2017 sampling activities.

3.1.6 PCBs

No PCBs were detected above the above their respective laboratory reporting limits or their respective West Virginia Industrial Soil De Minimis Standards in samples collected from the Site during the March 15 -17, 2017 sampling activities.

3.1.7 TPHs

TPH-DRO concentrations were detected in six of the twenty samples and ranged between 3.2 mg/kg and 14.7 mg/kg. There is currently no West Virginia Industrial Soil De Minimis Standard for TPH-DRO.

TPH-GRO concentrations were detected in eighteen of the twenty samples and ranged between 1.27 mg/kg and 3.52 mg/kg. There is currently no West Virginia Industrial Soil De Minimis Standard for TPH-GRO.

TPH-ORO was detected at a concentration of 5.6 mg/kg in one of the twenty samples collected at the Site during the March 15 -17, 2017 sampling activities. There is currently no West Virginia Industrial Soil De Minimis Standard for TPH-ORO.

TPH analyses are generally used to evaluate the potential presence of other petroleum-related constituents. West Virginia currently has a Soil Cleanup Guideline of 100 mg/kg for the cumulative total of the three ranges of TPH (GRO, DRO, and ORO). None of the cumulative TPH concentrations in soil samples were above the Soil Cleanup Guideline.

3.1.8 Alkalinity and pH

Alkalinity concentrations ranged between 24 mg/kg and 143 mg/kg for the twenty samples collected at the Site during the March 15 -17, 2017 sampling activities. There is currently no West Virginia Industrial Soil De Minimis Standard for alkalinity.

Each surface soil interval (0-6") and each of the four depth intervals at one sample location were analyzed for pH. Measurements ranged between 6.33 and 7.39 for the seven samples analyzed for pH. There is currently no West Virginia Industrial Soil De Minimis Standard for pH.

Soil analytical data are summarized in **Table 1**. Laboratory analytical data are included as **Appendix D** and soil concentrations above West Virginia Industrial Soil De Minimis Standards are illustrated on **Figure 3**.

3.2 GROUNDWATER ANALYTICAL RESULTS

3.2.1 VOCs

Chloroform was detected above the West Virginia Groundwater De Minimis Standard of 0.19 ug/L in each of the four groundwater samples: W-JO-Packing Shed, W-JO-Dup-1, W-JO-Res House, and W-JO-Labor Camp. Their respective concentrations are 1.3 ug/L, 1.2 ug/L, 1.4 ug/L and 0.3 ug/L.

No other VOCs were detected above their respective West Virginia Groundwater De Minimis Standards during March 15 - 17, 2017 sampling activities.

3.2.2 SVOCs

No SVOCs were detected above their respective West Virginia Groundwater De Minimis Standards during March 15 - 17, 2017 sampling activities.

3.2.3 Pesticides

Dieldrin was detected above the West Virginia Groundwater De Minimis Standard of 0.0042 ug/L in W-JO-Packing Shed and W-JO-Dup-1 at concentrations of 0.012 ug/L and 0.017 ug/L, respectively. No other pesticides were detected above their respective West Virginia Groundwater De Minimis Standards during March 15 - 17, 2017 sampling activities.

3.2.4 TPHs

TPH-DRO was not detected above its respective laboratory reporting limit during March 15 - 17, 2017 sampling activities. There is currently no West Virginia Groundwater De Minimis Standard for TPH-DRO.

TPH-GRO concentrations were detected in samples W-JO-DUP1, W-JO-Res House, and W-JO-Labor Camp at respective concentrations of 20.6 ug/L, 15.8 ug/L, and 16.8 ug/L. There is currently no West Virginia Groundwater De Minimis Standard for TPH-GRO.

TPH-ORO was not detected above its respective laboratory reporting limit during March 15 - 17, 2017 sampling activities. There is currently no West Virginia Groundwater De Minimis Standard for TPH-ORO.

Additionally, there is currently no established West Virginia Groundwater Standard (WVGS) for TPH.

3.2.5 Herbicides

No herbicides were detected above their respective laboratory reporting limits or their respective West Virginia Groundwater De Minimis Standards during March 15 - 17, 2017 sampling activities.

3.2.6 Inorganics (RCRA 8 Metals)

No inorganics were detected above their respective West Virginia Groundwater De Minimis Standards during March 15 - 17, 2017 sampling activities.

3.2.7 Other Parameters

Formaldehyde and phenolics were not detected above their respective laboratory reporting limits or their respective West Virginia Groundwater De Minimis Standards during March 15 - 17, 2017 sampling activities.

Ammonia was detected in W-JO-Dup-1 and W-JO-Labor Camp at concentrations of 40 ug/L and 317 ug/L, respectively. There is currently no West Virginia Groundwater De Minimis Standard for ammonia.

Specific Conductance was analyzed on each of the four groundwater samples and concentrations ranged from 99 micromhos per centimeter

(umhos/cm) to 883 umhos/cm. There is currently no West Virginia Groundwater De Minimis Standard for specific conductance.

Groundwater analytical data are summarized in Table 2. Laboratory analytical data are included as Appendix D and groundwater concentrations above the West Virginia Groundwater De Minimis Standards are illustrated on Figure 4.

3.3 QA/QC ANALYTICALS RESULTS

The precision and accuracy of the field sampling procedures were checked through the submission and analysis of duplicate samples and trip blanks. The following Quality Assurance/Quality Control (QA/QC) samples were collected and submitted for laboratory analysis:

Sample Type	Quantity
Trip Blank	5
Duplicate Sample	5

Trip blank samples consisted of a set of two sample containers filled with analyte-free water obtained from the analytical laboratory. Blank water was comprised of the same water used by the lab for method blanks. Trip blanks were submitted at a frequency of one (1) per sample shipment containing samples to be analyzed for VOCs. Trip blanks were analyzed for the same VOCs as media samples included in each particular shipment. A total of five (5) trip blank samples were submitted to the analytical laboratory and two VOCs were detected. Acetone and carbon disulfide were detected in the trip blanks below the West Virginia Groundwater De Minimis Standards and appear to be associated with laboratory contamination. The two VOCs were detected at low concentrations and were not detected in the four site groundwater samples. Analytical results of the trip blank samples indicate that the sample packaging and shipping methods were effective and appropriate to prevent cross-contamination between sample containers.

Five duplicate samples (SB-JO-DUP-1 (0-6″) (soil), SB-JO-DUP-1 (12″-18″) (soil), SB-JO-DUP-1 (5′-5.5′) (soil), SB-JO-DUP-1 (9.5′-10′) (soil) and W-JO-DUP-1 (water)) were used as quality assurance of sample analysis methods. The duplicate samples were prepared by dividing a single sample into two equal aliquots for separate analyses. The duplicate samples were analyzed for the same parameters as the corresponding

regular sample. Duplicate sample analytical results were within typical analytical precision expectations. Laboratory analytical results for the field duplicate samples collected during the March 15 -17, 2017 sampling activities are included in **Tables 1** and **2**.

Laboratory analytical results for the five trip blanks and five duplicate samples are included in **Appendix D**.

4.0 SOIL

Soil concentrations above West Virginia Industrial Soil De Minimis Standards were limited to one pesticide (dieldrin), in one sample (SB-JO-7 (0-6"). Sample location SB-JO-7 is located adjacent to the former pesticide mixing station, as illustrated on Figure 2. This soil exceedance could be associated with former activities conducted in and around the former pesticide mixing station.

TPH-DRO, TPH-GRO, and TPH-ORO were detected at concentrations between 1.27 mg/kg and 14.7 mg/kg in soils across the Site. These concentrations are typical of what would be expected at a Site that has been developed for a number of years. While there are no West Virginia Industrial Soil De Minimis Standards for TPH, many constituents commonly associated with TPH do have West Virginia Industrial De Minimis Standards, including BTEX and PAHs. No BTEX or PAHs concentrations were detected above their respective West Virginia Soil De Minimis Standards during the sampling activities.

4.1 GROUNDWATER

Groundwater detections above West Virginia Groundwater De Minimis Standards included: chloroform in samples W-JO-Packing Shed, W-JO-DUP1, W-JO-Res House, and W-JO-Labor Camp at concentrations of 1.3 ug/L, 1.2 ug/L, 1.4 ug/L, and 0.3 ug/L, respectively; and dieldrin in samples W-JO-Packing Shed and W-JO-DUP1 at concentrations of 0.012 ug/L and 0.017 ug/L, respectively. The West Virginia Groundwater De Minimis Standard is 0.19 ug/L for chloroform and 0.0042 ug/L for dieldrin.

Chloroform is a constituent commonly associated with water treatment of potable water wells (well disinfection through shock chlorination) and may be a result of previous use as potable water sources. Chloroform in groundwater has also been attributed to the leaching sanitary wastewater (presumably containing bleach from laundry processing) associated with septic systems (Ivahnenko and Zogorski, 2006). Additionally, chloroform in groundwater could potentially be migrating onto the Site from an unknown offsite source.

Water samples collected from W-JO-Packing Shed and W-JO-DUP1 were collected in the vicinity of the former pesticide mixing area. Dieldrin concentrations detected in these samples could be a result of the former pesticide mixing activities conducted in this area.

There is currently no established natural background level or West Virginia Groundwater De Minimis Standard for ammonia.

The Phase I ESA identified a small cemetery located west of the Site. Common metals associated with cemeteries include manganese, nickel, copper, vanadium, lead, mercury, cadmium, chromium, arsenic, and barium (Langtree, 2015). Groundwater samples were analyzed for six of the ten metals typically associated with cemeteries including lead, mercury, cadmium, chromium, arsenic, and barium. Concentrations of these six metals were not detected above their respective West Virginia Groundwater De Minimis Standards. Additionally, formaldehyde was not detected above its Groundwater De Minimis Standard.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF RESULTS

ERM was retained by the Client to conduct a Phase II Environmental Site Assessment (ESA) within the Jefferson Orchard Site in Jefferson County, West Virginia. The goal of this Phase II investigation was to assess the soil and groundwater conditions expected to be encountered during future site activities. The ESA activities included the following:

- Preparation of a Health & Safety Plan;
- Advancement of four soil borings down to ten feet bgs; and
- Collection of 20 soil samples for laboratory analysis; and
- Collection of four grab groundwater samples from existing potable site wells.

5.1.1 Summary of Soil Analytical Results

Dieldrin was detected above West Virginia Industrial Soil De Minimis Standards in one soil sample (SB-JO-7 (0-6")). This detected concentration could be a result of the former pesticide mixing activities performed near the packing shed well.

TPH-DRO, TPH-GRO, and TPH-ORO were detected at concentrations between 1.27 mg/kg and 14.7 mg/kg in soils across the Site. However, there are currently no West Virginia Industrial Soil De Minimis Standards for TPH and concentrations do not appear to represent a concern, with respect to commercial/industrial workers.

5.1.2 Summary of Groundwater Analytical Results

Dieldrin and chloroform were detected above West Virginia Groundwater De Minimis Standards.

Chloroform was detected in each of the four groundwater samples collected at the Site, and is potentially associated with chemicals commonly used in treatment of potable water wells. Dieldrin was detected in sample W-JO-Packing Shed and W-JO-DUP1, which were collected from the packing shed well. Dieldrin concentrations detected within this well and two associated samples could be associated with former pesticide mixing activities near the packing shed well.

No other concentrations of target analytes were detected in groundwater above West Virginia Groundwater De Minimis Standards.

5.2 RECOMMENDATIONS

The baseline Phase II ESA provides a general overview of the property regarding the potential for contaminants of concern at the location. While most detections found during this exploration were below Industrial De Minimis Standards, there were multiple detections of pesticides within the four sample locations. Further, there were similar detections of pesticides in a previously conducted Phase II ESA assessment by others. Given the randomness of the samples to date and the variety of pesticide detections, ERM recommends further characterization of on-site media prior to future construction activities or other potential earth-disturbing activities at the Site. The follow up Phase II is recommended to follow a methodical approach with samples spaced at approximate equal distance across the property, with specific attention given to the former mixing area for identified constituents of concern.

Findings presented in this investigation are meant to provide a baseline of due diligence environmental conditions at the Site and to be used for the purpose of potential purchase negotiations. The baseline results are not representative of the full environmental conditions present at the Site.

6.0 REFERENCES

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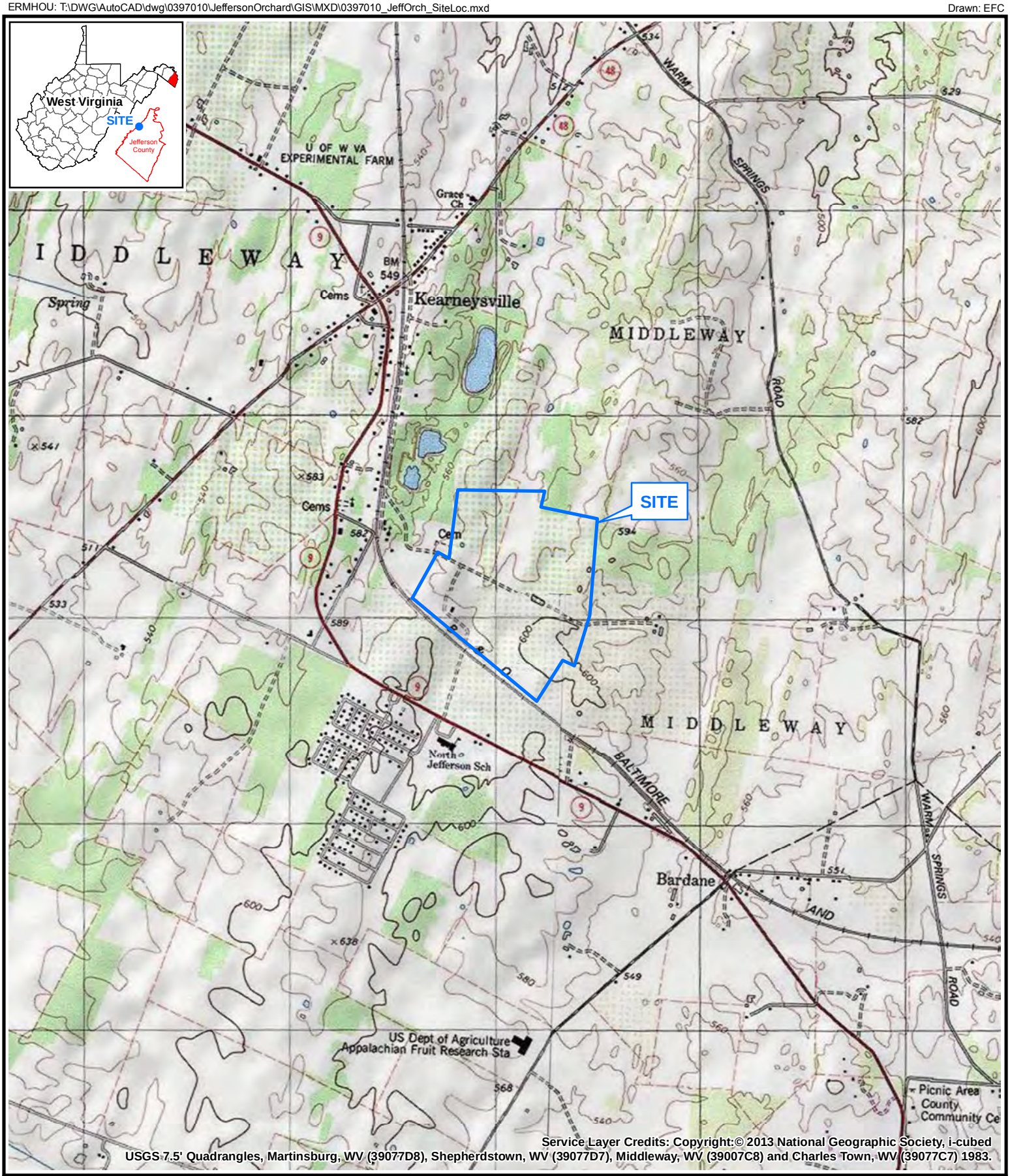
Figures

ERMHOU: T:\DWG\AutoCAD\dwg\0397010\JeffersonOrchard\GIS\MXD\0397010_JeffOrch_SiteLoc.mxd

Drawn: EFC



Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
USGS 7.5' Quadrangles, Martinsburg, WV (39077D8), Shepherdstown, WV (39077D7), Middleway, WV (39007C8) and Charles Town, WV (39077C7) 1983.

N

0 1,000 2,000 Feet

Environmental Resources Management
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Figure 1
Site Location Map
Jefferson Orchard Site
Project Shuttle
Kearneysville, West Virginia

ERM

1:5,000

0 1,000 2,000

Feet

Environmental Borings

Potable Wells

Subject Propery Boundary

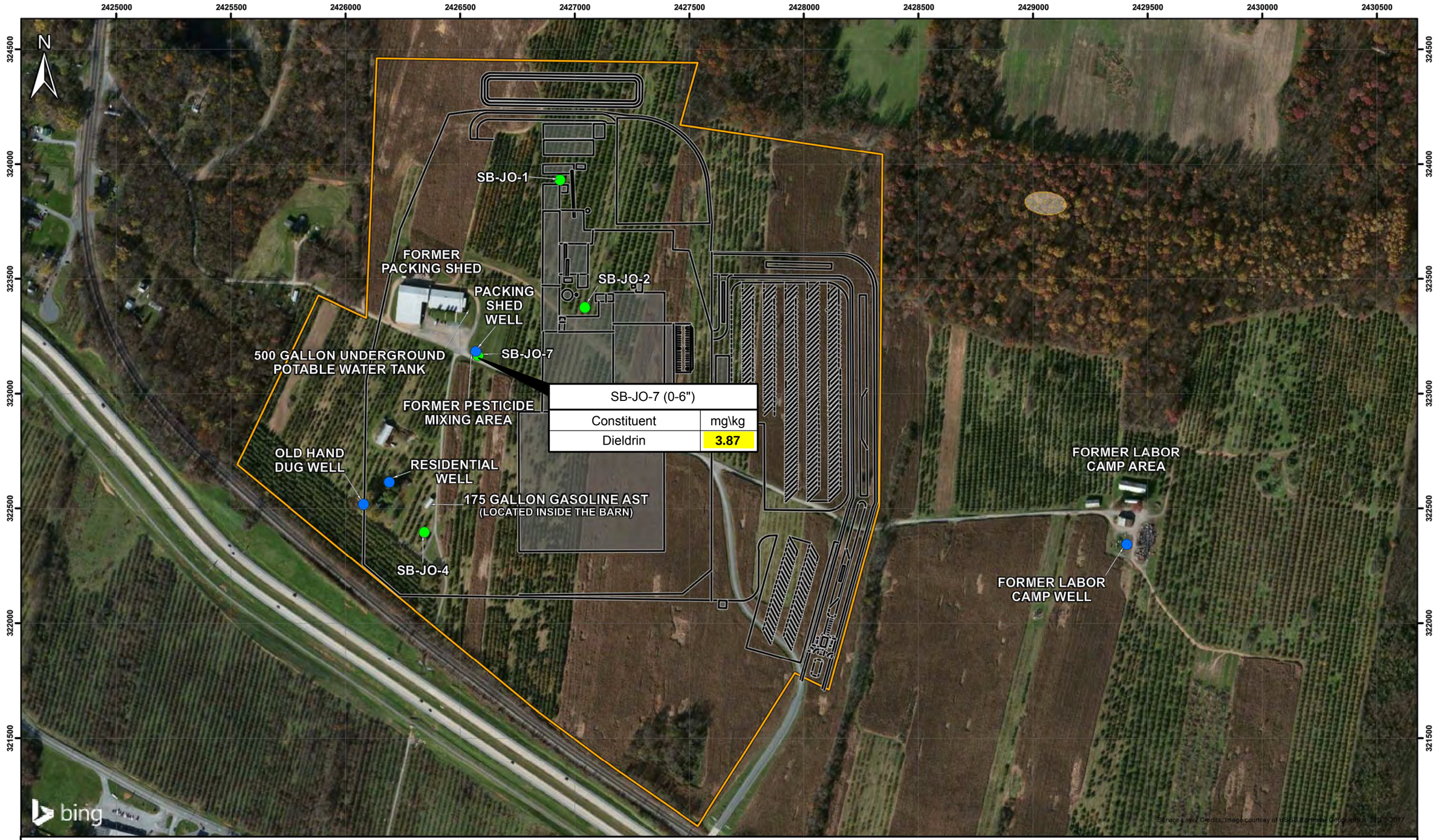
Former Dump Site

Figure 2

Jefferson Orchard Site Plan
Project Shuttle

Projection: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet | Date: March 31, 2017

Proj # 0397010 | GIS # SHTL-15-010



ERM

SCALE 0 400 800 FEET

West Virginia Industrial Soil De Minimis Standards	
Constituent	mg\kg
Dieldrin	1.5

Note: Values **bolded and highlighted yellow** indicate concentrations above West Virginia Industrial Soil De Minimis Standards.

- Environmental Borings
- Potable Wells
- Subject Propery Boundary
- Former Dump Site

Figure 3
Soil Analytical Results Above West Virginia Industrial Soil De Minimis Standards
Jefferson Orchard Site
Project Shuttle

Projection: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet | Date: March 31, 2017

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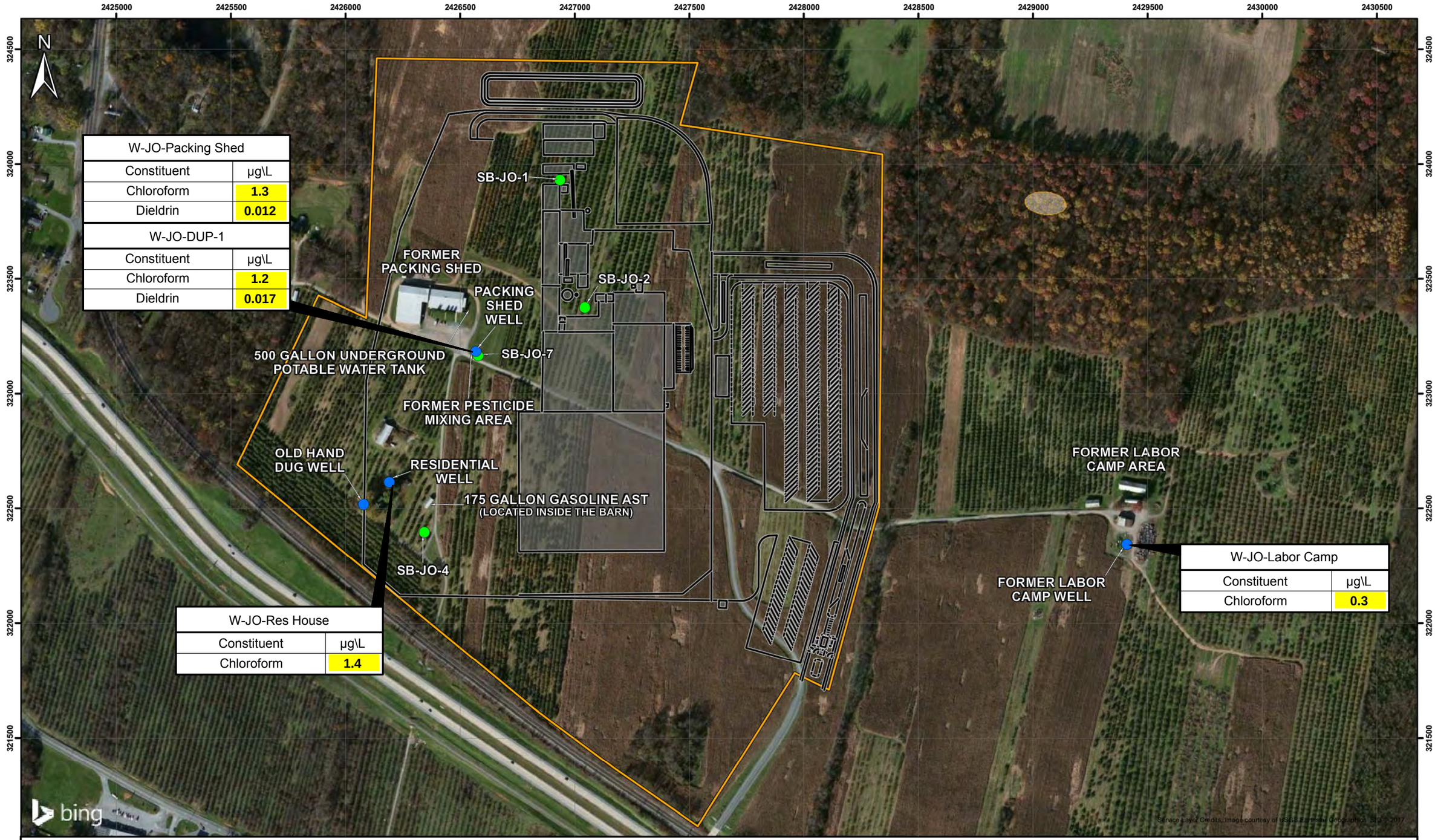
Proj # 0397010 | GIS # SHTL-15-010



0 400 800
SCALE FEET

West Virginia Groundwater De Minimis Standards	
Constituent	µg\L
Chloroform	0.19
Dieldrin	0.0042

Note: Values **bolded and highlighted yellow** indicate concentrations above West Virginia Groundwater De Minimis Standards.

- Environmental Borings
- Potable Wells
- Subject Propery Boundary
- Former Dump Site

Figure 4
Groundwater Analytical Results Above West Virginia Industrial Groundwater De Minimis Standards
Jefferson Orchard Site
Project Shuttle

Projection: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet | Date: March 31, 2017

ERMHOU: T:\DWG\AutoCAD\dwg\0397010\JeffersonOrchard\0397010_COCboxes2.dwg

Proj # 0397010 | GIS # SHTL-15-010

Tables

TABLE 1A - Soil Analytical Results - VOCs, TPH, PAHs, and Inorganics
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Constituent	Industrial Soil De Minimis Standards[1] (mg/kg)	Sample ID	SB-JO-1 (0-6")	SB-JO-1 (12"-18")	SB-JO-1 (5'-5.5')	SB-JO-1 (9.5'-10')	SB-JO-2 (0-6")	SB-JO-2 (12"-18")	SB-JO-2 (4.5'-5')	SB-JO-2 (9.5'-10')	SB-JO-4 (0-6")	SB-JO-4 (12"-18")	SB-JO-4 (4.5'-5')	SB-JO-4 (9.5'-10')
		Date	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17
Volatile Organic Compounds (VOCs)														
Benzene	57		<0.0024	<0.002	<0.0023	<0.0023	<0.0023	<0.0022	<0.0021	<0.0027	<0.0022	<0.0019	<0.002	**<0.002**
Ethylbenzene	290		<0.0024	<0.002	<0.0023	<0.0023	<0.0023	<0.0022	<0.0021	<0.0027	<0.0022	<0.0019	<0.002	<0.002
Toluene	820		<0.0024	<0.002	<0.0023	<0.0023	<0.0023	<0.0022	<0.0021	<0.0027	<0.0022	<0.0019	<0.002	<0.002
Total Xylenes	260		<0.0073	<0.0061	<0.0069	<0.0069	<0.0068	<0.0067	<0.0063	<0.0081	<0.0065	<0.0058	<0.0061	<0.0076
Total Petroleum Hydrocarbons														
Diesel Range Organics (DRO)	NE		**3.6 J**	<12.2	<13.4	<13.8	**3.2 J**	<12.8	**3.5 J**	<14.2	<12.4	<12.4	<14.2	<13.1
Gasoline Range Organics (GRO)	NE		**3.52 J**	**2.21 J**	**2.06 J**	**2.65 J**	**2.43 J**	**3.11 J**	**2.05 J**	**1.75 J**	**1.71 J**	**1.37 J**	**1.75 J**	**1.45 J**
Oil Range Organics (ORO)	NE		<13.9	<12.2	<13.4	<13.8	<12.1	<12.8	<13.1	<14.2	<12.4	<12.4	<14.2	<13.1
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	66000		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	<0.0574	<0.0616	<0.0603	<0.0625
Acenaphthylene	75000		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	<0.0547	<0.0616	<0.0603	<0.0625
Anthracene	610000		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	<0.0574	<0.0616	<0.0603	<0.0625
Benzo(a)anthracene	29		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	**0.0084 J**	<0.0613	<0.0657	**0.0161 J**	<0.0616	<0.0603	<0.0625
Benzo(g,h,i)perylene	23000		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	**0.0125 J**	<0.0616	<0.0603	<0.0625
Benzo[a]pyrene	2.9		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	**0.0087 J**	<0.0616	<0.0603	<0.0625
Benzo[b]fluoranthene	29		<0.0665	<0.0559	<0.0665	**0.0068 J**	<0.0587	<0.0625	<0.0613	<0.0657	**0.0129 J**	<0.0616	<0.0603	<0.0625
Benzo(k)fluoranthene	290		<0.0665	<0.0559	<0.0665	**0.0064 J**	<0.0587	<0.0625	<0.0613	<0.0657	**0.0104 J**	<0.0616	<0.0603	<0.0625
Chrysene	2900		<0.0665	<0.0559	<0.0665	<0.0078	<0.0587	<0.0625	<0.0613	<0.0657	**0.0131 J**	<0.0616	<0.0603	<0.0625
Dibenzo[a,h]anthracene	2.9		<0.0665	<0.0559	<0.0665	**0.0083J**	<0.0587	<0.0625	<0.0613	<0.0657	**0.0082 J**	<0.0616	<0.0603	<0.0625
Fluoranthene	30000		<0.0665	<0.0559	<0.0665	**0.0076 J**	<0.0587	<0.0625	<0.0613	<0.0657	**0.0113 J**	<0.0616	<0.0603	<0.0625
Fluorene	57000		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	<0.0574	<0.0616	<0.0603	<0.0625
Indeno[1,2,3-cd]pyrene	29		<0.0665	<0.0559	<0.0665	**0.0108 J**	<0.0587	<0.0625	<0.0613	<0.0657	<0.0574	<0.0616	<0.0603	<0.0625
Naphthalene	180		<0.0665	<0.0559	<0.0665	<0.0619	<0.0587	<0.0625	<0.0613	<0.0657	**0.0124 J**	<0.0616	<0.0603	<0.0625
Phenanthrene	610000		<0.0665	<0.0559	<0.0665	**0.0075 J**	<0.0587	<0.0625	<0.0613	<0.0657	**0.0164 J**	<0.0616	<0.0603	<0.0625
Pyrene	58000		<0.0665	<0.0559	<0.0665	**0.009 J**	<0.0587	<0.0625	<0.0613	<0.0657	<0.0574	<0.0616	<0.0603	<0.0625
Inorganics														
Arsenic	27		**11.2**	**8.4**	**9.8**	**15**	**7.5**	**8.7**	**10.3**	**5.8**	**9.3**	**12.1**	**13.4**	**14.7**
Barium	360000		**53.2**	**17.3**	**17.3**	**19.4**	**28.1**	**35**	**54.6**	**30.2**	**45.7**	**21.8**	**25.6**	**47.9**
Cadmium	800		<0.67	<0.54	<0.63	<0.60	<0.55	<0.60	<0.58	<0.64	<0.55	<0.59	<0.64	<0.63
Chromium	1000000		**71**	**32.3**	**20.7**	**22.6**	**22.4**	**31.5**	**27**	**18.6**	**40.2**	**44.1**	**34.4**	**52.8**
Lead	1000		**21**	**11.9**	**13.9**	**13.7**	**11.7**	**14.1**	**38.5**	**9.6**	**31.8**	**27.7**	**21.3**	**20.5**
Mercury	610		**0.14**	**0.11**	**0.13**	**0.072**	**0.094**	**0.12**	**0.11**	**0.031 J**	<0.057	**0.096**	**0.12**	**0.062 J**
Selenium	10000		**1.5 J**	<2.7	**1.4 J**	**7.5**	<2.8	<3.0	<2.9	**1.7 J**	**2.5 J**	**1.5 J**	**3.9**	**5.8**
Silver	10000		<1.3	<1.1	<1.3	<1.2	<1.1	<1.2	<1.2	<1.3	<1.1	<1.2	<1.3	<1.3
Other Parameters														
Alkalinity (mg/kg)	NE		**68**	**25 J**	**66**	**65**	**26 J**	**43 J**	**63**	**24 J**	**31 J**	**62**	**64**	**64**
pH (s.u.)	NE		**6.35**	NA	NA	NA	**6.89**	NA	NA	NA	**6.98**	NA	NA	NA

Notes:

[1] - West Virginia Industrial Soil De Minimis Standards (June 2014)
mg/kg - milligram per kilogram
s.u. - Standard Units
NE - Not Established
NA- Not Analyzed
BOLD - Detection
J - Detected but below the Reporting Limit; therefore, result is an estimated concentration
Detections above WVDEP Industrial Soil De Minimis Standards are highlighted yellow.

TABLE 1A - Soil Analytical Results - VOCs, TPH, PAHs, and Inorganics
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Constituent	Industrial Soil De Minimis Standards[1] (mg/kg)	Sample ID	SB-JO-7 (0-6")	SB-JO-DUP1 (0-6")	SB-JO-7 (12"-18")	SB-JO-DUP1 (12"-18")	SB-JO-7 (4.5'-5')	SB-JO-DUP1 (5'-5.5')	SB-JO-7 (9.5'-10')	SB-JO-DUP1 (9.5'-10')
		Date	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17
Volatile Organic Compounds (VOCs)										
Benzene	57		<0.0027	<0.0023	<0.0021	<0.002	<0.0022	<0.0023	<0.0029	<0.0023
Ethylbenzene	290		<0.0027	<0.0023	<0.0021	<0.002	<0.0022	<0.0023	<0.0029	<0.0023
Toluene	820		<0.0027	<0.0023	<0.0021	<0.002	<0.0022	<0.0023	<0.0029	<0.0023
Total Xylenes	260		<0.0081	<0.007	<0.0064	<0.0066	<0.0067	<0.007	<0.0086	<0.0068
Total Petroleum Hydrocarbons										
Diesel Range Organics (DRO)	NE		**14.7**	<13.6	**6.3 J**	<13.2	**3.6 J**	<14.1	<17.0	<13.6
Gasoline Range Organics (GRO)	NE		**2.86 J**	**3.02 J**	**1.84 J**	**1.950 J**	**1.27 J**	**2.2 J**	<11.3	<8.06
Oil Range Organics (ORO)	NE		**5.6 J**	<13.6	<12.5	<13.2	<13.9	<14.1	<17.0	<13.6
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	66000		<0.0639	<0.0638	<0.060	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Acenaphthylene	75000		<0.0639	<0.0638	<0.060	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Anthracene	610000		**0.0233 J**	<0.0638	<0.060	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Benzo(a)anthracene	29		**0.0565 J**	<0.0638	**0.0179 J**	<0.0621	**0.0188 J**	<0.0655	<0.081	<0.0651
Benzo(g,h,i)perylene	23000		**0.0269 J**	<0.0638	**0.008 J**	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Benzo[a]pyrene	2.9		**0.0132 J**	<0.0638	<0.060	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Benzo[b]fluoranthene	29		**0.0783**	<0.0638	<0.060	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Benzo(k)fluoranthene	290		**0.0233 J**	<0.0638	<0.060	<0.0621	**0.0076 J**	<0.0655	<0.081	<0.0651
Chrysene	2900		**0.0776**	<0.0638	**0.0103 J**	<0.0621	**0.0117 J**	<0.0655	<0.081	<0.0651
Dibenzo[a,h]anthracene	2.9		**0.0133 J**	<0.0638	<0.060	<0.0621	**0.0141 J**	<0.0655	<0.081	<0.0651
Fluoranthene	30000		**0.114**	<0.0638	**0.016 J**	<0.0621	**0.0111 J**	<0.0655	<0.081	<0.0651
Fluorene	57000		**0.0101 J**	<0.0638	<0.060	<0.0621	**0.0086 J**	<0.0655	<0.081	<0.0651
Indeno[1,2,3-cd]pyrene	29		<0.0639	<0.0638	**0.0125 J**	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Naphthalene	180		**0.123**	<0.0638	<0.060	<0.0621	<0.0638	<0.0655	<0.081	<0.0651
Phenanthrene	610000		**0.133**	<0.0638	**0.0078 J**	<0.0621	**0.0106 J**	<0.0655	<0.081	<0.0651
Pyrene	58000		**0.109**	<0.0638	**0.0129 J**	<0.0621	**0.0105 J**	<0.0655	<0.081	<0.0651
Inorganics										
Arsenic	27		**10.1**	**7.6**	**5.8**	**7.2**	**5.9**	**8**	**23.4**	**10.6**
Barium	360000		**125**	**39.7**	**23.6**	**18.7**	**18.7**	**45.1**	**24.5**	**24.6**
Cadmium	800		<0.64	<0.63	<0.58	<0.58	<0.0061	<0.63	<0.072	<0.56
Chromium	110		**20.5**	**43.5**	**31.1**	**33.6**	**28.4**	**40**	**35.6**	**22**
Lead	1000		**16.9**	**15.1**	**9.1**	**11**	**13.6**	**15.3**	**21.8**	**21.3**
Mercury	610		**0.03 J**	**0.071**	**0.08**	**0.092**	**0.1**	**0.074**	**0.27**	**0.056 J**
Selenium	10000		**7.1**	**1.5 J**	**1.1 J**	**1.2 J**	**1.8 J**	**2.1 J**	**12.3**	**5.6**
Silver	10000		<1.3	**1.3**	<1.2	<0.0012	<0.0012	<1.3	<1.4	<1.1
Other Parameters										
Alkalinity (mg/kg)	NE		**143**	**102**	**87**	**91**	**80**	**85**	**28 J**	**50 J**
pH (s.u.)	NE		**6.96**	NA	**7.39**	NA	**7.29**	NA	**6.33**	NA

Notes:
[1] - West Virginia Industrial Soil De Minimis Standards (June 2014)
mg/kg - milligram per kilogram
s.u. - Standard Units
NE - Not Established
NA- Not Analyzed
BOLD - Detection
J - Detected but below the Reporting Limit; therefore, result is an estimated concentration
Detections above WVDEP Industrial Soil De Minimis Standards are highlighted yellow.

TABLE 1B - Soil Analytical Results - Priority Pollutant Pesticides, Chlorinated Herbicides, and PCBs
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Constituent	Industrial Soil De Minimis Standards[1] (mg/kg)	Sample ID	SB-JO-1 (0-6")	SB-JO-1 (12"-18")	SB-JO-1 (5'-5.5')	SB-JO-1 (9.5'-10')	SB-JO-2 (0-6")	SB-JO-2 (12"-18")	SB-JO-2 (4.5'-5')	SB-JO-2 (9.5'-10')	SB-JO-4 (0-6")	SB-JO-4 (12"-18")	SB-JO-4 (4.5'-5')	SB-JO-4 (9.5'-10')
		Date	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17	16-Mar-17
Priority Pollutant Pesticides														
Aldrin	1.5		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Alpha-BHC	3.9		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Beta-BHC	14		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Gamma-BHC	34		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Delta-BHC	14		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Chlordane	110		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
4,4-DDD	100		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
4,4-DDE	73		**0.0232**	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	**17 J**	**0.0012 J**	<0.004	<0.004
4,4-DDT	120		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	**0.0013 J**	<0.004
Dieldrin	1.5		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
Endosulfan I	5300		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Endosulfan II	NE		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
Endosulfan sulfate	NE		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
Endrin	260		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
Endrin aldehyde	NE		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	**0.0007 J**	**0.0012 J**	**0.0013 J**
Endrin ketone	NE		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
Heptachlor	5.5		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Heptachlor epoxide	2.7		<0.0114	<0.0096	<0.0109	<0.0109	<0.0099	<0.0105	<0.0105	<0.0113	<0.01	<0.002	<0.0021	<0.0021
Methoxychlor	4400		<0.0221	<0.0187	<0.0212	<0.0212	<0.0191	<0.0204	<0.0204	<0.022	<0.0194	<0.0039	<0.004	<0.004
Toxaphene	22		<0.234	<0.198	<0.225	<0.225	<0.203	<0.216	<0.216	<0.233	<0.206	<0.0415	<0.0425	<0.0427
Chlorinated Herbicides														
2,4-D	12000		<0.0877	<0.0783	<0.0877	<0.0064	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
2,4-DB	7000		<0.0877	<0.0783	<0.0877	<0.0072	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
Dalapon	26000		<0.0877	<0.0783	<0.0877	<0.0083	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
Dicamba	26000		<0.0877	<0.0783	<0.0877	<0.0056	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
Dichloroprop	NE		<0.0877	<0.0783	<0.0877	<0.011	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
Dinoseb	880		<0.219	<0.195	<0.219	<1.9	<0.2	<0.207	<0.205	<0.217	<0.201	<0.204	<0.211	<0.214
Pentachlorophenol	4		<0.0877	<0.0783	<0.0877	<0.0013	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
2,4,5-TP (silvex)	7000		<0.0877	<0.0783	<0.0877	<0.0025	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
2,4,5-T	8800		<0.0877	<0.0783	<0.0877	<0.0029	<0.0803	<0.083	<0.0824	<0.0872	<0.0805	<0.082	<0.0846	<0.086
Polychlorinated Biphenyls (PCBs)														
Arochlor-1016	50		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1221	12		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1232	12		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1242	10		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1248	10		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1254	10		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1260	10		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1262	NE		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040
Arochlor-1268	NE		<0.044	<0.037	<0.042	<0.042	<0.038	<0.041	<0.041	<0.044	<0.039	<0.039	<0.040	<0.040

Notes:

[1] - West Virginia Industrial Soil De Minimis Standards (June 2014)

mg/kg - milligram per kilogram

NE - Not Established

BOLD - Detection

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Detections above WVDEP Industrial Soil De Minimis Standards are highlighted yellow.

TABLE 1B - Soil Analytical Results - Priority Pollutant Pesticides, Chlorinated Herbicides, and PCBs
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Constituent	Industrial Soil De Minimis Standards[1] (mg/kg)	Sample ID	SB-JO-7 (0-6")	SB-JO-DUP1 (0-6")	SB-JO-7 (12"-18")	SB-JO-DUP1 (12"-18")	SB-JO-7 (4.5'-5')	SB-JO-DUP1 (5'-5.5')	SB-JO-7 (9.5'-10')	SB-JO-DUP1 (9.5'-10')
		Date	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17	17-Mar-17
Priority Pollutant Pesticides										
Aldrin	1.5		<0.0021	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
Alpha-BHC	3.9		**0.0231**	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
Beta-BHC	14		**0.0154**	<0.0022	<0.0021	<0.002	**0.00042 J**	<0.0021	**0.00091 J**	**0.00087 J**
Gamma-BHC	34		**0.0127**	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
Delta-BHC	14		<0.0021	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
Chlordane	110		<0.0021	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
4,4-DDD	100		**28.4**	**0.0097**	**0.205**	**0.0095**	**0.353**	**0.0198**	<0.0051	**0.00098 J**
4,4-DDE	73		**28.4**	**0.0147**	**0.0702**	**0.0083**	**0.0947**	**0.0187**	<0.0051	**0.0019 J**
4,4-DDT	120		<0.0041	**0.201**	**3.56**	**0.159**	**6.34**	**0.428**	**0.0035 J**	**0.0139**
Dieldrin	1.5		**3.87**	**0.0273**	**0.0667**	**0.0048**	**0.0331**	**0.0227**	**0.0031 J**	**0.0127**
Endosulfan I	5300		**0.353**	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.002
Endosulfan II	NE		**0.141**	<0.0043	<0.004	<0.0039	**0.0013 J**	<0.0042	<0.0051	<0.0042
Endosulfan sulfate	NE		<0.0041	<0.0043	<0.004	<0.0039	<0.0042	<0.0042	<0.0051	<0.0042
Endrin	260		**0.806**	**0.00091 J**	**0.0063**	<0.0039	**0.0052**	**0.0017 J**	<0.0051	0.0014 J
Endrin aldehyde	NE		<0.0041	<0.0043	<0.004	<0.0039	<0.0042	<0.0042	<0.0051	<0.0042
Endrin ketone	NE		**0.368**	<0.0043	**0.0021 J**	<0.0039	**0.0016 J**	<0.0042	<0.0051	<0.0042
Heptachlor	5.5		**0.0064**	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
Heptachlor epoxide	2.7		<0.0021	<0.0022	<0.0021	<0.002	<0.0022	<0.0021	<0.0026	<0.0022
Methoxychlor	4400		<0.0041	<0.0043	<0.004	<0.0039	<0.0042	<0.0042	<0.0051	<0.0042
Toxaphene	22		**0.0436**	<0.0458	<0.0425	<0.0418	<0.0444	<0.0441	<0.0539	<0.045
Chlorinated Herbicides										
2,4-D	12000		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
2,4-DB	7000		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
Dalapon	26000		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
Dicamba	26000		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
Dichloroprop	NE		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
Dinoseb	880		<0.217	<0.219	<0.208	<0.207	<0.219	<0.219	<0.272	<0.218
Pentachlorophenol	4		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
2,4,5-TP (silvex)	7000		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
2,4,5-T	8800		<0.087	<0.0877	<0.0833	<0.0832	<0.0881	<0.088	<0.109	<0.0876
Polychlorinated Biphenyls (PCBs)										
Arochlor-1016	50		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1221	12		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1232	12		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1242	10		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1248	10		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1254	10		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1260	10		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042
Arochlor-1262	NE		<20.5	<0.043	<0.040	<0.039	<0.042	<0.042	<0.051	<0.042

Notes:

[1] - West Virginia Industrial Soil De Minimis Standards (June 2014)

mg/kg - milligram per kilogram

NE - Not Established

BOLD - Detection

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Detections above WVDEP Industrial Soil De Minimis Standards are highlighted yellow.

TABLE 2A - Groundwater Analytical Results - VOCs
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Constituent	Groundwater De Minimis Standards[1] (ug/L)	Sample ID	W-JO-Packing Shed	W-JO-DUP1	W-JO-Res House	W-JO-Labor Camp
			Onsite wells			Offsite Well
		Date	15-Mar-17	15-Mar-17	16-Mar-17	15-Mar-17
Volatile Organic Compounds (VOCs)						
Acetone	12000		<10.0	<10.0	<10.0	<10.0
Benzene	5		<1.0	<1.0	<1.0	<1.0
Bromochloromethane	NE		<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	0.12		<1.0	<1.0	<1.0	<1.0
Bromoform	8.5		<1.0	<1.0	<1.0	<1.0
Bromomethane	7.1		<1.0	<1.0	<1.0	<1.0
2-Butanone	7100		<10.0	<10.0	<10.0	<10.0
Carbon Disulfide	760		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	5		<1.0	<1.0	<1.0	<1.0
Chlorobenzene	100		<1.0	<1.0	<1.0	<1.0
Chlorodibromomethane	0.8		<1.0	<1.0	<1.0	<1.0
Chloroethane	21000		<1.0	<1.0	<1.0	<1.0
Chloroform	0.19		**1.3**	**1.2**	**1.4**	**0.3 J**
Chloromethane	190		<1.0	<1.0	<1.0	<1.0
Cyclohexane	12000		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	0.2		<7.0	<7.0	<7.0	<7.0
1,2-Dibromoethane	0.05		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	600		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	370		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	2.4		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	5		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	7		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	70		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	100		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5		<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	NE		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	NE		<1.0	<1.0	<1.0	<1.0
Ethylbenzene	700		<1.0	<1.0	<1.0	<1.0
Freon 113	55000		<1.0	<1.0	<1.0	<1.0
2-Hexanone	NE		<5.0	<5.0	<5.0	<5.0
Isopropylbenzene	540		<1.0	<1.0	<1.0	<1.0
Methyl acetate	5000		<2.0	<2.0	<2.0	<2.0
Methyl cyclohexane	NE		<1.0	<1.0	<1.0	<1.0
Methyl t-Butyl Ether	12		<1.0	<1.0	<1.0	<1.0
4-Methyl-2-Pentanone(MIBK)	1000		<5.0	<5.0	<5.0	<5.0
Methylene Chloride	5		<1.0	<1.0	<1.0	<1.0
Styrene	100		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	0.067		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	5		<1.0	<1.0	<1.0	<1.0
Toluene	1000		<1.0	<1.0	<1.0	<1.0
Total Xylenes	10000		<3.0	<3.0	<3.0	<3.0
1,2,3-Trichlorobenzene	NE		<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	70		<2.0	<2.0	<2.0	<2.0
1,1,1-Trichloroethane	200		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	5		<1.0	<1.0	<1.0	<1.0
Trichloroethene	5		<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	1100		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	2		<1.0	<1.0	<1.0	<1.0
o-Xylene	NE		<1.0	<1.0	<1.0	<1.0
mp-Xylene	NE		<2.0	<2.0	<2.0	<2.0

Notes:

[1] - West Virginia Groundwater De Minimis Standards (June 2014)

ug/L - microgram per liter

NE - Not Established

BOLD - Detection

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Laboratory detection limits reported above WVDEP Groundwater De Minimis Standards are highlighted blue.

Detections above WVDEPGroundwater De Minimis Standards are highlighted yellow.

TABLE 2B - Groundwater Analytical Results - TPH, SVOCs, and Metals
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Constituent	Groundwater De Minimis Standards[1] (ug/L)	Sample ID	W-JO-Packing Shed	W-JO-DUP1	W-JO-Res House	W-JO-Labor Camp
			Onsite Wells			Offsite Well
		Date	15-Mar-17	15-Mar-17	16-Mar-17	15-Mar-17
Total Petroleum Hydrocarbons						
Diesel Range Organics (DRO)	NE		<160	<160	<160	<160
Gasoline Range Organics (GRO)	NE		<100	**20.6 J**	**15.8 J**	**16.8 J**
Oil Range Organics (ORO)	NE		<200	<200	<200	<200
Semivolatile Organic Compounds (SVOCs)						
Acenaphthene	300		<0.094	<0.099	<0.094	<0.094
Acenaphthylene	300		<0.094	<0.099	<0.094	<0.094
Anthracene	4700		<0.094	<0.099	<0.094	<0.094
Benzo(a)anthracene	0.029		<0.094	<0.099	<0.094	<0.094
Benzo(a)pyrene	0.2		<0.094	<0.099	<0.094	<0.094
Benzo(b)fluoranthene	0.029		<0.094	**0.023 J**	<0.094	<0.094
Benzo(g,h,i)perylene	470		<0.094	<0.099	<0.094	<0.094
Benzo(k)fluoranthene	0.29		<0.094	<0.099	<0.094	<0.094
Chrysene	2.9		<0.094	<0.099	<0.094	<0.094
Dibenz[a,h]anthracene	0.029		<0.066	**0.023 J**	<0.066	<0.066
Fluoranthene	630		<0.094	<0.099	<0.094	<0.094
Fluorene	200		<0.094	<0.099	<0.094	<0.094
Indeno[1,2,3-cd]pyrene	0.029		<0.094	<0.099	<0.094	<0.094
Naphthalene	0.14		<0.094	<0.099	<0.094	<0.094
Phenanthrene	4700		<0.094	<0.099	<0.094	<0.094
Pyrene	150		<0.094	<0.099	<0.094	<0.094
1,4-Dioxane	0.67		**0.041 J**	**0.055 J**	**0.030 J**	<0.094
RCRA 8 Metals (Total)						
Arsenic, Total	10		<3.3	<3.3	<3.3	<3.3
Barium, Total	2000		**93**	**97**	**120**	**85**
Cadmium, Total	5		<1.1	<1.1	<1.1	**0.47 J**
Chromium, Total	23000		**2.0 J**	**1.9 J**	**1.9 J**	**13**
Lead, Total	15		<2.2	<2.2	<2.2	**15**
Selenium, Total	50		<5.6	<5.6	<5.6	<5.6
Silver, Total	78		<2.2	<2.2	<2.2	<2.2
Mercury, Total	2		<0.5	<0.5	<0.5	<0.5
RCRA 8 Metals (Dissolved)						
Arsenic, Dissolved	10		<3.0	<3.0	<3.0	<3.0
Barium, Dissolved	2000		**94**	**99**	**120**	**83**
Cadmium, Dissolved	5		<1.1	<1.1	<1.1	<1.1
Chromium, Dissolved	23000		**1.5 J**	**1.1 J**	<2.2	**0.91 J**
Lead, Dissolved	15		<2.2	<2.2	<2.2	<2.2
Selenium, Dissolved	50		<5.6	<5.6	<5.6	<5.6
Silver, Dissolved	78		<2.2	<2.2	<2.2	<2.2
Mercury, Dissolved	2		<0.5	<0.5	<0.5	<0.5
Other Parameters						
Ammonia	NE		<100	**40 J**	<100	**317**
Formaldehyde	3100		<1000	<1000	<1000	<1000
Phenolics	4700		<5.0	<5.0	<5.0	<5.0
Specific Conductance[2]	NE		**851**	**99**	**883**	**729**

Notes:

[1] - West Virginia Groundwater De Minimis Standards (June 2014)

[2] - Specific conductance is reported in micromhos per centimeter (umhos/cm)

ug/L - microgram per liter

NE - Not Established

BOLD - Detection

SVOCs ran via 8270 SIMS

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Laboratory detection limits reported above WVDEP Groundwater De Minimis Standards are highlighted blue.

Detections above WVDEP Groundwater De Minimis Standards are highlighted yellow.

TABLE 2C - Groundwater Analytical Results - Priority Pollutant Pesticides and Chlorinated Herbicides
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

			Onsite Wells			Offsite Well
Constituents	**Groundwater De Minimis Standards[1] (ug/L)**	**Sample ID**	**W-JO-Packing Shed**	**W-JO-DUP1**	**W-JO-Res House**	**W-JO-Labor Camp**
		Date	**15-Mar-17**	**15-Mar-17**	**16-Mar-17**	**15-Mar-17**
Priority Pollutant Pesticides						
Aldrin	0.004		<0.019	<0.019	<0.019	<0.019
Alpha-BHC	0.011		<0.019	<0.019	<0.019	<0.019
Beta-BHC	0.037		<0.019	<0.019	<0.019	<0.019
Delta-BHC	NE		<0.019	<0.019	<0.019	<0.019
Gamma-BHC	0.2		<0.019	<0.019	<0.019	<0.019
Chlordane	2		<0.019	<0.019	<0.019	<0.019
4,4-DDD	0.28		<0.019	<0.019	<0.019	<0.019
4,4-DDE	0.2		<0.019	<0.019	<0.019	<0.019
4,4-DDT	0.2		<0.019	<0.019	<0.019	<0.019
Dieldrin	0.0042		**0.012 J**	**0.017 J**	<0.019	<0.019
Endosulfan I	94		<0.019	<0.019	<0.019	<0.019
Endosulfan II	NE		<0.019	<0.019	<0.019	<0.019
Endosulfan sulfate	NE		<0.019	<0.019	<0.019	<0.019
Endrin	2		**0.017 J**	**0.026**	<0.019	<0.019
Endrin aldehyde	NE		<0.019	<0.019	<0.019	<0.019
Endrin ketone	NE		**0.013 J**	**0.016 J**	<0.019	<0.019
Heptachlor	0.4		<0.019	<0.019	<0.019	<0.019
Heptachlor epoxide	0.2		<0.019	<0.019	<0.019	<0.019
Methoxychlor	40		<0.019	<0.019	<0.019	<0.019
Toxaphene	3		<0.94	<0.94	<0.94	<0.94
Chlorinated Herbicides						
2,4-D	70		<0.19	<0.19	<0.19	<0.2
2,4-DB	130		<0.28	<0.28	<0.28	<0.3
Dalapon	200		<0.94	<0.94	<0.94	<1.0
Dicamba	470		<0.19	<0.19	<0.19	<0.2
Dichloroprop	NE		<0.47	<0.47	<0.47	<0.5
Dinoseb	7		<4.7	<4.7	<4.7	<5.0
MCPA	7.8		<37.7	<37.7	<37.7	<40.0
MCPP	NE		<37.7	<37.7	<37.7	<40.0
Pentachlorophenol	1		<0.19	<0.19	<0.19	<0.2
2,4,5-T	1600		<0.19	<0.19	<0.19	<0.2
2,4,5-TP	50		<0.28	<0.28	<0.28	<0.3

Notes:

[1] - West Virginia Groundwater De Minimis Standards (June 2014

ug/L - microgram per liter

NE - Not Established

BOLD - Detection

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Laboratory detection limits reported above WVDEP Groundwater De Minimis Standards are highlighted blue.

Detections above WVDEP Groundwater De Minimis Standards are highlighted yellow.

TABLE 3 - QA/QC
Project Shuttle
Jefferson Orchard Site
Jefferson County, West Virginia

Volatile Organic Compounds (VOCs)	Groundwater De Minimis Standards[1] (ug/L)	Sample ID	TB-1 (031517)	TB-2 (031517)	TB-1 (031617)	TB-1 (031617)	TB-1 (031717)
		Date	15-Mar-17	15-Mar-17	16-Mar-17	16-Mar-17	17-Mar-17
Acetone	12000		**8.3 J**	**7.6 J**	NA	**5.9 J**	**4.9 J**
Benzene	5		<1.0	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	NE		<1.0	<1.0	NA	<1.0	<1.0
Bromodichloromethane	0.12		<1.0	<1.0	NA	<1.0	<1.0
Bromoform	8.5		<1.0	<1.0	NA	<1.0	<1.0
Bromomethane	7.1		<1.0	<1.0	NA	<1.0	<1.0
2-Butanone	7100		<10.0	<10.0	NA	<10.0	<10.0
Carbon Disulfide	760		**0.28 J**	**0.49 J**	NA	<1.0	**0.49 J**
Carbon Tetrachloride	5		<1.0	<1.0	NA	<1.0	<1.0
Chlorobenzene	100		<1.0	<1.0	NA	<1.0	<1.0
Chlorodibromomethane	0.8		<1.0	<1.0	NA	<1.0	<1.0
Chloroethane	21000		<1.0	<1.0	NA	<1.0	<1.0
Chloroform	0.19		<1.0	<1.0	NA	<1.0	<1.0
Chloromethane	190		<1.0	<1.0	NA	<1.0	<1.0
Cyclohexane	12000		<1.0	<1.0	NA	<1.0	<1.0
1,2-Dibromo-3-chloropropane	0.2		<7.0	<7.0	NA	<7.0	<7.0
1,2-Dibromoethane	0.05		<1.0	<1.0	NA	<1.0	<1.0
1,2-Dichlorobenzene	600		<1.0	<1.0	NA	<1.0	<1.0
1,3-Dichlorobenzene	600		<1.0	<1.0	NA	<1.0	<1.0
1,4-Dichlorobenzene	75		<1.0	<1.0	NA	<1.0	<1.0
Dichlorodifluoromethane	370		<1.0	<1.0	NA	<1.0	<1.0
1,1-Dichloroethane	2.4		<1.0	<1.0	NA	<1.0	<1.0
1,2-Dichloroethane	5		<1.0	<1.0	NA	<1.0	<1.0
1,1-Dichloroethene	7		<1.0	<1.0	NA	<1.0	<1.0
cis-1,2-Dichloroethene	70		<1.0	<1.0	NA	<1.0	<1.0
trans-1,2-Dichloroethene	100		<1.0	<1.0	NA	<1.0	<1.0
1,2-Dichloropropane	5		<1.0	<1.0	NA	<1.0	<1.0
cis-1,3-Dichloropropene	NE		<1.0	<1.0	NA	<1.0	<1.0
trans-1,3-Dichloropropene	NE		<1.0	<1.0	NA	<1.0	<1.0
Ethylbenzene	700		<1.0	<1.0	<1.0	<1.0	<1.0
Freon 113	55000		<1.0	<1.0	NA	<1.0	<1.0
2-Hexanone	NE		<5.0	<5.0	NA	<5.0	<5.0
Isopropylbenzene	540		<1.0	<1.0	NA	<1.0	<1.0
Methyl acetate	5000		<2.0	<2.0	NA	<2.0	<2.0
Methyl cyclohexane	NE		<1.0	<1.0	NA	<1.0	<1.0
Methyl t-Butyl Ether	12		<1.0	<1.0	NA	<1.0	<1.0
4-Methyl-2-Pentanone(MIBK)	1000		<5.0	<5.0	NA	<5.0	<5.0
Methylene Chloride	5		<1.0	<1.0	NA	<1.0	<1.0
Styrene	100		<1.0	<1.0	NA	<1.0	<1.0
1,1,2,2-Tetrachloroethane	0.067		<1.0	<1.0	NA	<1.0	<1.0
Tetrachloroethene	5		<1.0	<1.0	NA	<1.0	<1.0
Toluene	1000		<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylenes	10000		<3.0	<3.0	<3.0	<3.0	<3.0
1,2,3-Trichlorobenzene	NE		<2.0	<2.0	NA	<2.0	<2.0
1,2,4-Trichlorobenzene	70		<2.0	<2.0	NA	<2.0	<2.0
1,1,1-Trichloroethane	200		<1.0	<1.0	NA	<1.0	<1.0
1,1,2-Trichloroethane	5		<1.0	<1.0	NA	<1.0	<1.0
Trichloroethene	5		<1.0	<1.0	NA	<1.0	<1.0
Trichlorofluoromethane	1100		<1.0	<1.0	NA	<1.0	<1.0
Vinyl Chloride	2		<1.0	<1.0	NA	<1.0	<1.0
o-Xylene	NE		<1.0	<1.0	NA	<1.0	<1.0
mp-Xylene	NE		<2.0	<2.0	NA	<2.0	<2.0

Notes:

[1] - West Virginia Groundwater De Minimis Standards (June 2014)

ug/L - microgram per liter

NE - Not Established

NA- Not Analyzed

BOLD - Detection

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Laboratory detection limits reported above WVDEP Groundwater De Minimis Standards are highlighted blue.

Appendix A
Calibration Log

ERM

Jefferson Orchard

CALIBRATION LOG

Project Name: Project Shuttle

Project No.: 0397010.02

By: ERM - M. Innis

Date: 3/16/17 - 3/17/17

Page 1 of 1

Date/Time	Instrument	Standard	Standard Concentration	Meter Reading	Comments
3/16/17 0750	MultiRae 17903	CO H_2S LEL O_2	50ppm 25ppm 50% 20.9%	51ppm 25ppm 49% 20.9%	PASS
	MultiRae R9951	CO H_2S LEL O_2	50ppm 25ppm 50% 20.9%	50ppm 25ppm 49% 20.9%	PASS
	YSI 63 8937	pH 4/7/10 Cond 1.413	4/7/10 1.413mS	4.00/7.09/10.20 1.413mS	PASS
3/17/17 0730	PID 2000	Isobutylene	100ppm	100ppm	PASS
	MultiRae 17903	Same As Above	Same As Above	51ppm 25ppm 49% 20.9%	PASS

Appendix B
Soil Boring Logs

PROJECT: Project Shuttle

BORING # **SB-JO-1**

ERM PROJECT # 0397010

SHEET 1 OF 1

DRILLING CONTRACTOR	A-Zone Charles Town, WV	ERM REPRESENTATIVE	Megan Innis
DRILLING FOREMAN	Jesse Morgan	OFFICE LOCATION	Charleston, WV
DRILLING METHOD	Direct Push	DATE: START	03/16/2017
DRILLING EQUIPMENT	Geoprobe 7720DT	FINISH	03/16/2017
HORIZONTAL DATUM		BOREHOLE DEPTH	10 ft
NORTHING		BOREHOLE DIAMETER	4 in
EASTING		DEPTH TO WATER (INITIAL)	▼
VERTICAL DATUM	ELEVATION	DEPTH TO WATER (FINAL)	▽

DEPTH / ELEVATION	STRATA DESCRIPTION	DEPTH	USCS	GRAPHIC LOG	SAMPLING DATA: SAMPLE TYPE	RECOVERY		Observations / Remarks
	SILTY CLAY (CL-ML) stiff, dry, brown		CL-ML					SB-JO-1 (0-6") [(0-0.5ft)]
								SB-JO-1 (12-18") [(1-1.5ft)]
		1.5					0	
	SILTY CLAY (CL-ML) very stiff, fine sand, little, dry, brown orangish						0	
2						48/60	0	
							0	
4							0	
							0	SB-JO-1 (5-5.5') [(5-5.5ft)]
			CL-ML				0	
6							0	
							0	
8						60/60	0	
							0	
							0	SB-JO-1 (9.5-10') [(9.5-10ft)]
10		10						

REMARKS:

LAB ANALYSIS:

BORING LOG PROJECT SHUTTLE ENVIRONMENTAL BORING LOGS.GPJ ERM DATA TEMPLATE.GDT 3/27/17

PROJECT: Project Shuttle

BORING # **SB-JO-2**

ERM PROJECT # 0397010

SHEET 1 OF 1

DRILLING CONTRACTOR	A-Zone Charles Town, WV	ERM REPRESENTATIVE	Megan Innis
DRILLING FOREMAN	Jesse Morgan	OFFICE LOCATION	Charleston, WV
DRILLING METHOD	Direct Push	DATE: START	03/16/2017
DRILLING EQUIPMENT	Geoprobe 7720DT	FINISH	03/16/2017
HORIZONTAL DATUM		BOREHOLE DEPTH	10 ft
NORTHING		BOREHOLE DIAMETER	4 in
EASTING		DEPTH TO WATER (INITIAL) ▼	
VERTICAL DATUM	ELEVATION	DEPTH TO WATER (FINAL) ▽	

DEPTH	ELEVATION	STRATA DESCRIPTION	DEPTH	USCS	GRAPHIC LOG	SAMPLING DATA: SAMPLE TYPE	RECOVERY		Observations / Remarks
		SILTY CLAY (CL-ML) very stiff, moist, brown		CL-ML					
		SILTY CLAY (CL-ML) stiff, little fine sand, trace rock fragments, dry, brown orangish	0.5						
								0	SB-JO-2 (0-6") [(0-0.5ft)]
									SB-JO-2 (12-18") [(1-1.5ft)]
2							60/60	0	
								0	
4								0	
								0	SB-JO-2 (4.5-5') [(4.5-5ft)]
				CL-ML				0	
6								0	
								0	
8							60/60	0	
								0	
								0	SB-JO-2 (9.5-10') [(9.5-10ft)]
10			10						

REMARKS:

LAB ANALYSIS:

BORING LOG PROJECT SHUTTLE ENVIRONMENTAL BORING LOGS.GPJ ERM DATA TEMPLATE.GDT 3/27/17

PROJECT: Project Shuttle

BORING # **SB-JO-4**

ERM PROJECT # 0397010

SHEET 1 OF 1

DRILLING CONTRACTOR	A-Zone Charles Town, WV	ERM REPRESENTATIVE	Megan Innis
DRILLING FOREMAN	Jesse Morgan	OFFICE LOCATION	Charleston, WV
DRILLING METHOD	Direct Push	DATE: START	03/16/2017
DRILLING EQUIPMENT	Geoprobe 7720DT	FINISH	03/16/2017
HORIZONTAL DATUM		BOREHOLE DEPTH	10 ft
NORTHING		BOREHOLE DIAMETER	4 in
EASTING		DEPTH TO WATER (INITIAL)	▼
VERTICAL DATUM	ELEVATION	DEPTH TO WATER (FINAL)	▽

DEPTH / ELEVATION	STRATA DESCRIPTION	DEPTH	USCS	GRAPHIC LOG	SAMPLING DATA: SAMPLE TYPE	RECOVERY		Observations / Remarks
	SILTY CLAY (CL-ML) stiff, moist, brown		CL-ML					SB-JO-4 (0-6") [(0-0.5ft)]
		1						
	SILTY CLAY (CL-ML) very stiff, dry, brown orangish							SB-JO-4 (12-18") [(1-1.5ft)]
2							0	
						60/60	0	
							0	
4							0	
								SB-JO-4 (4.5-5') [(4.5-5ft)]
			CL-ML				0	
6							0	
							0	
						60/60	0	
8							0	
							0	
							0	SB-JO-4 (9.5-10') [(9.5-10ft)]
10		10						

REMARKS:

LAB ANALYSIS:

BORING LOG PROJECT SHUTTLE ENVIRONMENTAL BORING LOGS.GPJ ERM DATA TEMPLATE.GDT 3/27/17

PROJECT: Project Shuttle

BORING # **SB-JO-7**

ERM PROJECT # 0397010

SHEET 1 OF 1

DRILLING CONTRACTOR	A-Zone Charles Town, WV	ERM REPRESENTATIVE	Megan Innis
DRILLING FOREMAN	Jesse Morgan	OFFICE LOCATION	Charleston, WV
DRILLING METHOD	Direct Push	DATE: START	03/16/2017
DRILLING EQUIPMENT	Geoprobe 7720DT	FINISH	03/16/2017
HORIZONTAL DATUM		BOREHOLE DEPTH	10 ft
NORTHING		BOREHOLE DIAMETER	4 in
EASTING		DEPTH TO WATER (INITIAL)	▼
VERTICAL DATUM	ELEVATION	DEPTH TO WATER (FINAL)	▽

DEPTH	ELEVATION	STRATA DESCRIPTION	DEPTH	USCS	GRAPHIC LOG	SAMPLING DATA: SAMPLE TYPE	RECOVERY		Observations / Remarks
		SILTY CLAY (CL-ML) medium stiff, dry, brown		CL-ML					SB-JO-7 (0-6") [(0-0.5ft)]
			1						SB-JO-7 (12-18") [(1-1.5ft)]
		SILTY CLAY (CL-ML) stiff, dry, brown orangish						0	
2							60/60	0	
								0	
4								0	
								0	SB-JO-7 (4.5-5') [(4.5-5ft)]
				CL-ML				0	
6								0	
								0	
8							60/60	0	
								0	
								0	SB-JO-7 (9.5-10') [(9.5-10ft)]
10			10						

REMARKS:

LAB ANALYSIS:

BORING LOG PROJECT SHUTTLE ENVIRONMENTAL BORING LOGS.GPJ ERM DATA TEMPLATE.GDT 3/27/17

Appendix C
Groundwater Sample Collection Logs

FRM

Jefferson Orchard

Well Development Log

Monitoring Well: W-50-Packing Shed

CLIENT:	Project Shuttle	DATE:	3/16/17
LOCATION:	Kearneysville, WV	TIME:	0950
PROJECT NO:	0397010	COST CODE:	

Groundwater Elevation Data:

Depth to water from reference point	feet
Depth to bottom of well from reference point	feet
Height of water column (h) in feet.	feet
Reference Point : Top of Casing (TOC), Ground Surface (GS)	

Well Purging Data: Spicket near corner (South east) of Packing Shed

Volume of Water in Well	gallons
2-inch well (Vol. = 0.162 x h	
4-inch well (Vol. = 0.651 x h	
___-inch well (Vol. = 7.48 x 3.14 x r^2 x h, Where r = radius of well).	
Volume of water to be removed (minimum of 3 well volumes).	gallons
Pumping Time: Start:_____ Finish: _____	minutes
Pump Type (model): Bailer; DC Purge Pump, Other	
Volume of water removed	gallons

Well Draw Down & Field Water Quality:

Time	Gallons	Temperature (Degrees F)	pH (Std Units)	Conductivity	Appearance/Odor
—	—	9.2°C	7.14	574us / 822us	clear
Comments:					
Collected Sample 3/15/17 plus Dup Sample					

Jefferson Orchard

Well Development Log

Monitoring Well: W-50 - Res House

CLIENT:	Project Shuttle	DATE:	3/16/17
LOCATION:	Kearneysville, WV	TIME:	0915
PROJECT NO:	0397101	COST CODE:	

Groundwater Elevation Data:

Depth to water from reference point	feet
Depth to bottom of well from reference point	feet
Height of water column (h) in feet.	feet
Reference Point : Top of Casing (TOC), Ground Surface (GS)	

Well Purging Data: Spicket near res House. Before water softener. tied to orginal well (204')

Volume of Water in Well	gallons
2-inch well (Vol. = 0.162 x h	
4-inch well (Vol. = 0.651 x h	
___-inch well (Vol. = 7.48 x 3.14 x r^2 x h, Where r = radius of well).	
Volume of water to be removed (minimum of 3 well volumes).	gallons
Pumping Time: Start:_____ Finish: _____	minutes
Pump Type (model): Bailer; DC Purge Pump, Other	
Volume of water removed	gallons

Well Draw Down & Field Water Quality:

Time	Gallons	Temperature (Degrees F)	pH (Std Units)	Conductivity	Appearance/Odor
—	—	5.7°C	7.01	505us / 806us	Clear, some particles in water
Comments:					

Jefferson Orchard

Well Development Log

Monitoring Well: W-JD-Labor Camp

CLIENT:	Project Shuttle	DATE:	3/15/17
LOCATION:	Kearneysville, WV	TIME:	0900
PROJECT NO:	0397010	COST CODE:	—

Groundwater Elevation Data:

Depth to water from reference point	— feet
Depth to bottom of well from reference point	— feet
Height of water column (h) in feet.	feet
Reference Point : Top of Casing (TOC), Ground Surface (GS)	

Well Purging Data:

Volume of Water in Well	gallons
2-inch well (Vol. = 0.162 x h	
4-inch well (Vol. = 0.651 x h	
___-inch well (Vol. = 7.48 x 3.14 x r^2 x h, Where r = radius of well).	
Volume of water to be removed (minimum of 3 well volumes).	gallons
Pumping Time: Start:_____ Finish: _____	minutes
Pump Type (model): Bailer; DC Purge Pump, Other	
Volume of water removed	gallons

Well Draw Down & Field Water Quality:

Time	Gallons	Temperature (Degrees F)	pH (Std Units)	Conductivity	Appearance/Odor
		—	—	—	—

Comments: Meter not yet onsite when sample collected. No readings were taken at the Labor camp well house.

Appendix D
Soil and Groundwater Analytical Data Reports

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 23, 2017

Mr. David Connelly
Environmental Resource Management (ERM)-WV
204 Chase Drive
Hurricane, WV 25526

Certificate of Analysis

Project Name:	**JEFFERSON COUNTY**	Workorder:	**2215395**
Purchase Order:	**0397010**	Workorder ID:	**Project Shuttle**

Dear Mr. Connelly:

Enclosed are the analytical results for samples received by the laboratory on Thursday, March 16, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Megan Innis , Mr. James Hemme

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2215395 Project Shuttle

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2215395001	SB-JO-1 (0-6")	Solid	3/16/2017 11:00	3/16/2017 21:20	Ms. Megan Innis
2215395002	SB-JO-1 (12-18")	Solid	3/16/2017 11:15	3/16/2017 21:20	Ms. Megan Innis
2215395003	SB-JO-1 (5-5.5')	Solid	3/16/2017 11:35	3/16/2017 21:20	Ms. Megan Innis
2215395004	SB-JO-1 (9.5-10')	Solid	3/16/2017 11:45	3/16/2017 21:20	Ms. Megan Innis
2215395005	TB-1 (031617)	Water	3/16/2017 09:00	3/16/2017 21:20	Ms. Megan Innis
2215395006	SB-JO-2 (0-6")	Solid	3/16/2017 12:40	3/16/2017 21:20	Ms. Megan Innis
2215395007	SB-JO-2 (12-18")	Solid	3/16/2017 12:48	3/16/2017 21:20	Ms. Megan Innis
2215395008	SB-JO-2 (4.5-5')	Solid	3/16/2017 13:00	3/16/2017 21:20	Ms. Megan Innis
2215395009	SB-JO-2 (9.5-10')	Solid	3/16/2017 13:10	3/16/2017 21:20	Ms. Megan Innis
2215395010	SB-JO-4 (0-6")	Solid	3/16/2017 14:00	3/16/2017 21:20	Ms. Megan Innis
2215395011	SB-JO-4 (12-18")	Solid	3/16/2017 14:10	3/16/2017 21:20	Ms. Megan Innis
2215395012	SB-JO-4 (4.5-5')	Solid	3/16/2017 14:20	3/16/2017 21:20	Ms. Megan Innis
2215395013	SB-JO-4 (9.5-10')	Solid	3/16/2017 14:30	3/16/2017 21:20	Ms. Megan Innis

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SAMPLE SUMMARY

Workorder: 2215395 Project Shuttle

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

PROJECT SUMMARY

Workorder: 2215395 Project Shuttle

Sample Comments

Lab ID: 2215395001 **Sample ID:** SB-JO-1 (0-6") **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395002 **Sample ID:** SB-JO-1 (12-18") **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395003 **Sample ID:** SB-JO-1 (5-5.5') **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395004 **Sample ID:** SB-JO-1 (9.5-10') **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395006 **Sample ID:** SB-JO-2 (0-6") **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395007 **Sample ID:** SB-JO-2 (12-18") **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395008 **Sample ID:** SB-JO-2 (4.5-5') **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395009 **Sample ID:** SB-JO-2 (9.5-10') **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2215395010 **Sample ID:** SB-JO-4 (0-6") **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395001** Date Collected: 3/16/2017 11:00 Matrix: Solid

Sample ID: **SB-JO-1 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	3.6J	J	mg/kg	13.9	3.3	SW846 8015D	3/20/17 16:10	JSR	3/21/17 17:52	BS	C
Gasoline Range Organics	3520J	J	ug/kg	10300	1430	SW846 8015D	3/16/17 11:00	DD	3/20/17 20:44	DD	A
Oil Range Oranics C28-C35	13.9 U	U,1	mg/kg	13.9	2.9	SW846 8015D	3/20/17 16:10	JSR	3/21/17 17:52	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	116		%	72 - 134		SW846 8015D	3/16/17 11:00	DD	3/20/17 20:44	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	98		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 17:52	BS	C
VOLATILE ORGANICS											
Benzene	2.4 U	U	ug/kg	2.4	0.61	SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
Ethylbenzene	2.4 U	U	ug/kg	2.4	0.83	SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
Toluene	2.4 U	U	ug/kg	2.4	0.82	SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
Total Xylenes	7.3 U	U	ug/kg	7.3	1.7	SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.8		%	56 - 124		SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
Dibromofluoromethane (S)	116		%	62 - 123		SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
Toluene-d8 (S)	98.7		%	59 - 131		SW846 8260B	3/16/17 11:00	TMP	3/17/17 15:53	TMP	E
SEMIVOLATILES											
Acenaphthene	66.5 U	U	ug/kg	66.5	8.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Acenaphthylene	66.5 U	U	ug/kg	66.5	9.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Anthracene	66.5 U	U	ug/kg	66.5	10.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Benzo(a)anthracene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Benzo(a)pyrene	66.5 U	U	ug/kg	66.5	5.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Benzo(b)fluoranthene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Benzo(g,h,i)perylene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Benzo(k)fluoranthene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Chrysene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Dibenzo(a,h)anthracene	66.5 U	U	ug/kg	66.5	8.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Fluoranthene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Fluorene	66.5 U	U	ug/kg	66.5	8.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Indeno(1,2,3-cd)pyrene	66.5 U	U	ug/kg	66.5	9.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Naphthalene	66.5 U	U	ug/kg	66.5	8.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Phenanthrene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Pyrene	66.5 U	U	ug/kg	66.5	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395001** Date Collected: 3/16/2017 11:00 Matrix: Solid

Sample ID: **SB-JO-1 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	76		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Nitrobenzene-d5 (S)	54.1		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
Terphenyl-d14 (S)	90.5		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:09	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.044 U	U	mg/kg	0.044	0.0040	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1016	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1221	0.044 U	U	mg/kg	0.044	0.0040	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1232	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1242	0.044 U	U	mg/kg	0.044	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1248	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1254	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1260	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1262	0.044 U	U	mg/kg	0.044	0.0094	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Aroclor-1268	0.044 U	U	mg/kg	0.044	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	90.5		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
Tetrachloro-m-xylene (S)	87.8		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:33	EGO	G
PESTICIDES											
Aldrin	11.4 U	U	ug/kg	11.4	3.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
alpha-BHC	11.4 U	U	ug/kg	11.4	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
beta-BHC	11.4 U	U	ug/kg	11.4	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
delta-BHC	11.4 U	U	ug/kg	11.4	0.87	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
gamma-BHC	11.4 U	U	ug/kg	11.4	0.94	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
alpha-Chlordane	11.4 U	U	ug/kg	11.4	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
gamma-Chlordane	11.4 U	U	ug/kg	11.4	1.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
4,4'-DDD	22.1 U	U	ug/kg	22.1	1.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
4,4'-DDE	23.2		ug/kg	22.1	3.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
4,4'-DDT	22.1 U	U	ug/kg	22.1	2.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Dieldrin	22.1 U	U	ug/kg	22.1	2.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Endosulfan I	11.4 U	U	ug/kg	11.4	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Endosulfan II	22.1 U	U	ug/kg	22.1	4.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Endosulfan Sulfate	22.1 U	U	ug/kg	22.1	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Endrin	22.1 U	U	ug/kg	22.1	1.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Endrin Aldehyde	22.1 U	U	ug/kg	22.1	2.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Endrin Ketone	22.1 U	U	ug/kg	22.1	3.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395001** Date Collected: 3/16/2017 11:00 Matrix: Solid

Sample ID: **SB-JO-1 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	11.4 U	U	ug/kg	11.4	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Heptachlor Epoxide	11.4 U	U	ug/kg	11.4	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Methoxychlor	22.1 U	U	ug/kg	22.1	2.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Toxaphene	234 U	U	ug/kg	234	38.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	68.5		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
Tetrachloro-m-xylene (S)	46.6		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:06	RWS	C
HERBICIDES											
2,4-D	87.7 U	U	ug/kg	87.7	34.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
2,4-DB	87.7 U	U	ug/kg	87.7	47.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
Dalapon	87.7 U	U	ug/kg	87.7	22.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
Dicamba	87.7 U	U	ug/kg	87.7	31.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
Dichloroprop	87.7 U	U	ug/kg	87.7	35.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
Dinoseb	219 U	U	ug/kg	219	44.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
Pentachlorophenol	87.7 U	U	ug/kg	87.7	49.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
2,4,5-T	87.7 U	U	ug/kg	87.7	36.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
2,4,5-TP	87.7 U	U	ug/kg	87.7	40.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	68.4		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:14	EGO	C
WET CHEMISTRY											
Alkalinity, Total	68 U	U,5	mg/kg	68	20	S2320B-97			3/22/17 12:41	MSA	C
Moisture	26.3		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
pH	6.35	2	pH_Units		1	SW846 9045D			3/17/17 03:12	MSA	C
Total Solids	73.7	4	%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	11.2		mg/kg	2.0	0.67	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1
Barium, Total	53.2		mg/kg	3.3	1.1	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1
Cadmium, Total	0.67 U	U	mg/kg	0.67	0.22	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1
Chromium, Total	71.0		mg/kg	1.3	0.44	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1
Lead, Total	21.0		mg/kg	1.3	0.44	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1
Mercury, Total	0.14		mg/kg	0.060	0.019	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:17	MNP	C2
Selenium, Total	1.5J	J	mg/kg	3.3	1.1	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1
Silver, Total	1.3 U	U	mg/kg	1.3	0.44	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:14	ZMC	C1

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395001** Date Collected: 3/16/2017 11:00 Matrix: Solid

Sample ID: **SB-JO-1 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395002** Date Collected: 3/16/2017 11:15 Matrix: Solid

Sample ID: **SB-JO-1 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	12.2 U	U	mg/kg	12.2	2.9	SW846 8015D	3/20/17 16:10	JSR	3/21/17 18:29	BS	C
Gasoline Range Organics	2210J	J	ug/kg	8710	1210	SW846 8015D	3/16/17 11:15	DD	3/20/17 21:18	DD	A
Oil Range Oranics C28-C35	12.2 U	U,1	mg/kg	12.2	2.5	SW846 8015D	3/20/17 16:10	JSR	3/21/17 18:29	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	119		%	72 - 134		SW846 8015D	3/16/17 11:15	DD	3/20/17 21:18	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	92.7		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 18:29	BS	C
VOLATILE ORGANICS											
Benzene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
Ethylbenzene	2.0 U	U	ug/kg	2.0	0.70	SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
Toluene	2.0 U	U	ug/kg	2.0	0.69	SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
Total Xylenes	6.1 U	U	ug/kg	6.1	1.4	SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98		%	56 - 124		SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
4-Bromofluorobenzene (S)	99.8		%	51 - 128		SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
Dibromofluoromethane (S)	116		%	62 - 123		SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
Toluene-d8 (S)	95.6		%	59 - 131		SW846 8260B	3/16/17 11:15	TMP	3/17/17 16:16	TMP	E
SEMIVOLATILES											
Acenaphthene	55.9 U	U	ug/kg	55.9	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Acenaphthylene	55.9 U	U	ug/kg	55.9	7.8	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Anthracene	55.9 U	U	ug/kg	55.9	8.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Benzo(a)anthracene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Benzo(a)pyrene	55.9 U	U	ug/kg	55.9	4.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Benzo(b)fluoranthene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Benzo(g,h,i)perylene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Benzo(k)fluoranthene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Chrysene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Dibenzo(a,h)anthracene	55.9 U	U	ug/kg	55.9	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Fluoranthene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Fluorene	55.9 U	U	ug/kg	55.9	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Indeno(1,2,3-cd)pyrene	55.9 U	U	ug/kg	55.9	7.8	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Naphthalene	55.9 U	U	ug/kg	55.9	6.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Phenanthrene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Pyrene	55.9 U	U	ug/kg	55.9	5.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395002** Date Collected: 3/16/2017 11:15 Matrix: Solid

Sample ID: **SB-JO-1 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	77.9		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Nitrobenzene-d5 (S)	56		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
Terphenyl-d14 (S)	90.3		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 15:34	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.037 U	U	mg/kg	0.037	0.0034	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1016	0.037 U	U	mg/kg	0.037	0.0068	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1221	0.037 U	U	mg/kg	0.037	0.0034	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1232	0.037 U	U	mg/kg	0.037	0.0068	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1242	0.037 U	U	mg/kg	0.037	0.010	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1248	0.037 U	U	mg/kg	0.037	0.0068	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1254	0.037 U	U	mg/kg	0.037	0.0068	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1260	0.037 U	U	mg/kg	0.037	0.0068	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1262	0.037 U	U	mg/kg	0.037	0.0079	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Aroclor-1268	0.037 U	U	mg/kg	0.037	0.010	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	93.1		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
Tetrachloro-m-xylene (S)	92.9		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:44	EGO	G
PESTICIDES											
Aldrin	9.6 U	U	ug/kg	9.6	3.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
alpha-BHC	9.6 U	U	ug/kg	9.6	0.85	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
beta-BHC	9.6 U	U	ug/kg	9.6	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
delta-BHC	9.6 U	U	ug/kg	9.6	0.74	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
gamma-BHC	9.6 U	U	ug/kg	9.6	0.79	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
alpha-Chlordane	9.6 U	U	ug/kg	9.6	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
gamma-Chlordane	9.6 U	U	ug/kg	9.6	1.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
4,4'-DDD	18.7 U	U	ug/kg	18.7	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
4,4'-DDE	18.7 U	U	ug/kg	18.7	2.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
4,4'-DDT	18.7 U	U	ug/kg	18.7	2.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Dieldrin	18.7 U	U	ug/kg	18.7	2.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Endosulfan I	9.6 U	U	ug/kg	9.6	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Endosulfan II	18.7 U	U	ug/kg	18.7	3.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Endosulfan Sulfate	18.7 U	U	ug/kg	18.7	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Endrin	18.7 U	U	ug/kg	18.7	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Endrin Aldehyde	18.7 U	U	ug/kg	18.7	2.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Endrin Ketone	18.7 U	U	ug/kg	18.7	2.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395002** Date Collected: 3/16/2017 11:15 Matrix: Solid

Sample ID: **SB-JO-1 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	9.6 U	U	ug/kg	9.6	0.96	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Heptachlor Epoxide	9.6 U	U	ug/kg	9.6	0.96	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Methoxychlor	18.7 U	U	ug/kg	18.7	2.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Toxaphene	198 U	U	ug/kg	198	32.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	65.8		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
Tetrachloro-m-xylene (S)	43.8		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:22	RWS	C
HERBICIDES											
2,4-D	78.3 U	U	ug/kg	78.3	30.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
2,4-DB	78.3 U	U	ug/kg	78.3	42.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
Dalapon	78.3 U	U	ug/kg	78.3	19.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
Dicamba	78.3 U	U	ug/kg	78.3	28.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
Dichloroprop	78.3 U	U	ug/kg	78.3	31.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
Dinoseb	195 U	U	ug/kg	195	39.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
Pentachlorophenol	78.3 U	U	ug/kg	78.3	44.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
2,4,5-T	78.3 U	U	ug/kg	78.3	32.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
2,4,5-TP	78.3 U	U	ug/kg	78.3	36.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	74.2		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 13:51	EGO	C
WET CHEMISTRY											
Alkalinity, Total	25J	J,2	mg/kg	58	20	S2320B-97			3/22/17 12:51	MSA	C
Moisture	14.5		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	85.5		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	8.4		mg/kg	1.6	0.54	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1
Barium, Total	17.3		mg/kg	2.7	0.87	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1
Cadmium, Total	0.54 U	U	mg/kg	0.54	0.18	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1
Chromium, Total	32.3		mg/kg	1.1	0.36	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1
Lead, Total	11.9		mg/kg	1.1	0.36	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1
Mercury, Total	0.11		mg/kg	0.057	0.018	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:18	MNP	C2
Selenium, Total	2.7 U	U	mg/kg	2.7	0.87	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1
Silver, Total	1.1 U	U	mg/kg	1.1	0.36	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:26	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395002** Date Collected: 3/16/2017 11:15 Matrix: Solid

Sample ID: **SB-JO-1 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395003** Date Collected: 3/16/2017 11:35 Matrix: Solid

Sample ID: **SB-JO-1 (5-5.5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.4 U	U	mg/kg	13.4	3.1	SW846 8015D	3/20/17 16:10	JSR	3/21/17 19:05	BS	C
Gasoline Range Organics	2060J	J	ug/kg	9140	1270	SW846 8015D	3/16/17 11:35	DD	3/20/17 21:51	DD	A
Oil Range Oranics C28-C35	13.4 U	U,1	mg/kg	13.4	2.8	SW846 8015D	3/20/17 16:10	JSR	3/21/17 19:05	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	121		%	72 - 134		SW846 8015D	3/16/17 11:35	DD	3/20/17 21:51	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	79.1		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 19:05	BS	C
VOLATILE ORGANICS											
Benzene	2.3 U	U	ug/kg	2.3	0.57	SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.78	SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
Toluene	2.3 U	U	ug/kg	2.3	0.77	SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
Total Xylenes	6.9 U	U	ug/kg	6.9	1.6	SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.5		%	56 - 124		SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
Dibromofluoromethane (S)	117		%	62 - 123		SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
Toluene-d8 (S)	98.1		%	59 - 131		SW846 8260B	3/16/17 11:35	TMP	3/17/17 16:39	TMP	E
SEMIVOLATILES											
Acenaphthene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Acenaphthylene	65.5 U	U	ug/kg	65.5	9.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Anthracene	65.5 U	U	ug/kg	65.5	10.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Benzo(a)anthracene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Benzo(a)pyrene	65.5 U	U	ug/kg	65.5	5.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Benzo(b)fluoranthene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Benzo(g,h,i)perylene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Benzo(k)fluoranthene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Chrysene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Dibenzo(a,h)anthracene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Fluoranthene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Fluorene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Indeno(1,2,3-cd)pyrene	65.5 U	U	ug/kg	65.5	9.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Naphthalene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Phenanthrene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Pyrene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395003** Date Collected: 3/16/2017 11:35 Matrix: Solid

Sample ID: **SB-JO-1 (5-5.5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	71.4		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Nitrobenzene-d5 (S)	51.9		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
Terphenyl-d14 (S)	87.1		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 16:24	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.0039	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0039	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1262	0.042 U	U	mg/kg	0.042	0.0090	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Aroclor-1268	0.042 U	U	mg/kg	0.042	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	88.3		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
Tetrachloro-m-xylene (S)	85.2		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 08:56	EGO	G
PESTICIDES											
Aldrin	10.9 U	U	ug/kg	10.9	3.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
alpha-BHC	10.9 U	U	ug/kg	10.9	0.96	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
beta-BHC	10.9 U	U	ug/kg	10.9	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
delta-BHC	10.9 U	U	ug/kg	10.9	0.83	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
gamma-BHC	10.9 U	U	ug/kg	10.9	0.90	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
alpha-Chlordane	10.9 U	U	ug/kg	10.9	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
gamma-Chlordane	10.9 U	U	ug/kg	10.9	1.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
4,4'-DDD	21.2 U	U	ug/kg	21.2	1.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
4,4'-DDE	21.2 U	U	ug/kg	21.2	2.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
4,4'-DDT	21.2 U	U	ug/kg	21.2	2.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Dieldrin	21.2 U	U	ug/kg	21.2	2.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Endosulfan I	10.9 U	U	ug/kg	10.9	1.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Endosulfan II	21.2 U	U	ug/kg	21.2	4.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Endosulfan Sulfate	21.2 U	U	ug/kg	21.2	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Endrin	21.2 U	U	ug/kg	21.2	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Endrin Aldehyde	21.2 U	U	ug/kg	21.2	2.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Endrin Ketone	21.2 U	U	ug/kg	21.2	3.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395003** Date Collected: 3/16/2017 11:35 Matrix: Solid

Sample ID: **SB-JO-1 (5-5.5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	10.9 U	U	ug/kg	10.9	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Heptachlor Epoxide	10.9 U	U	ug/kg	10.9	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Methoxychlor	21.2 U	U	ug/kg	21.2	2.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Toxaphene	225 U	U	ug/kg	225	37.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	72.2		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
Tetrachloro-m-xylene (S)	46.5		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:37	RWS	C
HERBICIDES											
2,4-D	87.7 U	U	ug/kg	87.7	34.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
2,4-DB	87.7 U	U	ug/kg	87.7	47.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
Dalapon	87.7 U	U	ug/kg	87.7	22.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
Dicamba	87.7 U	U	ug/kg	87.7	31.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
Dichloroprop	87.7 U	U	ug/kg	87.7	35.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
Dinoseb	219 U	U	ug/kg	219	44.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
Pentachlorophenol	87.7 U	U	ug/kg	87.7	49.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
2,4,5-T	87.7 U	U	ug/kg	87.7	36.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
2,4,5-TP	87.7 U	U	ug/kg	87.7	40.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	79.6		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 14:28	EGO	C
WET CHEMISTRY											
Alkalinity, Total	66 U	U,2	mg/kg	66	20	S2320B-97			3/22/17 12:58	MSA	C
Moisture	24.6		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	75.4		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	9.8		mg/kg	1.9	0.63	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1
Barium, Total	17.3		mg/kg	3.1	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1
Cadmium, Total	0.63 U	U	mg/kg	0.63	0.21	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1
Chromium, Total	20.7		mg/kg	1.3	0.41	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1
Lead, Total	13.9		mg/kg	1.3	0.41	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1
Mercury, Total	0.13		mg/kg	0.066	0.021	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:21	MNP	C2
Selenium, Total	1.4J	J	mg/kg	3.1	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1
Silver, Total	1.3 U	U	mg/kg	1.3	0.41	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:30	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395003** Date Collected: 3/16/2017 11:35 Matrix: Solid

Sample ID: **SB-JO-1 (5-5.5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395004** Date Collected: 3/16/2017 11:45 Matrix: Solid

Sample ID: **SB-JO-1 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.8 U	U	mg/kg	13.8	3.3	SW846 8015D	3/20/17 16:10	JSR	3/21/17 19:41	BS	C
Gasoline Range Organics	2650J	J	ug/kg	9460	1320	SW846 8015D	3/16/17 11:45	DD	3/20/17 22:25	DD	A
Oil Range Oranics C28-C35	13.8 U	U,1	mg/kg	13.8	2.9	SW846 8015D	3/20/17 16:10	JSR	3/21/17 19:41	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	119		%	72 - 134		SW846 8015D	3/16/17 11:45	DD	3/20/17 22:25	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	76.7		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 19:41	BS	C
VOLATILE ORGANICS											
Benzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.79	SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
Toluene	2.3 U	U	ug/kg	2.3	0.78	SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
Total Xylenes	6.9 U	U	ug/kg	6.9	1.6	SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.3		%	56 - 124		SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
4-Bromofluorobenzene (S)	102		%	51 - 128		SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
Dibromofluoromethane (S)	115		%	62 - 123		SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
Toluene-d8 (S)	96.7		%	59 - 131		SW846 8260B	3/16/17 11:45	TMP	3/17/17 17:03	TMP	E
SEMIVOLATILES											
Acenaphthene	61.9 U	U	ug/kg	61.9	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Acenaphthylene	61.9 U	U	ug/kg	61.9	8.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Anthracene	61.9 U	U	ug/kg	61.9	9.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Benzo(a)anthracene	61.9 U	U	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Benzo(a)pyrene	61.9 U	U	ug/kg	61.9	5.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Benzo(b)fluoranthene	6.8J	J	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Benzo(g,h,i)perylene	61.9 U	U	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Benzo(k)fluoranthene	6.4J	J	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Chrysene	61.9 U	U	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Dibenzo(a,h)anthracene	8.3J	J	ug/kg	61.9	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Fluoranthene	7.6J	J	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Fluorene	61.9 U	U	ug/kg	61.9	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Indeno(1,2,3-cd)pyrene	10.8J	J	ug/kg	61.9	8.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Naphthalene	61.9 U	U	ug/kg	61.9	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Phenanthrene	7.5J	J	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Pyrene	9.0J	J	ug/kg	61.9	6.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395004** Date Collected: 3/16/2017 11:45 Matrix: Solid

Sample ID: **SB-JO-1 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	67.4		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Nitrobenzene-d5 (S)	52.4		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
Terphenyl-d14 (S)	81.8		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 17:13	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.0039	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0039	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1262	0.042 U	U	mg/kg	0.042	0.0090	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Aroclor-1268	0.042 U	U	mg/kg	0.042	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	78.2		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
Tetrachloro-m-xylene (S)	84.4		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:07	EGO	G
PESTICIDES											
Aldrin	10.9 U	U	ug/kg	10.9	3.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
alpha-BHC	10.9 U	U	ug/kg	10.9	0.96	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
beta-BHC	10.9 U	U	ug/kg	10.9	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
delta-BHC	10.9 U	U	ug/kg	10.9	0.84	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
gamma-BHC	10.9 U	U	ug/kg	10.9	0.90	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
alpha-Chlordane	10.9 U	U	ug/kg	10.9	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
gamma-Chlordane	10.9 U	U	ug/kg	10.9	1.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
4,4'-DDD	21.2 U	U	ug/kg	21.2	1.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
4,4'-DDE	21.2 U	U	ug/kg	21.2	2.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
4,4'-DDT	21.2 U	U	ug/kg	21.2	2.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Dieldrin	21.2 U	U	ug/kg	21.2	2.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Endosulfan I	10.9 U	U	ug/kg	10.9	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Endosulfan II	21.2 U	U	ug/kg	21.2	4.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Endosulfan Sulfate	21.2 U	U	ug/kg	21.2	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Endrin	21.2 U	U	ug/kg	21.2	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Endrin Aldehyde	21.2 U	U	ug/kg	21.2	2.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Endrin Ketone	21.2 U	U	ug/kg	21.2	3.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395004** Date Collected: 3/16/2017 11:45 Matrix: Solid

Sample ID: **SB-JO-1 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	10.9 U	U	ug/kg	10.9	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Heptachlor Epoxide	10.9 U	U	ug/kg	10.9	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Methoxychlor	21.2 U	U	ug/kg	21.2	2.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Toxaphene	225 U	U	ug/kg	225	37.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	62.5		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
Tetrachloro-m-xylene (S)	43.5		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 18:53	RWS	C
HERBICIDES											
2,4-D	86.4 U	U	ug/kg	86.4	33.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
2,4-DB	86.4 U	U	ug/kg	86.4	46.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
Dalapon	86.4 U	U	ug/kg	86.4	21.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
Dicamba	86.4 U	U	ug/kg	86.4	31.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
Dichloroprop	86.4 U	U	ug/kg	86.4	34.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
Dinoseb	215 U	U	ug/kg	215	43.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
Pentachlorophenol	86.4 U	U	ug/kg	86.4	49.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
2,4,5-T	86.4 U	U	ug/kg	86.4	36.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
2,4,5-TP	86.4 U	U	ug/kg	86.4	40.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	83.3		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:05	EGO	C
WET CHEMISTRY											
Alkalinity, Total	65 U	U,2	mg/kg	65	20	S2320B-97			3/22/17 13:06	MSA	C
Moisture	23.8		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	76.2		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	15.0		mg/kg	1.8	0.60	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1
Barium, Total	19.4		mg/kg	3.0	0.95	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1
Cadmium, Total	0.60 U	U	mg/kg	0.60	0.20	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1
Chromium, Total	22.6		mg/kg	1.2	0.39	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1
Lead, Total	13.7		mg/kg	1.2	0.39	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1
Mercury, Total	0.072		mg/kg	0.057	0.018	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:22	MNP	C2
Selenium, Total	7.5		mg/kg	3.0	0.95	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1
Silver, Total	1.2 U	U	mg/kg	1.2	0.39	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:34	ZMC	C1

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395004** Date Collected: 3/16/2017 11:45 Matrix: Solid

Sample ID: **SB-JO-1 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395005** Date Collected: 3/16/2017 09:00 Matrix: Water

Sample ID: **TB-1 (031617)** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 14:23	TMP	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 14:23	TMP	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 14:23	TMP	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 14:23	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.9		%	62 - 133		SW846 8260B			3/17/17 14:23	TMP	A
4-Bromofluorobenzene (S)	93.6		%	79 - 114		SW846 8260B			3/17/17 14:23	TMP	A
Dibromofluoromethane (S)	98.2		%	78 - 116		SW846 8260B			3/17/17 14:23	TMP	A
Toluene-d8 (S)	97.3		%	76 - 127		SW846 8260B			3/17/17 14:23	TMP	A

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395006** Date Collected: 3/16/2017 12:40 Matrix: Solid

Sample ID: **SB-JO-2 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	3.2J	J	mg/kg	12.1	2.9	SW846 8015D	3/20/17 16:10	JSR	3/21/17 21:29	BS	C
Gasoline Range Organics	2430J	J	ug/kg	8660	1200	SW846 8015D	3/16/17 12:40	DD	3/20/17 22:58	DD	A
Oil Range Oranics C28-C35	12.1 U	U,1	mg/kg	12.1	2.5	SW846 8015D	3/20/17 16:10	JSR	3/21/17 21:29	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	121		%	72 - 134		SW846 8015D	3/16/17 12:40	DD	3/20/17 22:58	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	92.7		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 21:29	BS	C
VOLATILE ORGANICS											
Benzene	2.3 U	U	ug/kg	2.3	0.57	SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.77	SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
Toluene	2.3 U	U	ug/kg	2.3	0.76	SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
Total Xylenes	6.8 U	U	ug/kg	6.8	1.6	SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.9		%	56 - 124		SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
Dibromofluoromethane (S)	118		%	62 - 123		SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
Toluene-d8 (S)	97.8		%	59 - 131		SW846 8260B	3/16/17 12:40	TMP	3/17/17 17:26	TMP	E
SEMIVOLATILES											
Acenaphthene	58.7 U	U	ug/kg	58.7	7.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Acenaphthylene	58.7 U	U	ug/kg	58.7	8.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Anthracene	58.7 U	U	ug/kg	58.7	9.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Benzo(a)anthracene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Benzo(a)pyrene	58.7 U	U	ug/kg	58.7	4.7	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Benzo(b)fluoranthene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Benzo(g,h,i)perylene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Benzo(k)fluoranthene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Chrysene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Dibenzo(a,h)anthracene	58.7 U	U	ug/kg	58.7	7.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Fluoranthene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Fluorene	58.7 U	U	ug/kg	58.7	7.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Indeno(1,2,3-cd)pyrene	58.7 U	U	ug/kg	58.7	8.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Naphthalene	58.7 U	U	ug/kg	58.7	7.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Phenanthrene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Pyrene	58.7 U	U	ug/kg	58.7	5.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395006** Date Collected: 3/16/2017 12:40 Matrix: Solid

Sample ID: **SB-JO-2 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	79.9		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Nitrobenzene-d5 (S)	60.9		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
Terphenyl-d14 (S)	88.3		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:03	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.038 U	U	mg/kg	0.038	0.0035	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1016	0.038 U	U	mg/kg	0.038	0.0070	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1221	0.038 U	U	mg/kg	0.038	0.0035	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1232	0.038 U	U	mg/kg	0.038	0.0070	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1242	0.038 U	U	mg/kg	0.038	0.010	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1248	0.038 U	U	mg/kg	0.038	0.0070	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1254	0.038 U	U	mg/kg	0.038	0.0070	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1260	0.038 U	U	mg/kg	0.038	0.0070	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1262	0.038 U	U	mg/kg	0.038	0.0081	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Aroclor-1268	0.038 U	U	mg/kg	0.038	0.010	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	95.8		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
Tetrachloro-m-xylene (S)	91.5		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:31	EGO	G
PESTICIDES											
Aldrin	9.9 U	U	ug/kg	9.9	3.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
alpha-BHC	9.9 U	U	ug/kg	9.9	0.87	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
beta-BHC	9.9 U	U	ug/kg	9.9	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
delta-BHC	9.9 U	U	ug/kg	9.9	0.75	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
gamma-BHC	9.9 U	U	ug/kg	9.9	0.81	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
alpha-Chlordane	9.9 U	U	ug/kg	9.9	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
gamma-Chlordane	9.9 U	U	ug/kg	9.9	1.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
4,4'-DDD	19.1 U	U	ug/kg	19.1	1.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
4,4'-DDE	19.1 U	U	ug/kg	19.1	2.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
4,4'-DDT	19.1 U	U	ug/kg	19.1	2.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Dieldrin	19.1 U	U	ug/kg	19.1	2.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Endosulfan I	9.9 U	U	ug/kg	9.9	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Endosulfan II	19.1 U	U	ug/kg	19.1	4.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Endosulfan Sulfate	19.1 U	U	ug/kg	19.1	1.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Endrin	19.1 U	U	ug/kg	19.1	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Endrin Aldehyde	19.1 U	U	ug/kg	19.1	2.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Endrin Ketone	19.1 U	U	ug/kg	19.1	2.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395006** Date Collected: 3/16/2017 12:40 Matrix: Solid

Sample ID: **SB-JO-2 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	9.9 U	U	ug/kg	9.9	0.99	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Heptachlor Epoxide	9.9 U	U	ug/kg	9.9	0.99	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Methoxychlor	19.1 U	U	ug/kg	19.1	2.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Toxaphene	203 U	U	ug/kg	203	33.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	72		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
Tetrachloro-m-xylene (S)	47.5		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:24	RWS	C
HERBICIDES											
2,4-D	80.3 U	U	ug/kg	80.3	31.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
2,4-DB	80.3 U	U	ug/kg	80.3	43.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
Dalapon	80.3 U	U	ug/kg	80.3	20.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
Dicamba	80.3 U	U	ug/kg	80.3	28.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
Dichloroprop	80.3 U	U	ug/kg	80.3	32.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
Dinoseb	200 U	U	ug/kg	200	40.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
Pentachlorophenol	80.3 U	U	ug/kg	80.3	45.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
2,4,5-T	80.3 U	U	ug/kg	80.3	33.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
2,4,5-TP	80.3 U	U	ug/kg	80.3	37.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	72.6		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 15:42	EGO	C
WET CHEMISTRY											
Alkalinity, Total	26J	J,2	mg/kg	60	20	S2320B-97			3/22/17 13:15	MSA	C
Moisture	16.5		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
pH	6.89	3	pH_Units		1	SW846 9045D			3/17/17 03:17	MSA	C
Total Solids	83.5		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	7.5		mg/kg	1.7	0.55	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1
Barium, Total	28.1		mg/kg	2.8	0.89	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1
Cadmium, Total	0.55 U	U	mg/kg	0.55	0.18	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1
Chromium, Total	22.4		mg/kg	1.1	0.37	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1
Lead, Total	11.7		mg/kg	1.1	0.37	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1
Mercury, Total	0.094		mg/kg	0.054	0.017	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:23	MNP	C2
Selenium, Total	2.8 U	U	mg/kg	2.8	0.89	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1
Silver, Total	1.1 U	U	mg/kg	1.1	0.37	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:50	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395006** Date Collected: 3/16/2017 12:40 Matrix: Solid

Sample ID: **SB-JO-2 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395007** Date Collected: 3/16/2017 12:48 Matrix: Solid

Sample ID: **SB-JO-2 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	12.8 U	U	mg/kg	12.8	3.0	SW846 8015D	3/20/17 16:10	JSR	3/21/17 22:05	BS	C
Gasoline Range Organics	3110J	J	ug/kg	11100	1540	SW846 8015D	3/16/17 12:48	DD	3/20/17 23:32	DD	A
Oil Range Oranics C28-C35	12.8 U	U,1	mg/kg	12.8	2.7	SW846 8015D	3/20/17 16:10	JSR	3/21/17 22:05	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	119		%	72 - 134		SW846 8015D	3/16/17 12:48	DD	3/20/17 23:32	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	85.9		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 22:05	BS	C
VOLATILE ORGANICS											
Benzene	2.2 U	U	ug/kg	2.2	0.56	SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
Ethylbenzene	2.2 U	U	ug/kg	2.2	0.76	SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
Toluene	2.2 U	U	ug/kg	2.2	0.75	SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
Total Xylenes	6.7 U	U	ug/kg	6.7	1.6	SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98		%	56 - 124		SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
4-Bromofluorobenzene (S)	102		%	51 - 128		SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
Dibromofluoromethane (S)	115		%	62 - 123		SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
Toluene-d8 (S)	98.2		%	59 - 131		SW846 8260B	3/16/17 12:48	TMP	3/17/17 17:49	TMP	E
SEMIVOLATILES											
Acenaphthene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Acenaphthylene	62.5 U	U	ug/kg	62.5	8.8	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Anthracene	62.5 U	U	ug/kg	62.5	10.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Benzo(a)anthracene	8.4J	J	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Benzo(a)pyrene	62.5 U	U	ug/kg	62.5	5.0	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Benzo(b)fluoranthene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Benzo(g,h,i)perylene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Benzo(k)fluoranthene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Chrysene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Dibenzo(a,h)anthracene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Fluoranthene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Fluorene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Indeno(1,2,3-cd)pyrene	62.5 U	U	ug/kg	62.5	8.8	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Naphthalene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Phenanthrene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Pyrene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395007** Date Collected: 3/16/2017 12:48 Matrix: Solid

Sample ID: **SB-JO-2 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	75.8		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Nitrobenzene-d5 (S)	54.4		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
Terphenyl-d14 (S)	84.9		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:28	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.041 U	U	mg/kg	0.041	0.0037	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1016	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1221	0.041 U	U	mg/kg	0.041	0.0037	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1232	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1242	0.041 U	U	mg/kg	0.041	0.011	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1248	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1254	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1260	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1262	0.041 U	U	mg/kg	0.041	0.0086	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Aroclor-1268	0.041 U	U	mg/kg	0.041	0.011	SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	86.5		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
Tetrachloro-m-xylene (S)	85		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 09:42	EGO	G
PESTICIDES											
Aldrin	10.5 U	U	ug/kg	10.5	3.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
alpha-BHC	10.5 U	U	ug/kg	10.5	0.93	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
beta-BHC	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
delta-BHC	10.5 U	U	ug/kg	10.5	0.80	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
gamma-BHC	10.5 U	U	ug/kg	10.5	0.86	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
alpha-Chlordane	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
gamma-Chlordane	10.5 U	U	ug/kg	10.5	1.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
4,4'-DDD	20.4 U	U	ug/kg	20.4	1.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
4,4'-DDE	20.4 U	U	ug/kg	20.4	2.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
4,4'-DDT	20.4 U	U	ug/kg	20.4	2.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Dieldrin	20.4 U	U	ug/kg	20.4	2.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Endosulfan I	10.5 U	U	ug/kg	10.5	1.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Endosulfan II	20.4 U	U	ug/kg	20.4	4.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Endosulfan Sulfate	20.4 U	U	ug/kg	20.4	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Endrin	20.4 U	U	ug/kg	20.4	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Endrin Aldehyde	20.4 U	U	ug/kg	20.4	2.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Endrin Ketone	20.4 U	U	ug/kg	20.4	2.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395007** Date Collected: 3/16/2017 12:48 Matrix: Solid

Sample ID: **SB-JO-2 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	10.5 U	U	ug/kg	10.5	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Heptachlor Epoxide	10.5 U	U	ug/kg	10.5	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Methoxychlor	20.4 U	U	ug/kg	20.4	2.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Toxaphene	216 U	U	ug/kg	216	35.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	81		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
Tetrachloro-m-xylene (S)	51.3		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:39	RWS	C
HERBICIDES											
2,4-D	83.0 U	U	ug/kg	83.0	32.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
2,4-DB	83.0 U	U	ug/kg	83.0	44.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
Dalapon	83.0 U	U	ug/kg	83.0	21.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
Dicamba	83.0 U	U	ug/kg	83.0	29.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
Dichloroprop	83.0 U	U	ug/kg	83.0	33.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
Dinoseb	207 U	U	ug/kg	207	42.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
Pentachlorophenol	83.0 U	U	ug/kg	83.0	47.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
2,4,5-T	83.0 U	U	ug/kg	83.0	34.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
2,4,5-TP	83.0 U	U	ug/kg	83.0	38.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	63.1		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:20	EGO	C
WET CHEMISTRY											
Alkalinity, Total	43J	J,2	mg/kg	62	20	S2320B-97			3/22/17 13:25	MSA	C
Moisture	20.1		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	79.9		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	8.7		mg/kg	1.8	0.60	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1
Barium, Total	35.0		mg/kg	3.0	0.96	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1
Cadmium, Total	0.60 U	U	mg/kg	0.60	0.20	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1
Chromium, Total	31.5		mg/kg	1.2	0.40	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1
Lead, Total	14.1		mg/kg	1.2	0.40	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1
Mercury, Total	0.12		mg/kg	0.059	0.019	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:27	MNP	C2
Selenium, Total	3.0 U	U	mg/kg	3.0	0.96	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1
Silver, Total	1.2 U	U	mg/kg	1.2	0.40	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:54	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395007** Date Collected: 3/16/2017 12:48 Matrix: Solid

Sample ID: **SB-JO-2 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395008** Date Collected: 3/16/2017 13:00 Matrix: Solid

Sample ID: **SB-JO-2 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	3.5J	J	mg/kg	13.1	3.1	SW846 8015D	3/20/17 16:10	JSR	3/21/17 22:41	BS	C
Gasoline Range Organics	2050J	J	ug/kg	8800	1220	SW846 8015D	3/16/17 13:00	DD	3/21/17 00:06	DD	A
Oil Range Oranics C28-C35	13.1 U	U,1	mg/kg	13.1	2.7	SW846 8015D	3/20/17 16:10	JSR	3/21/17 22:41	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	120		%	72 - 134		SW846 8015D	3/16/17 13:00	DD	3/21/17 00:06	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	90.5		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 22:41	BS	C
VOLATILE ORGANICS											
Benzene	2.1 U	U	ug/kg	2.1	0.53	SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
Ethylbenzene	2.1 U	U	ug/kg	2.1	0.72	SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
Toluene	2.1 U	U	ug/kg	2.1	0.71	SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
Total Xylenes	6.3 U	U	ug/kg	6.3	1.5	SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	95.7		%	56 - 124		SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
Dibromofluoromethane (S)	115		%	62 - 123		SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
Toluene-d8 (S)	99		%	59 - 131		SW846 8260B	3/16/17 13:00	TMP	3/17/17 18:13	TMP	E
SEMIVOLATILES											
Acenaphthene	61.3 U	U	ug/kg	61.3	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Acenaphthylene	61.3 U	U	ug/kg	61.3	8.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Anthracene	61.3 U	U	ug/kg	61.3	9.8	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Benzo(a)anthracene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Benzo(a)pyrene	61.3 U	U	ug/kg	61.3	4.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Benzo(b)fluoranthene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Benzo(g,h,i)perylene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Benzo(k)fluoranthene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Chrysene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Dibenzo(a,h)anthracene	61.3 U	U	ug/kg	61.3	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Fluoranthene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Fluorene	61.3 U	U	ug/kg	61.3	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Indeno(1,2,3-cd)pyrene	61.3 U	U	ug/kg	61.3	8.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Naphthalene	61.3 U	U	ug/kg	61.3	7.4	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Phenanthrene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Pyrene	61.3 U	U	ug/kg	61.3	6.1	SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395008** Date Collected: 3/16/2017 13:00 Matrix: Solid

Sample ID: **SB-JO-2 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	68.1		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Nitrobenzene-d5 (S)	56.4		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
Terphenyl-d14 (S)	81.8		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 18:53	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.041 U	U	mg/kg	0.041	0.0037	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1016	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1221	0.041 U	U	mg/kg	0.041	0.0037	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1232	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1242	0.041 U	U	mg/kg	0.041	0.011	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1248	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1254	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1260	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1262	0.041 U	U	mg/kg	0.041	0.0086	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Aroclor-1268	0.041 U	U	mg/kg	0.041	0.011	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	94.9		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
Tetrachloro-m-xylene (S)	93.4		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:06	EGO	G
PESTICIDES											
Aldrin	10.5 U	U	ug/kg	10.5	3.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
alpha-BHC	10.5 U	U	ug/kg	10.5	0.93	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
beta-BHC	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
delta-BHC	10.5 U	U	ug/kg	10.5	0.80	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
gamma-BHC	10.5 U	U	ug/kg	10.5	0.86	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
alpha-Chlordane	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
gamma-Chlordane	10.5 U	U	ug/kg	10.5	1.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
4,4'-DDD	20.4 U	U	ug/kg	20.4	1.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
4,4'-DDE	20.4 U	U	ug/kg	20.4	2.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
4,4'-DDT	20.4 U	U	ug/kg	20.4	2.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Dieldrin	20.4 U	U	ug/kg	20.4	2.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Endosulfan I	10.5 U	U	ug/kg	10.5	1.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Endosulfan II	20.4 U	U	ug/kg	20.4	4.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Endosulfan Sulfate	20.4 U	U	ug/kg	20.4	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Endrin	20.4 U	U	ug/kg	20.4	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Endrin Aldehyde	20.4 U	U	ug/kg	20.4	2.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Endrin Ketone	20.4 U	U	ug/kg	20.4	2.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395008** Date Collected: 3/16/2017 13:00 Matrix: Solid

Sample ID: **SB-JO-2 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	10.5 U	U	ug/kg	10.5	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Heptachlor Epoxide	10.5 U	U	ug/kg	10.5	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Methoxychlor	20.4 U	U	ug/kg	20.4	2.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Toxaphene	216 U	U	ug/kg	216	35.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	79.1		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
Tetrachloro-m-xylene (S)	51.5		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 19:55	RWS	C
HERBICIDES											
2,4-D	82.4 U	U	ug/kg	82.4	32.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
2,4-DB	82.4 U	U	ug/kg	82.4	44.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
Dalapon	82.4 U	U	ug/kg	82.4	20.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
Dicamba	82.4 U	U	ug/kg	82.4	29.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
Dichloroprop	82.4 U	U	ug/kg	82.4	33.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
Dinoseb	205 U	U	ug/kg	205	41.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
Pentachlorophenol	82.4 U	U	ug/kg	82.4	46.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
2,4,5-T	82.4 U	U	ug/kg	82.4	34.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
2,4,5-TP	82.4 U	U	ug/kg	82.4	38.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	71.3		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 16:57	EGO	C
WET CHEMISTRY											
Alkalinity, Total	63 U	U,2	mg/kg	63	20	S2320B-97			3/22/17 13:33	MSA	C
Moisture	20.5		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	79.5		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	10.3		mg/kg	1.7	0.58	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1
Barium, Total	54.6		mg/kg	2.9	0.93	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1
Cadmium, Total	0.58 U	U	mg/kg	0.58	0.19	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1
Chromium, Total	27.0		mg/kg	1.2	0.38	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1
Lead, Total	38.5		mg/kg	1.2	0.38	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1
Mercury, Total	0.11		mg/kg	0.061	0.019	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:28	MNP	C2
Selenium, Total	2.9 U	U	mg/kg	2.9	0.93	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1
Silver, Total	1.2 U	U	mg/kg	1.2	0.38	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 10:58	ZMC	C1

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395008** Date Collected: 3/16/2017 13:00 Matrix: Solid

Sample ID: **SB-JO-2 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395009** Date Collected: 3/16/2017 13:10 Matrix: Solid

Sample ID: **SB-JO-2 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	14.2 U	U	mg/kg	14.2	3.4	SW846 8015D	3/20/17 16:10	JSR	3/21/17 23:18	BS	C
Gasoline Range Organics	1750J	J	ug/kg	10800	1500	SW846 8015D	3/16/17 13:10	DD	3/21/17 00:39	DD	A
Oil Range Oranics C28-C35	14.2 U	U,1	mg/kg	14.2	2.9	SW846 8015D	3/20/17 16:10	JSR	3/21/17 23:18	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	113		%	72 - 134		SW846 8015D	3/16/17 13:10	DD	3/21/17 00:39	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	93.8		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/21/17 23:18	BS	C
VOLATILE ORGANICS											
Benzene	2.7 U	U	ug/kg	2.7	0.68	SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
Ethylbenzene	2.7 U	U	ug/kg	2.7	0.92	SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
Toluene	2.7 U	U	ug/kg	2.7	0.91	SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
Total Xylenes	8.1 U	U	ug/kg	8.1	1.9	SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.6		%	56 - 124		SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
4-Bromofluorobenzene (S)	103		%	51 - 128		SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
Dibromofluoromethane (S)	116		%	62 - 123		SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
Toluene-d8 (S)	96.7		%	59 - 131		SW846 8260B	3/16/17 13:10	TMP	3/17/17 18:36	TMP	E
SEMIVOLATILES											
Acenaphthene	65.7 U	U	ug/kg	65.7	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Acenaphthylene	65.7 U	U	ug/kg	65.7	9.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Anthracene	65.7 U	U	ug/kg	65.7	10.5	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Benzo(a)anthracene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Benzo(a)pyrene	65.7 U	U	ug/kg	65.7	5.3	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Benzo(b)fluoranthene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Benzo(g,h,i)perylene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Benzo(k)fluoranthene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Chrysene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Dibenzo(a,h)anthracene	65.7 U	U	ug/kg	65.7	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Fluoranthene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Fluorene	65.7 U	U	ug/kg	65.7	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Indeno(1,2,3-cd)pyrene	65.7 U	U	ug/kg	65.7	9.2	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Naphthalene	65.7 U	U	ug/kg	65.7	7.9	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Phenanthrene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Pyrene	65.7 U	U	ug/kg	65.7	6.6	SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395009** Date Collected: 3/16/2017 13:10 Matrix: Solid

Sample ID: **SB-JO-2 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	72.8		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Nitrobenzene-d5 (S)	53.3		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
Terphenyl-d14 (S)	84.7		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/20/17 19:18	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.044 U	U	mg/kg	0.044	0.0040	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1016	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1221	0.044 U	U	mg/kg	0.044	0.0040	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1232	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1242	0.044 U	U	mg/kg	0.044	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1248	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1254	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1260	0.044 U	U	mg/kg	0.044	0.0080	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1262	0.044 U	U	mg/kg	0.044	0.0093	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Aroclor-1268	0.044 U	U	mg/kg	0.044	0.012	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	86		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
Tetrachloro-m-xylene (S)	86.1		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:17	EGO	G
PESTICIDES											
Aldrin	11.3 U	U	ug/kg	11.3	3.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
alpha-BHC	11.3 U	U	ug/kg	11.3	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
beta-BHC	11.3 U	U	ug/kg	11.3	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
delta-BHC	11.3 U	U	ug/kg	11.3	0.87	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
gamma-BHC	11.3 U	U	ug/kg	11.3	0.93	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
alpha-Chlordane	11.3 U	U	ug/kg	11.3	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
gamma-Chlordane	11.3 U	U	ug/kg	11.3	1.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
4,4'-DDD	22.0 U	U	ug/kg	22.0	1.8	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
4,4'-DDE	22.0 U	U	ug/kg	22.0	3.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
4,4'-DDT	22.0 U	U	ug/kg	22.0	2.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Dieldrin	22.0 U	U	ug/kg	22.0	2.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Endosulfan I	11.3 U	U	ug/kg	11.3	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Endosulfan II	22.0 U	U	ug/kg	22.0	4.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Endosulfan Sulfate	22.0 U	U	ug/kg	22.0	1.5	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Endrin	22.0 U	U	ug/kg	22.0	1.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Endrin Aldehyde	22.0 U	U	ug/kg	22.0	2.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Endrin Ketone	22.0 U	U	ug/kg	22.0	3.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395009** Date Collected: 3/16/2017 13:10 Matrix: Solid

Sample ID: **SB-JO-2 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	11.3 U	U	ug/kg	11.3	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Heptachlor Epoxide	11.3 U	U	ug/kg	11.3	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Methoxychlor	22.0 U	U	ug/kg	22.0	2.9	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Toxaphene	233 U	U	ug/kg	233	38.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	77.2		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
Tetrachloro-m-xylene (S)	50.4		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:10	RWS	C
HERBICIDES											
2,4-D	87.2 U	U	ug/kg	87.2	33.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
2,4-DB	87.2 U	U	ug/kg	87.2	46.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
Dalapon	87.2 U	U	ug/kg	87.2	22.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
Dicamba	87.2 U	U	ug/kg	87.2	31.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
Dichloroprop	87.2 U	U	ug/kg	87.2	35.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
Dinoseb	217 U	U	ug/kg	217	44.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
Pentachlorophenol	87.2 U	U	ug/kg	87.2	49.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
2,4,5-T	87.2 U	U	ug/kg	87.2	36.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
2,4,5-TP	87.2 U	U	ug/kg	87.2	40.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	73.3		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:11	EGO	C
WET CHEMISTRY											
Alkalinity, Total	24J	J,2	mg/kg	67	20	S2320B-97			3/22/17 13:41	MSA	C
Moisture	25.4		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	74.6		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	5.8		mg/kg	1.9	0.64	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1
Barium, Total	30.2		mg/kg	3.2	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1
Cadmium, Total	0.64 U	U	mg/kg	0.64	0.21	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1
Chromium, Total	18.6		mg/kg	1.3	0.43	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1
Lead, Total	9.6		mg/kg	1.3	0.43	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1
Mercury, Total	0.031J	J	mg/kg	0.064	0.021	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:29	MNP	C2
Selenium, Total	1.7J	J	mg/kg	3.2	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1
Silver, Total	1.3 U	U	mg/kg	1.3	0.43	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:02	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395009** Date Collected: 3/16/2017 13:10 Matrix: Solid

Sample ID: **SB-JO-2 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395010** Date Collected: 3/16/2017 14:00 Matrix: Solid

Sample ID: **SB-JO-4 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	12.4 U	U	mg/kg	12.4	2.9	SW846 8015D	3/20/17 16:10	JSR	3/22/17 00:33	BS	C
Gasoline Range Organics	1710J	J	ug/kg	9280	1290	SW846 8015D	3/16/17 14:00	DD	3/21/17 01:13	DD	A
Oil Range Oranics C28-C35	12.4 U	U,1	mg/kg	12.4	2.6	SW846 8015D	3/20/17 16:10	JSR	3/22/17 00:33	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	114		%	72 - 134		SW846 8015D	3/16/17 14:00	DD	3/21/17 01:13	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	91.7		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 00:33	BS	C
VOLATILE ORGANICS											
Benzene	2.2 U	U	ug/kg	2.2	0.54	SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
Ethylbenzene	2.2 U	U	ug/kg	2.2	0.74	SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
Toluene	2.2 U	U	ug/kg	2.2	0.73	SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
Total Xylenes	6.5 U	U	ug/kg	6.5	1.5	SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.8		%	56 - 124		SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
Dibromofluoromethane (S)	114		%	62 - 123		SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
Toluene-d8 (S)	98.4		%	59 - 131		SW846 8260B	3/16/17 14:00	TMP	3/17/17 18:59	TMP	E
SEMIVOLATILES											
Acenaphthene	57.4 U	U	ug/kg	57.4	6.9	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Acenaphthylene	57.4 U	U	ug/kg	57.4	8.0	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Anthracene	57.4 U	U	ug/kg	57.4	9.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Benzo(a)anthracene	16.1J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Benzo(a)pyrene	8.7J	J	ug/kg	57.4	4.6	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Benzo(b)fluoranthene	12.9J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Benzo(g,h,i)perylene	12.5J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Benzo(k)fluoranthene	10.4J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Chrysene	13.1J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Dibenzo(a,h)anthracene	8.2J	J	ug/kg	57.4	6.9	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Fluoranthene	11.3J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Fluorene	57.4 U	U	ug/kg	57.4	6.9	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Indeno(1,2,3-cd)pyrene	57.4 U	U	ug/kg	57.4	8.0	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Naphthalene	12.4J	J	ug/kg	57.4	6.9	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Phenanthrene	16.4J	J	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Pyrene	57.4 U	U	ug/kg	57.4	5.7	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395010** Date Collected: 3/16/2017 14:00 Matrix: Solid

Sample ID: **SB-JO-4 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	81		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Nitrobenzene-d5 (S)	79		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
Terphenyl-d14 (S)	84.7		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:27	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.039 U	U	mg/kg	0.039	0.0035	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1016	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1221	0.039 U	U	mg/kg	0.039	0.0035	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1232	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1242	0.039 U	U	mg/kg	0.039	0.011	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1248	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1254	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1260	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1262	0.039 U	U	mg/kg	0.039	0.0082	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Aroclor-1268	0.039 U	U	mg/kg	0.039	0.011	SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	87.3		%	49 - 115		SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
Tetrachloro-m-xylene (S)	87.7		%	27 - 137		SW846 8082A	3/17/17 02:40	CMA	3/17/17 10:29	EGO	G
PESTICIDES											
Aldrin	10.0 U	U	ug/kg	10.0	3.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
alpha-BHC	10.0 U	U	ug/kg	10.0	0.88	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
beta-BHC	10.0 U	U	ug/kg	10.0	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
delta-BHC	10.0 U	U	ug/kg	10.0	0.77	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
gamma-BHC	10.0 U	U	ug/kg	10.0	0.82	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
alpha-Chlordane	10.0 U	U	ug/kg	10.0	1.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
gamma-Chlordane	10.0 U	U	ug/kg	10.0	1.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
4,4'-DDD	19.4 U	U	ug/kg	19.4	1.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
4,4'-DDE	17.0J	J	ug/kg	19.4	2.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
4,4'-DDT	19.4 U	U	ug/kg	19.4	2.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Dieldrin	19.4 U	U	ug/kg	19.4	2.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Endosulfan I	10.0 U	U	ug/kg	10.0	1.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Endosulfan II	19.4 U	U	ug/kg	19.4	4.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Endosulfan Sulfate	19.4 U	U	ug/kg	19.4	1.3	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Endrin	19.4 U	U	ug/kg	19.4	1.4	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Endrin Aldehyde	19.4 U	U	ug/kg	19.4	2.1	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Endrin Ketone	19.4 U	U	ug/kg	19.4	2.7	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395010** Date Collected: 3/16/2017 14:00 Matrix: Solid

Sample ID: **SB-JO-4 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	10.0 U	U	ug/kg	10.0	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Heptachlor Epoxide	10.0 U	U	ug/kg	10.0	1.0	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Methoxychlor	19.4 U	U	ug/kg	19.4	2.6	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Toxaphene	206 U	U	ug/kg	206	34.2	SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	72.2		%	30 - 135		SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
Tetrachloro-m-xylene (S)	47.3		%	30 - 111		SW846 8081B	3/17/17 02:40	CMA	3/20/17 20:26	RWS	C
HERBICIDES											
2,4-D	80.5 U	U	ug/kg	80.5	31.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
2,4-DB	80.5 U	U	ug/kg	80.5	43.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
Dalapon	80.5 U	U	ug/kg	80.5	20.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
Dicamba	80.5 U	U	ug/kg	80.5	28.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
Dichloroprop	80.5 U	U	ug/kg	80.5	32.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
Dinoseb	201 U	U	ug/kg	201	40.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
Pentachlorophenol	80.5 U	U	ug/kg	80.5	45.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
2,4,5-T	80.5 U	U	ug/kg	80.5	33.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
2,4,5-TP	80.5 U	U	ug/kg	80.5	37.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	68.3		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 18:48	EGO	C
WET CHEMISTRY											
Alkalinity, Total	31J	J,2	mg/kg	60	20	S2320B-97			3/22/17 13:50	MSA	C
Moisture	16.8		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
pH	6.98	3	pH_Units		1	SW846 9045D			3/17/17 03:21	MSA	C
Total Solids	83.2		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	9.3		mg/kg	1.6	0.55	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1
Barium, Total	45.7		mg/kg	2.7	0.87	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1
Cadmium, Total	0.55 U	U	mg/kg	0.55	0.18	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1
Chromium, Total	40.2		mg/kg	1.1	0.36	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1
Lead, Total	31.8		mg/kg	1.1	0.36	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1
Mercury, Total	0.057 U	U	mg/kg	0.057	0.018	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:30	MNP	C2
Selenium, Total	2.5J	J	mg/kg	2.7	0.87	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1
Silver, Total	1.1 U	U	mg/kg	1.1	0.36	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:06	ZMC	C1

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395010** Date Collected: 3/16/2017 14:00 Matrix: Solid

Sample ID: **SB-JO-4 (0-6")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395011** Date Collected: 3/16/2017 14:10 Matrix: Solid

Sample ID: **SB-JO-4 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	12.4 U	U	mg/kg	12.4	2.9	SW846 8015D	3/20/17 16:10	JSR	3/22/17 01:11	BS	C
Gasoline Range Organics	1370J	J	ug/kg	8770	1220	SW846 8015D	3/16/17 14:10	DD	3/21/17 01:46	DD	A
Oil Range Oranics C28-C35	12.4 U	U,1	mg/kg	12.4	2.6	SW846 8015D	3/20/17 16:10	JSR	3/22/17 01:11	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	117		%	72 - 134		SW846 8015D	3/16/17 14:10	DD	3/21/17 01:46	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	101		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 01:11	BS	C
VOLATILE ORGANICS											
Benzene	1.9 U	U	ug/kg	1.9	0.48	SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
Ethylbenzene	1.9 U	U	ug/kg	1.9	0.66	SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
Toluene	1.9 U	U	ug/kg	1.9	0.65	SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
Total Xylenes	5.8 U	U	ug/kg	5.8	1.4	SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	103		%	56 - 124		SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
Dibromofluoromethane (S)	117		%	62 - 123		SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
Toluene-d8 (S)	96.9		%	59 - 131		SW846 8260B	3/16/17 14:10	TMP	3/17/17 19:22	TMP	E
SEMIVOLATILES											
Acenaphthene	61.6 U	U	ug/kg	61.6	7.4	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Acenaphthylene	61.6 U	U	ug/kg	61.6	8.6	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Anthracene	61.6 U	U	ug/kg	61.6	9.9	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Benzo(a)anthracene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Benzo(a)pyrene	61.6 U	U	ug/kg	61.6	4.9	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Benzo(b)fluoranthene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Benzo(g,h,i)perylene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Benzo(k)fluoranthene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Chrysene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Dibenzo(a,h)anthracene	61.6 U	U	ug/kg	61.6	7.4	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Fluoranthene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Fluorene	61.6 U	U	ug/kg	61.6	7.4	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Indeno(1,2,3-cd)pyrene	61.6 U	U	ug/kg	61.6	8.6	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Naphthalene	61.6 U	U	ug/kg	61.6	7.4	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Phenanthrene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Pyrene	61.6 U	U	ug/kg	61.6	6.2	SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C

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ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395011** Date Collected: 3/16/2017 14:10 Matrix: Solid

Sample ID: **SB-JO-4 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	86.7		%	40 - 110		SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Nitrobenzene-d5 (S)	83.9		%	38 - 112		SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
Terphenyl-d14 (S)	92.1		%	45 - 126		SW846 8270D	3/20/17 04:35	CMA	3/21/17 10:52	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.039 U	U	mg/kg	0.039	0.0036	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1016	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1221	0.039 U	U	mg/kg	0.039	0.0036	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1232	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1242	0.039 U	U	mg/kg	0.039	0.011	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1248	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1254	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1260	0.039 U	U	mg/kg	0.039	0.0071	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1262	0.039 U	U	mg/kg	0.039	0.0083	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Aroclor-1268	0.039 U	U	mg/kg	0.039	0.011	SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	98.6		%	49 - 115		SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
Tetrachloro-m-xylene (S)	97.7		%	27 - 137		SW846 8082A	3/21/17 23:10	CMA	3/22/17 06:57	EGO	G
PESTICIDES											
Aldrin	2.0 U	U	ug/kg	2.0	0.65	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
alpha-BHC	2.0 U	U	ug/kg	2.0	0.18	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
beta-BHC	2.0 U	U	ug/kg	2.0	0.21	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
delta-BHC	2.0 U	U	ug/kg	2.0	0.15	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
gamma-BHC	2.0 U	U	ug/kg	2.0	0.17	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
alpha-Chlordane	2.0 U	U	ug/kg	2.0	0.21	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
gamma-Chlordane	2.0 U	U	ug/kg	2.0	0.34	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
4,4'-DDD	3.9 U	U	ug/kg	3.9	0.32	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
4,4'-DDE	1.2J	J	ug/kg	3.9	0.53	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
4,4'-DDT	3.9 U	U	ug/kg	3.9	0.45	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Dieldrin	3.9 U	U	ug/kg	3.9	0.45	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Endosulfan I	2.0 U	U	ug/kg	2.0	0.25	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Endosulfan II	3.9 U	U	ug/kg	3.9	0.82	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Endosulfan Sulfate	3.9 U	U	ug/kg	3.9	0.26	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Endrin	3.9 U	U	ug/kg	3.9	0.28	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Endrin Aldehyde	0.70J	J	ug/kg	3.9	0.43	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Endrin Ketone	3.9 U	U	ug/kg	3.9	0.55	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395011** Date Collected: 3/16/2017 14:10 Matrix: Solid

Sample ID: **SB-JO-4 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	2.0 U	U	ug/kg	2.0	0.20	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Heptachlor Epoxide	2.0 U	U	ug/kg	2.0	0.20	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Methoxychlor	3.9 U	U	ug/kg	3.9	0.52	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Toxaphene	41.5 U	U	ug/kg	41.5	6.9	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	78.4		%	30 - 135		SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
Tetrachloro-m-xylene (S)	52.1		%	30 - 111		SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:25	RWS	C
HERBICIDES											
2,4-D	82.0 U	U	ug/kg	82.0	31.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
2,4-DB	82.0 U	U	ug/kg	82.0	44.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
Dalapon	82.0 U	U	ug/kg	82.0	20.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
Dicamba	82.0 U	U	ug/kg	82.0	29.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
Dichloroprop	82.0 U	U	ug/kg	82.0	33.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
Dinoseb	204 U	U	ug/kg	204	41.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
Pentachlorophenol	82.0 U	U	ug/kg	82.0	46.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
2,4,5-T	82.0 U	U	ug/kg	82.0	34.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
2,4,5-TP	82.0 U	U	ug/kg	82.0	38.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	72.4		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 19:25	EGO	C
WET CHEMISTRY											
Alkalinity, Total	62 U	U,2	mg/kg	62	20	S2320B-97			3/22/17 13:59	MSA	C
Moisture	18.9		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	81.1		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	12.1		mg/kg	1.8	0.59	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1
Barium, Total	21.8		mg/kg	3.0	0.95	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1
Cadmium, Total	0.59 U	U	mg/kg	0.59	0.20	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1
Chromium, Total	44.1		mg/kg	1.2	0.39	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1
Lead, Total	27.7		mg/kg	1.2	0.39	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1
Mercury, Total	0.096		mg/kg	0.059	0.019	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:31	MNP	C2
Selenium, Total	1.5J	J	mg/kg	3.0	0.95	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1
Silver, Total	1.2 U	U	mg/kg	1.2	0.39	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:10	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395011** Date Collected: 3/16/2017 14:10 Matrix: Solid

Sample ID: **SB-JO-4 (12-18")** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395012** Date Collected: 3/16/2017 14:20 Matrix: Solid

Sample ID: **SB-JO-4 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.2 U	U	mg/kg	13.2	3.1	SW846 8015D	3/20/17 16:10	JSR	3/22/17 01:49	BS	C
Gasoline Range Organics	10300 U	U	ug/kg	10300	1430	SW846 8015D	3/16/17 14:20	DD	3/21/17 02:20	DD	A
Oil Range Oranics C28-C35	13.2 U	U,1	mg/kg	13.2	2.7	SW846 8015D	3/20/17 16:10	JSR	3/22/17 01:49	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	114		%	72 - 134		SW846 8015D	3/16/17 14:20	DD	3/21/17 02:20	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	96.3		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 01:49	BS	C
VOLATILE ORGANICS											
Benzene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
Ethylbenzene	2.0 U	U	ug/kg	2.0	0.69	SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
Toluene	2.0 U	U	ug/kg	2.0	0.68	SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
Total Xylenes	6.1 U	U	ug/kg	6.1	1.4	SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	104		%	56 - 124		SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
4-Bromofluorobenzene (S)	102		%	51 - 128		SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
Dibromofluoromethane (S)	106		%	62 - 123		SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
Toluene-d8 (S)	107		%	59 - 131		SW846 8260B	3/16/17 14:20	TMP	3/20/17 19:13	TMP	E
SEMIVOLATILES											
Acenaphthene	60.3 U	U	ug/kg	60.3	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Acenaphthylene	60.3 U	U	ug/kg	60.3	8.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Anthracene	60.3 U	U	ug/kg	60.3	9.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Benzo(a)anthracene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Benzo(a)pyrene	60.3 U	U	ug/kg	60.3	4.8	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Benzo(b)fluoranthene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Benzo(g,h,i)perylene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Benzo(k)fluoranthene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Chrysene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Dibenzo(a,h)anthracene	60.3 U	U	ug/kg	60.3	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Fluoranthene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Fluorene	60.3 U	U	ug/kg	60.3	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Indeno(1,2,3-cd)pyrene	60.3 U	U	ug/kg	60.3	8.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Naphthalene	60.3 U	U	ug/kg	60.3	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Phenanthrene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Pyrene	60.3 U	U	ug/kg	60.3	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395012** Date Collected: 3/16/2017 14:20 Matrix: Solid

Sample ID: **SB-JO-4 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	81.4		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Nitrobenzene-d5 (S)	80.4		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
Terphenyl-d14 (S)	92.1		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:22	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1016	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1221	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1232	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1242	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1248	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1254	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1260	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1262	0.040 U	U	mg/kg	0.040	0.0085	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Aroclor-1268	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	91		%	49 - 115		SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
Tetrachloro-m-xylene (S)	91.6		%	27 - 137		SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:09	EGO	G
PESTICIDES											
Aldrin	2.1 U	U	ug/kg	2.1	0.67	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
alpha-BHC	2.1 U	U	ug/kg	2.1	0.18	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
beta-BHC	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
delta-BHC	2.1 U	U	ug/kg	2.1	0.16	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
gamma-BHC	2.1 U	U	ug/kg	2.1	0.17	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
alpha-Chlordane	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
gamma-Chlordane	2.1 U	U	ug/kg	2.1	0.35	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
4,4'-DDD	4.0 U	U,4	ug/kg	4.0	0.33	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
4,4'-DDE	4.0 U	U,3	ug/kg	4.0	0.55	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
4,4'-DDT	1.3J	J,5	ug/kg	4.0	0.46	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Dieldrin	4.0 U	U	ug/kg	4.0	0.46	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Endosulfan I	2.1 U	U	ug/kg	2.1	0.26	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Endosulfan II	4.0 U	U	ug/kg	4.0	0.84	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Endosulfan Sulfate	4.0 U	U	ug/kg	4.0	0.27	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Endrin	4.0 U	U	ug/kg	4.0	0.29	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Endrin Aldehyde	1.2J	J,2	ug/kg	4.0	0.44	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Endrin Ketone	4.0 U	U	ug/kg	4.0	0.56	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395012** Date Collected: 3/16/2017 14:20 Matrix: Solid

Sample ID: **SB-JO-4 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Heptachlor Epoxide	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Methoxychlor	4.0 U	U	ug/kg	4.0	0.53	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Toxaphene	42.5 U	U	ug/kg	42.5	7.0	SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	77.8		%	30 - 135		SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
Tetrachloro-m-xylene (S)	52.2		%	30 - 111		SW846 8081B	3/21/17 23:10	CMA	3/22/17 21:56	RWS	C
HERBICIDES											
2,4-D	84.6 U	U	ug/kg	84.6	32.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
2,4-DB	84.6 U	U	ug/kg	84.6	45.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
Dalapon	84.6 U	U	ug/kg	84.6	21.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
Dicamba	84.6 U	U	ug/kg	84.6	30.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
Dichloroprop	84.6 U	U	ug/kg	84.6	34.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
Dinoseb	211 U	U	ug/kg	211	42.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
Pentachlorophenol	84.6 U	U	ug/kg	84.6	48.0	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
2,4,5-T	84.6 U	U	ug/kg	84.6	35.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
2,4,5-TP	84.6 U	U	ug/kg	84.6	39.1	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	76.8		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:02	EGO	C
WET CHEMISTRY											
Alkalinity, Total	64 U	U,6	mg/kg	64	20	S2320B-97			3/22/17 14:41	MSA	C
Moisture	21.8		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	78.2		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	13.4		mg/kg	1.9	0.64	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1
Barium, Total	25.6		mg/kg	3.2	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1
Cadmium, Total	0.64 U	U	mg/kg	0.64	0.21	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1
Chromium, Total	34.4		mg/kg	1.3	0.42	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1
Lead, Total	21.3		mg/kg	1.3	0.42	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1
Mercury, Total	0.12		mg/kg	0.060	0.019	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:32	MNP	C2
Selenium, Total	3.9		mg/kg	3.2	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1
Silver, Total	1.3 U	U	mg/kg	1.3	0.42	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:14	ZMC	C1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395012** Date Collected: 3/16/2017 14:20 Matrix: Solid

Sample ID: **SB-JO-4 (4.5-5')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395013** Date Collected: 3/16/2017 14:30 Matrix: Solid

Sample ID: **SB-JO-4 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.1 U	U	mg/kg	13.1	3.1	SW846 8015D	3/20/17 16:10	JSR	3/22/17 02:27	BS	C
Gasoline Range Organics	1450J	J	ug/kg	9570	1330	SW846 8015D	3/16/17 14:30	DD	3/21/17 02:53	DD	A
Oil Range Oranics C28-C35	13.1 U	U,1	mg/kg	13.1	2.7	SW846 8015D	3/20/17 16:10	JSR	3/22/17 02:27	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	113		%	72 - 134		SW846 8015D	3/16/17 14:30	DD	3/21/17 02:53	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	78.7		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 02:27	BS	C
VOLATILE ORGANICS											
Benzene	2.2 U	U,3	ug/kg	2.2	0.56	SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
Ethylbenzene	2.2 U	U	ug/kg	2.2	0.76	SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
Toluene	2.2 U	U	ug/kg	2.2	0.75	SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
Total Xylenes	6.7 U	U	ug/kg	6.7	1.6	SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.7		%	56 - 124		SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
Dibromofluoromethane (S)	105		%	62 - 123		SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
Toluene-d8 (S)	109		%	59 - 131		SW846 8260B	3/16/17 14:30	TMP	3/20/17 19:36	TMP	E
SEMIVOLATILES											
Acenaphthene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Acenaphthylene	62.5 U	U	ug/kg	62.5	8.8	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Anthracene	62.5 U	U	ug/kg	62.5	10.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Benzo(a)anthracene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Benzo(a)pyrene	62.5 U	U	ug/kg	62.5	5.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Benzo(b)fluoranthene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Benzo(g,h,i)perylene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Benzo(k)fluoranthene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Chrysene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Dibenzo(a,h)anthracene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Fluoranthene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Fluorene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Indeno(1,2,3-cd)pyrene	62.5 U	U	ug/kg	62.5	8.8	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Naphthalene	62.5 U	U	ug/kg	62.5	7.5	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Phenanthrene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Pyrene	62.5 U	U	ug/kg	62.5	6.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395013** Date Collected: 3/16/2017 14:30 Matrix: Solid

Sample ID: **SB-JO-4 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	76.6		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Nitrobenzene-d5 (S)	80.4		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
Terphenyl-d14 (S)	88.1		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 13:47	CGS	C
PCBs											
Total Polychlorinated Biphenyl	0.040 U	U	mg/kg	0.040	0.0037	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1016	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1221	0.040 U	U	mg/kg	0.040	0.0037	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1232	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1242	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1248	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1254	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1260	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1262	0.040 U	U	mg/kg	0.040	0.0085	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Aroclor-1268	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	87.3		%	49 - 115		SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
Tetrachloro-m-xylene (S)	94.5		%	27 - 137		SW846 8082A	3/21/17 23:10	CMA	3/22/17 07:32	EGO	G
PESTICIDES											
Aldrin	2.1 U	U	ug/kg	2.1	0.67	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
alpha-BHC	2.1 U	U	ug/kg	2.1	0.18	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
beta-BHC	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
delta-BHC	2.1 U	U	ug/kg	2.1	0.16	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
gamma-BHC	2.1 U	U	ug/kg	2.1	0.17	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
alpha-Chlordane	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
gamma-Chlordane	2.1 U	U	ug/kg	2.1	0.35	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
4,4'-DDD	4.0 U	U	ug/kg	4.0	0.33	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
4,4'-DDE	4.0 U	U	ug/kg	4.0	0.55	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
4,4'-DDT	4.0 U	U	ug/kg	4.0	0.46	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Dieldrin	4.0 U	U	ug/kg	4.0	0.46	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Endosulfan I	2.1 U	U	ug/kg	2.1	0.26	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Endosulfan II	4.0 U	U	ug/kg	4.0	0.84	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Endosulfan Sulfate	4.0 U	U	ug/kg	4.0	0.27	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Endrin	4.0 U	U	ug/kg	4.0	0.29	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Endrin Aldehyde	1.3J	J	ug/kg	4.0	0.44	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Endrin Ketone	4.0 U	U	ug/kg	4.0	0.56	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395013** Date Collected: 3/16/2017 14:30 Matrix: Solid

Sample ID: **SB-JO-4 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Heptachlor Epoxide	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Methoxychlor	4.0 U	U	ug/kg	4.0	0.54	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Toxaphene	42.7 U	U	ug/kg	42.7	7.1	SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	83.4		%	30 - 135		SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
Tetrachloro-m-xylene (S)	55.3		%	30 - 111		SW846 8081B	3/21/17 23:10	CMA	3/22/17 22:27	RWS	C
HERBICIDES											
2,4-D	86.0 U	U	ug/kg	86.0	33.4	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
2,4-DB	86.0 U	U	ug/kg	86.0	46.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
Dalapon	86.0 U	U	ug/kg	86.0	21.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
Dicamba	86.0 U	U	ug/kg	86.0	30.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
Dichloroprop	86.0 U	U	ug/kg	86.0	34.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
Dinoseb	214 U	U	ug/kg	214	43.6	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
Pentachlorophenol	86.0 U	U	ug/kg	86.0	48.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
2,4,5-T	86.0 U	U	ug/kg	86.0	35.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
2,4,5-TP	86.0 U	U	ug/kg	86.0	39.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	74.7		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 20:40	EGO	C
WET CHEMISTRY											
Alkalinity, Total	64 U	U,2	mg/kg	64	20	S2320B-97			3/22/17 14:50	MSA	C
Moisture	22.1		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
Total Solids	77.9		%	0.1	0.01	S2540G-11			3/17/17 10:46	VKB	
METALS											
Arsenic, Total	14.7		mg/kg	1.9	0.63	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1
Barium, Total	47.9		mg/kg	3.1	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1
Cadmium, Total	0.63 U	U	mg/kg	0.63	0.21	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1
Chromium, Total	52.8		mg/kg	1.3	0.42	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1
Lead, Total	20.5		mg/kg	1.3	0.42	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1
Mercury, Total	0.062J	J	mg/kg	0.063	0.020	SW846 7471B	3/17/17 04:50	AXC	3/17/17 13:33	MNP	C2
Selenium, Total	5.8		mg/kg	3.1	1.0	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1
Silver, Total	1.3 U	U	mg/kg	1.3	0.42	SW846 6020A	3/17/17 01:00	ZMC	3/17/17 11:18	ZMC	C1

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

Lab ID: **2215395013** Date Collected: 3/16/2017 14:30 Matrix: Solid

Sample ID: **SB-JO-4 (9.5-10')** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2215395001	1	SB-JO-1 (0-6")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395001	2	SB-JO-1 (0-6")	SW846 9045D	pH
The solid pH measured in water was 6.348 at 18.6 degrees C.				
2215395001	4	SB-JO-1 (0-6")	S2540G-11	Total Solids
The RPD associated with this sample was recovered at 5.9%. The RPD is outside method acceptance limits of 5.0%. The results used to calculate the RPD were 78.2 and 73.7%.				
2215395001	5	SB-JO-1 (0-6")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395002	1	SB-JO-1 (12-18")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395002	2	SB-JO-1 (12-18")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395003	1	SB-JO-1 (5-5.5')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395003	2	SB-JO-1 (5-5.5')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395004	1	SB-JO-1 (9.5-10')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395004	2	SB-JO-1 (9.5-10')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395006	1	SB-JO-2 (0-6")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395006	2	SB-JO-2 (0-6")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395006	3	SB-JO-2 (0-6")	SW846 9045D	pH
The solid pH measured in water was 6.891 at 18.7 degrees C.				
2215395007	1	SB-JO-2 (12-18")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395007	2	SB-JO-2 (12-18")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395008	1	SB-JO-2 (4.5-5')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395008	2	SB-JO-2 (4.5-5')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395009	1	SB-JO-2 (9.5-10')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395009	2	SB-JO-2 (9.5-10')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395010	1	SB-JO-4 (0-6")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395010	2	SB-JO-4 (0-6")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				

ANALYTICAL RESULTS

Workorder: 2215395 Project Shuttle

2215395010	3	SB-JO-4 (0-6")	SW846 9045D	pH
The solid pH measured in water was 6.975 at 18.8 degrees C.				
2215395011	1	SB-JO-4 (12-18")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395011	2	SB-JO-4 (12-18")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395012	1	SB-JO-4 (4.5-5')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395012	2	SB-JO-4 (4.5-5')	SW846 8081B	Endrin Aldehyde
The QC sample type DUP for method SW846 8081B was outside the control limits for the analyte Endrin Aldehyde. The RPD was reported as 40.8 and the upper control limit is 40.				
2215395012	3	SB-JO-4 (4.5-5')	SW846 8081B	4,4'-DDE
The QC sample type DUP for method SW846 8081B was outside the control limits for the analyte 4,4'-DDE. The RPD was reported as 200 and the upper control limit is 40.				
2215395012	4	SB-JO-4 (4.5-5')	SW846 8081B	4,4'-DDD
The QC sample type DUP for method SW846 8081B was outside the control limits for the analyte 4,4'-DDD. The RPD was reported as 200 and the upper control limit is 40.				
2215395012	5	SB-JO-4 (4.5-5')	SW846 8081B	4,4'-DDT
The QC sample type DUP for method SW846 8081B was outside the control limits for the analyte 4,4'-DDT. The RPD was reported as 174 and the upper control limit is 40.				
2215395012	6	SB-JO-4 (4.5-5')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395013	1	SB-JO-4 (9.5-10')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215395013	2	SB-JO-4 (9.5-10')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215395013	3	SB-JO-4 (9.5-10')	SW846 8260B	Benzene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Benzene. The % Recovery was reported as 74.9 and the control limits were 75 to 132.				

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47062 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010

METHOD BLANK: 2502431

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Aroclor-1262	0.033 U	mg/kg	0.033
Aroclor-1268	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	82.7	%	49 - 115
Tetrachloro-m-xylene (S)	92.9	%	27 - 137

LABORATORY CONTROL SAMPLE: 2502432

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	86.5	mg/kg	.33	0.29	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	86.5	mg/kg	.33	0.29	53 - 134
Aroclor-1262		mg/kg		0.033 U	
Aroclor-1268		mg/kg		0.033 U	
Decachlorobiphenyls (S)	91.3	%			49 - 115
Tetrachloro-m-xylene (S)	93.9	%			27 - 137

MATRIX SPIKE SAMPLE: 2502433 ORIGINAL: 2214966006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Aroclor-1016	0	mg/kg	.33	.28024	84.1	43 - 132
Aroclor-1260	0	mg/kg	.33	.26495	79.5	53 - 134
Decachlorobiphenyls (S)	81.7	%				49 - 115
Tetrachloro-m-xylene (S)	87	%				27 - 137

SAMPLE DUPLICATE: 2502434 ORIGINAL: 2215395004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40
Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	0	mg/kg	0	NC	40
Aroclor-1260	0	mg/kg	0	NC	40
Aroclor-1262	0	mg/kg	0	NC	
Aroclor-1268	0	mg/kg	0	NC	

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47063 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010

METHOD BLANK: 2502439

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
gamma-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Endrin Aldehyde	3.3 U	ug/kg	3.3
Endrin Ketone	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Heptachlor Epoxide	1.7 U	ug/kg	1.7
Methoxychlor	3.3 U	ug/kg	3.3
Toxaphene	35.0 U	ug/kg	35.0
Decachlorobiphenyls (S)	67	%	30 - 135
Tetrachloro-m-xylene (S)	48.2	%	30 - 111

LABORATORY CONTROL SAMPLE: 2502440

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	71.7	ug/kg	33.3	23.9	58 - 103
alpha-BHC	74.2	ug/kg	33.3	24.7	57 - 105
beta-BHC	73.2	ug/kg	33.3	24.4	53 - 106
delta-BHC	80.6	ug/kg	33.3	26.9	60 - 103
gamma-BHC	75.8	ug/kg	33.3	25.3	59 - 102
alpha-Chlordane	75.1	ug/kg	33.3	25.0	62 - 98
gamma-Chlordane	78	ug/kg	33.3	26.0	58 - 103
4,4'-DDD	80.8	ug/kg	33.3	26.9	57 - 111

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

4,4'-DDE	83.1	ug/kg	33.3	27.7	63 - 112
4,4'-DDT	90.6	ug/kg	33.3	30.2	60 - 122
Dieldrin	78.7	ug/kg	33.3	26.2	62 - 109
Endosulfan I	66.3	ug/kg	33.3	22.1	57 - 98
Endosulfan II	75.2	ug/kg	33.3	25.1	59 - 112
Endosulfan Sulfate	78.9	ug/kg	33.3	26.3	27 - 96
Endrin	90.7	ug/kg	33.3	30.2	63 - 108
Endrin Aldehyde	60	ug/kg	33.3	20.0	21 - 92
Endrin Ketone	80.3	ug/kg	33.3	26.8	32 - 103
Heptachlor	78.1	ug/kg	33.3	26.0	51 - 105
Heptachlor Epoxide	75.5	ug/kg	33.3	25.2	62 - 99
Methoxychlor	102	ug/kg	33.3	34.1	50 - 114
Toxaphene		ug/kg		35.0 U	
Decachlorobiphenyls (S)	77.5	%			30 - 135
Tetrachloro-m-xylene (S)	47.6	%			30 - 111

SAMPLE DUPLICATE: 2502441 ORIGINAL: 2215395004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
alpha-Chlordane	0	ug/kg	0	NC	40
gamma-Chlordane	0	ug/kg	0	NC	40
4,4'-DDD	0	ug/kg	0	NC	40
4,4'-DDE	0	ug/kg	0	NC	40
4,4'-DDT	0	ug/kg	0	NC	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40
Endrin	0	ug/kg	0	NC	40
Endrin Aldehyde	0	ug/kg	0	NC	40
Endrin Ketone	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40
Heptachlor Epoxide	0	ug/kg	0	NC	35
Methoxychlor	0	ug/kg	0	NC	40
Toxaphene	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47081 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011

METHOD BLANK: 2503473

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	50.0 U	ug/kg	50.0
Acenaphthylene	50.0 U	ug/kg	50.0
Anthracene	50.0 U	ug/kg	50.0
Benzo(a)anthracene	50.0 U	ug/kg	50.0
Benzo(a)pyrene	50.0 U	ug/kg	50.0
Benzo(b)fluoranthene	50.0 U	ug/kg	50.0
Benzo(g,h,i)perylene	50.0 U	ug/kg	50.0
Benzo(k)fluoranthene	50.0 U	ug/kg	50.0
Chrysene	50.0 U	ug/kg	50.0
Dibenzo(a,h)anthracene	50.0 U	ug/kg	50.0
Fluoranthene	50.0 U	ug/kg	50.0
Fluorene	50.0 U	ug/kg	50.0
Indeno(1,2,3-cd)pyrene	50.0 U	ug/kg	50.0
Naphthalene	50.0 U	ug/kg	50.0
Phenanthrene	50.0 U	ug/kg	50.0
Pyrene	50.0 U	ug/kg	50.0
2,4,6-Tribromophenol (S)			
2-Fluorobiphenyl (S)	89.9	%	40 - 110
2-Fluorophenol (S)			
Nitrobenzene-d5 (S)	87.8	%	38 - 112
Phenol-d5 (S)			
Terphenyl-d14 (S)	94.8	%	45 - 126

LABORATORY CONTROL SAMPLE: 2503474

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	86.7	ug/kg	3330	2890	59 - 115
Acenaphthylene	88.7	ug/kg	3330	2960	59 - 114
Anthracene	86.7	ug/kg	3330	2890	63 - 112
Benzo(a)anthracene	89.4	ug/kg	3330	2980	61 - 118
Benzo(a)pyrene	86.5	ug/kg	3330	2880	61 - 114
Benzo(b)fluoranthene	90	ug/kg	3330	3000	64 - 113
Benzo(g,h,i)perylene	82.5	ug/kg	3330	2750	61 - 118
Benzo(k)fluoranthene	91	ug/kg	3330	3030	62 - 113
Chrysene	94.1	ug/kg	3330	3140	63 - 111

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Dibenzo(a,h)anthracene	90.7	ug/kg	3330	3020	64 - 117
Fluoranthene	88.9	ug/kg	3330	2960	61 - 116
Fluorene	87.7	ug/kg	3330	2920	61 - 112
Indeno(1,2,3-cd)pyrene	87	ug/kg	3330	2900	62 - 113
Naphthalene	85.5	ug/kg	3330	2850	56 - 105
Phenanthrene	87.5	ug/kg	3330	2920	62 - 109
Pyrene	89.6	ug/kg	3330	2990	60 - 114
2,4,6-Tribromophenol (S)					
2-Fluorobiphenyl (S)	81.7	%			40 - 110
2-Fluorophenol (S)					
Nitrobenzene-d5 (S)	80.6	%			38 - 112
Phenol-d5 (S)					
Terphenyl-d14 (S)	88.7	%			45 - 126

MATRIX SPIKE SAMPLE: 2503475 ORIGINAL: 2215395003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/kg	3180	2805.11	88.1	59 - 115
Acenaphthylene	0	ug/kg	3180	2875.03	90.3	59 - 114
Anthracene	0	ug/kg	3180	2851.7	89.5	63 - 112
Benzo(a)anthracene	0	ug/kg	3180	2837.48	89.1	61 - 118
Benzo(a)pyrene	0	ug/kg	3180	2829.42	88.8	61 - 114
Benzo(b)fluoranthene	0	ug/kg	3180	2988.18	93.8	64 - 113
Benzo(g,h,i)perylene	0	ug/kg	3180	2509.37	78.8	61 - 118
Benzo(k)fluoranthene	0	ug/kg	3180	2993.93	94	62 - 113
Chrysene	0	ug/kg	3180	2974.15	93.4	63 - 111
Dibenzo(a,h)anthracene	0	ug/kg	3180	2764.77	86.8	64 - 117
Fluoranthene	0	ug/kg	3180	2855.53	89.7	61 - 116
Fluorene	0	ug/kg	3180	2838.98	89.1	61 - 112
Indeno(1,2,3-cd)pyrene	0	ug/kg	3180	2702.41	84.9	62 - 113
Naphthalene	0	ug/kg	3180	2811.32	88.3	56 - 105
Phenanthrene	0	ug/kg	3180	2850.52	89.5	62 - 109
Pyrene	0	ug/kg	3180	2918.21	91.6	60 - 114
2-Fluorobiphenyl (S)	82.1	%				40 - 110
Nitrobenzene-d5 (S)	75.9	%				38 - 112
Terphenyl-d14 (S)	90.9	%				45 - 126

SAMPLE DUPLICATE: 2503476 ORIGINAL: 2215395004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Acenaphthene	0	ug/kg	0	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	0	ug/kg	0	NC	20
Benzo(a)anthracene	0	ug/kg	0	NC	22
Benzo(a)pyrene	0	ug/kg	0	NC	24
Benzo(b)fluoranthene	5.21809	ug/kg	0	NC	28
Benzo(g,h,i)perylene	0	ug/kg	0	NC	30
Benzo(k)fluoranthene	4.86454	ug/kg	0	NC	22
Chrysene	0	ug/kg	0	NC	20
Dibenzo(a,h)anthracene	6.29621	ug/kg	0	NC	28
Fluoranthene	5.77388	ug/kg	0	NC	21
Fluorene	0	ug/kg	0	NC	16
Indeno(1,2,3-cd)pyrene	8.22725	ug/kg	0	NC	30
Naphthalene	0	ug/kg	0	NC	21
Phenanthrene	5.74989	ug/kg	0	NC	20
Pyrene	6.84532	ug/kg	0	NC	20

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47082 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

METHOD BLANK: 2503490

Parameter	Blank Result	Units	Reporting Limit
Diesel Range Organics C10-C28	10.6 U	mg/kg	10.6
Oil Range Oranics C28-C35	10.6 U	mg/kg	10.6
o-Terphenyl (S)	95.6	%	38 - 118

LABORATORY CONTROL SAMPLE: 2503491

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	52.5	mg/kg	33.3	17.5	38 - 118
Oil Range Oranics C28-C35	4.33*	mg/kg	13.7	10.6 U	39 - 106
o-Terphenyl (S)	80.2	%			38 - 118

LABORATORY CONTROL SAMPLE: 2503492

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	29.2*	mg/kg	33.3	9.7J	38 - 118
Oil Range Oranics C28-C35	39.5	mg/kg	13.7	5.4J	39 - 106
o-Terphenyl (S)	77.7	%			38 - 118

MATRIX SPIKE SAMPLE: 2503493 ORIGINAL: 2215395004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Diesel Range Organics C10-C28	1.57559	mg/kg	32.5	20.0614	56.9	38 - 118
Oil Range Oranics C28-C35	.97982	mg/kg	13.4	.2769	-5.25*	39 - 106
o-Terphenyl (S)	88	%				38 - 118

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

SAMPLE DUPLICATE: 2503494 ORIGINAL: 2215395009

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Diesel Range Organics C10-C28	1.30853	mg/kg	2.19178	50.5*	30
Oil Range Oranics C28-C35	.64743	mg/kg	.92489	35.3*	30

MATRIX SPIKE SAMPLE: 2503495 ORIGINAL: 2215866002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Diesel Range Organics C10-C28	5.05601	mg/kg	33.1	24.9174	60	38 - 118
Oil Range Oranics C28-C35	.96384	mg/kg	13.6	5.4062	32.6*	39 - 106
o-Terphenyl (S)	96.3	%				38 - 118

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47093 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

METHOD BLANK: 2503961

Parameter	Blank Result	Units	Reporting Limit
2,4-D	67.0 U	ug/kg	67.0
2,4-DB	67.0 U	ug/kg	67.0
Dalapon	67.0 U	ug/kg	67.0
Dicamba	67.0 U	ug/kg	67.0
Dichloroprop	67.0 U	ug/kg	67.0
Dinoseb	167 U	ug/kg	167
Pentachlorophenol	67.0 U	ug/kg	67.0
2,4,5-T	67.0 U	ug/kg	67.0
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	73.4	%	36 - 113

LABORATORY CONTROL SAMPLE: 2503962

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	81.2	ug/kg	333	271	23 - 130
2,4-DB	52.4	ug/kg	333	175	10 - 130
Dalapon	30	ug/kg	333	100	24 - 65
Dicamba	61.9	ug/kg	333	206	44 - 89
Dichloroprop	61	ug/kg	333	203	36 - 107
Dinoseb	63.4	ug/kg	333	211	25 - 100
Pentachlorophenol	52.1	ug/kg	333	174	43 - 90
2,4,5-T	63	ug/kg	333	210	22 - 132
2,4,5-TP	64.3	ug/kg	333	214	49 - 105
2,4-Dichlorophenylacetic acid (S)	69.9	%			36 - 113

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47097 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395012, 2215395013

METHOD BLANK: 2504179

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	50.0 U	ug/kg	50.0
Acenaphthylene	50.0 U	ug/kg	50.0
Anthracene	50.0 U	ug/kg	50.0
Benzo(a)anthracene	50.0 U	ug/kg	50.0
Benzo(a)pyrene	4.0J	ug/kg	50.0
Benzo(b)fluoranthene	50.0 U	ug/kg	50.0
Benzo(g,h,i)perylene	50.0 U	ug/kg	50.0
Benzo(k)fluoranthene	50.0 U	ug/kg	50.0
Chrysene	50.0 U	ug/kg	50.0
Dibenzo(a,h)anthracene	50.0 U	ug/kg	50.0
Fluoranthene	50.0 U	ug/kg	50.0
Fluorene	50.0 U	ug/kg	50.0
Indeno(1,2,3-cd)pyrene	9.1J	ug/kg	50.0
Naphthalene	50.0 U	ug/kg	50.0
Phenanthrene	50.0 U	ug/kg	50.0
Pyrene	5.7J	ug/kg	50.0
2,4,6-Tribromophenol (S)			
2-Fluorobiphenyl (S)	72.1	%	40 - 110
2-Fluorophenol (S)			
Nitrobenzene-d5 (S)	71	%	38 - 112
Phenol-d5 (S)			
Terphenyl-d14 (S)	80.8	%	45 - 126

LABORATORY CONTROL SAMPLE: 2504180

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	84.8	ug/kg	3330	2830	59 - 115
Acenaphthylene	86.3	ug/kg	3330	2880	59 - 114
Anthracene	85.4	ug/kg	3330	2850	63 - 112
Benzo(a)anthracene	86.1	ug/kg	3330	2870	61 - 118
Benzo(a)pyrene	84.8	ug/kg	3330	2830	61 - 114
Benzo(b)fluoranthene	88.8	ug/kg	3330	2960	64 - 113
Benzo(g,h,i)perylene	80.4	ug/kg	3330	2680	61 - 118
Benzo(k)fluoranthene	88.5	ug/kg	3330	2950	62 - 113
Chrysene	91.2	ug/kg	3330	3040	63 - 111

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Dibenzo(a,h)anthracene	88.6	ug/kg	3330	2950	64 - 117
Fluoranthene	85.8	ug/kg	3330	2860	61 - 116
Fluorene	83.2	ug/kg	3330	2770	61 - 112
Indeno(1,2,3-cd)pyrene	87.4	ug/kg	3330	2910	62 - 113
Naphthalene	82.2	ug/kg	3330	2740	56 - 105
Phenanthrene	85.9	ug/kg	3330	2860	62 - 109
Pyrene	83.7	ug/kg	3330	2790	60 - 114
2,4,6-Tribromophenol (S)					
2-Fluorobiphenyl (S)	84.6	%			40 - 110
2-Fluorophenol (S)					
Nitrobenzene-d5 (S)	79.6	%			38 - 112
Phenol-d5 (S)					
Terphenyl-d14 (S)	82.4	%			45 - 126

MATRIX SPIKE SAMPLE: 2504181 ORIGINAL: 2215866002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/kg	3330	2805.14	84.2	59 - 115
Acenaphthylene	0	ug/kg	3330	2848.63	85.5	59 - 114
Anthracene	0	ug/kg	3330	2821.37	84.6	63 - 112
Benzo(a)anthracene	14.3292	ug/kg	3330	2847.15	85	61 - 118
Benzo(a)pyrene	0	ug/kg	3330	2764.76	82.9	61 - 114
Benzo(b)fluoranthene	0	ug/kg	3330	2895.16	86.9	64 - 113
Benzo(g,h,i)perylene	6.42439	ug/kg	3330	2391.72	71.6	61 - 118
Benzo(k)fluoranthene	0	ug/kg	3330	2885.31	86.6	62 - 113
Chrysene	8.23346	ug/kg	3330	2934.69	87.8	63 - 111
Dibenzo(a,h)anthracene	0	ug/kg	3330	2732.12	82	64 - 117
Fluoranthene	12.8352	ug/kg	3330	2823.71	84.3	61 - 116
Fluorene	0	ug/kg	3330	2861.02	85.8	61 - 112
Indeno(1,2,3-cd)pyrene	10.014	ug/kg	3330	2604.56	77.8	62 - 113
Naphthalene	0	ug/kg	3330	2731.78	82	56 - 105
Phenanthrene	6.26211	ug/kg	3330	2826.19	84.6	62 - 109
Pyrene	10.3209	ug/kg	3330	2840.72	84.9	60 - 114
2-Fluorobiphenyl (S)	81.3	%				40 - 110
Nitrobenzene-d5 (S)	76.1	%				38 - 112
Terphenyl-d14 (S)	91.2	%				45 - 126

SAMPLE DUPLICATE: 2504182 ORIGINAL: 2215866005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Acenaphthene	0	ug/kg	0	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	0	ug/kg	0	NC	20
Benzo(a)anthracene	0	ug/kg	5.93583	NC	22
Benzo(a)pyrene	0	ug/kg	0	NC	24
Benzo(b)fluoranthene	0	ug/kg	0	NC	28
Benzo(g,h,i)perylene	0	ug/kg	0	NC	30
Benzo(k)fluoranthene	0	ug/kg	0	NC	22
Chrysene	0	ug/kg	0	NC	20
Dibenzo(a,h)anthracene	0	ug/kg	0	NC	28
Fluoranthene	0	ug/kg	0	NC	21
Fluorene	0	ug/kg	0	NC	16
Indeno(1,2,3-cd)pyrene	0	ug/kg	0	NC	30
Naphthalene	0	ug/kg	0	NC	21
Phenanthrene	0	ug/kg	0	NC	20
Pyrene	0	ug/kg	0	NC	20

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47106 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395011, 2215395012, 2215395013

METHOD BLANK: 2504887

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
gamma-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Endrin Aldehyde	0.60J	ug/kg	3.3
Endrin Ketone	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Heptachlor Epoxide	1.7 U	ug/kg	1.7
Methoxychlor	3.3 U	ug/kg	3.3
Toxaphene	35.0 U	ug/kg	35.0
Decachlorobiphenyls (S)	77.6	%	30 - 135
Tetrachloro-m-xylene (S)	56.3	%	30 - 111

LABORATORY CONTROL SAMPLE: 2504888

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	83.8	ug/kg	33.3	27.9	58 - 103
alpha-BHC	81.8	ug/kg	33.3	27.3	57 - 105
beta-BHC	77.5	ug/kg	33.3	25.8	53 - 106
delta-BHC	85.9	ug/kg	33.3	28.6	60 - 103
gamma-BHC	83.7	ug/kg	33.3	27.9	59 - 102
alpha-Chlordane	83.4	ug/kg	33.3	27.8	62 - 98
gamma-Chlordane	83.9	ug/kg	33.3	28.0	58 - 103
4,4'-DDD	82.5	ug/kg	33.3	27.5	57 - 111

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

4,4'-DDE	92	ug/kg	33.3	30.7	63 - 112
4,4'-DDT	84	ug/kg	33.3	28.0	60 - 122
Dieldrin	87.8	ug/kg	33.3	29.3	62 - 109
Endosulfan I	78.3	ug/kg	33.3	26.1	57 - 98
Endosulfan II	83	ug/kg	33.3	27.7	59 - 112
Endosulfan Sulfate	85.9	ug/kg	33.3	28.6	27 - 96
Endrin	88.5	ug/kg	33.3	29.5	63 - 108
Endrin Aldehyde	69.7	ug/kg	33.3	23.2	21 - 92
Endrin Ketone	87	ug/kg	33.3	29.0	32 - 103
Heptachlor	84.3	ug/kg	33.3	28.1	51 - 105
Heptachlor Epoxide	83.4	ug/kg	33.3	27.8	62 - 99
Methoxychlor	93.4	ug/kg	33.3	31.1	50 - 114
Toxaphene		ug/kg		35.0 U	
Decachlorobiphenyls (S)	77.5	%			30 - 135
Tetrachloro-m-xylene (S)	56.2	%			30 - 111

MATRIX SPIKE SAMPLE: 2504889 ORIGINAL: 2215395011

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aldrin	0	ug/kg	31.4	26.0411	82.8	58 - 103
alpha-BHC	0	ug/kg	31.4	25.1107	79.9	57 - 105
beta-BHC	0	ug/kg	31.4	24.8276	79	53 - 106
delta-BHC	0	ug/kg	31.4	27.2788	86.7	60 - 103
gamma-BHC	0	ug/kg	31.4	25.1679	80	59 - 102
alpha-Chlordane	0	ug/kg	31.4	25.2431	80.3	62 - 98
gamma-Chlordane	0	ug/kg	31.4	25.359	80.6	58 - 103
4,4'-DDD	0	ug/kg	31.4	28.0209	89.1	57 - 111
4,4'-DDE	.93633	ug/kg	31.4	30.6378	94.5	63 - 112
4,4'-DDT	0	ug/kg	31.4	26.6894	84.9	60 - 122
Dieldrin	0	ug/kg	31.4	26.6046	84.6	62 - 109
Endosulfan I	0	ug/kg	31.4	23.3445	74.2	57 - 98
Endosulfan II	0	ug/kg	31.4	25.37	80.7	59 - 112
Endosulfan Sulfate	0	ug/kg	31.4	26.2468	83.5	27 - 96
Endrin	0	ug/kg	31.4	27.8275	88.5	63 - 108
Endrin Aldehyde	.56631	ug/kg	31.4	21.4629	66.5	21 - 92
Endrin Ketone	0	ug/kg	31.4	26.2774	83.6	32 - 103
Heptachlor	0	ug/kg	31.4	25.4752	81	51 - 105
Heptachlor Epoxide	0	ug/kg	31.4	25.0183	79.6	62 - 99
Methoxychlor	0	ug/kg	31.4	30.4898	97	50 - 114
Decachlorobiphenyls (S)	77.1	%				30 - 135
Tetrachloro-m-xylene (S)	54.8	%				30 - 111

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

SAMPLE DUPLICATE: 2504890 ORIGINAL: 2215395012

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
alpha-Chlordane	0	ug/kg	0	NC	40
gamma-Chlordane	0	ug/kg	0	NC	40
4,4'-DDD	0	ug/kg	1.3516	NC	40
4,4'-DDE	0	ug/kg	.47803	NC	40
4,4'-DDT	1.0372	ug/kg	14.9105	174*	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40
Endrin	0	ug/kg	0	NC	40
Endrin Aldehyde	.93537	ug/kg	.61824	40.8*	40
Endrin Ketone	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40
Heptachlor Epoxide	0	ug/kg	0	NC	35
Methoxychlor	0	ug/kg	0	NC	40
Toxaphene	0	ug/kg	0	NC	40

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QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: EXTR/47107 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2215395011, 2215395012, 2215395013

METHOD BLANK: 2504891

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Aroclor-1262	0.033 U	mg/kg	0.033
Aroclor-1268	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	90.3	%	49 - 115
Tetrachloro-m-xylene (S)	96.8	%	27 - 137

LABORATORY CONTROL SAMPLE: 2504892

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	85.8	mg/kg	.33	0.29	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	90.2	mg/kg	.33	0.30	53 - 134
Aroclor-1262		mg/kg		0.033 U	
Aroclor-1268		mg/kg		0.033 U	
Decachlorobiphenyls (S)	93.9	%			49 - 115
Tetrachloro-m-xylene (S)	96.9	%			27 - 137

SAMPLE DUPLICATE: 2504893 ORIGINAL: 2215395012

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	0	mg/kg	0	NC	40
Aroclor-1260	0	mg/kg	0	NC	40
Aroclor-1262	0	mg/kg	0	NC	
Aroclor-1268	0	mg/kg	0	NC	

MATRIX SPIKE SAMPLE: 2504894 ORIGINAL: 2215395013

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aroclor-1016	0	mg/kg	.33	.26693	80.6	43 - 132
Aroclor-1260	0	mg/kg	.33	.29377	88.7	53 - 134
Decachlorobiphenyls (S)	95.9	%				49 - 115
Tetrachloro-m-xylene (S)	93.5	%				27 - 137

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QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: MDIG/63314 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3051

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

METHOD BLANK: 2502393

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	1.5 U	mg/kg	1.5
Barium, Total	2.5 U	mg/kg	2.5
Cadmium, Total	0.50 U	mg/kg	0.50
Chromium, Total	1.0 U	mg/kg	1.0
Lead, Total	1.0 U	mg/kg	1.0
Selenium, Total	2.5 U	mg/kg	2.5
Silver, Total	1.0 U	mg/kg	1.0

LABORATORY CONTROL SAMPLE: 2502394

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	95.8	mg/kg	20	19.2	80 - 120
Barium, Total	104	mg/kg	200	209	80 - 120
Cadmium, Total	102	mg/kg	20	20.3	80 - 120
Chromium, Total	106	mg/kg	20	21.1	80 - 120
Lead, Total	106	mg/kg	20	21.2	80 - 120
Selenium, Total	90.2	mg/kg	20	18.0	80 - 120
Silver, Total	108	mg/kg	10	10.8	80 - 120

MATRIX SPIKE: 2502395 DUPLICATE: 2502396 ORIGINAL: 2215346001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	3.17328	mg/kg	17.9	18.88571	19.72594	88	87.7	75 - 125	4.35	20
Barium, Total	107.49052	mg/kg	179	235.2526	224.6174	71.5*	62.1*	75 - 125	4.63	20
Cadmium, Total	.11336	mg/kg	17.9	17.20714	19.375	95.7	102	75 - 125	11.9	20
Chromium, Total	46.4444	mg/kg	17.9	41.83705	33.49953	-25.8*	-68.6*	75 - 125	22.1	20
Lead, Total	21.53233	mg/kg	17.9	39.0558	26.85802	98.1	28.2*	75 - 125	37	20
Selenium, Total	1.35991	mg/kg	17.9	15.43437	17.29717	78.8	84.5	75 - 125	11.4	20
Silver, Total	.01422	mg/kg	8.9	9.2	10.47783	103	111	75 - 125	13	20

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QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: MDIG/63315 **Analysis Method:** SW846 7471B

QC Batch Method: SW846 7471B

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

METHOD BLANK: 2502420

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.050 U	mg/kg	0.050

LABORATORY CONTROL SAMPLE: 2502421

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	102	mg/kg	.4	0.41	80 - 120

MATRIX SPIKE: 2502422 DUPLICATE: 2502423 ORIGINAL: 2215395002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.0951	mg/kg	.98	1.12353	1.02037	105	99.9	80 - 120	9.62	20

MATRIX SPIKE: 2502424 DUPLICATE: 2502425 ORIGINAL: 2215345001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.01608	mg/kg	.85	.88983	.93455	103	101	80 - 120	4.9	20

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QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: VOGC/9426 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 5035

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

METHOD BLANK: 2503826

Parameter	Blank Result	Units	Reporting Limit
Gasoline Range Organics	4650J	ug/kg	10000
a,a,a-Trifluorotoluene (S)	118	%	72 - 134

LABORATORY CONTROL SAMPLE: 2503827

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Gasoline Range Organics	86.5	ug/kg	100000	86500	73 - 133
a,a,a-Trifluorotoluene (S)	103	%			72 - 134

MATRIX SPIKE: 2503852 DUPLICATE: 2503853 ORIGINAL: 2215661004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Gasoline Range Organics	1205.54	ug/kg	84500	69827.8	69069.5	81.2	80.4	73 - 133	1.09	18
a,a,a-Trifluorotoluene (S)	95.2	%				95.2	88.3	72 - 134		

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: VOMS/42750 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 2215395005

METHOD BLANK: 2502598

Parameter	Blank Result	Units	Reporting Limit
Benzene	1.0 U	ug/L	1.0
Ethylbenzene	1.0 U	ug/L	1.0
Toluene	1.0 U	ug/L	1.0
Total Xylenes	3.0 U	ug/L	3.0
1,2-Dichloroethane-d4 (S)	96.8	%	62 - 133
4-Bromofluorobenzene (S)	89.9	%	79 - 114
Dibromofluoromethane (S)	96.6	%	78 - 116
Toluene-d8 (S)	95.9	%	76 - 127

LABORATORY CONTROL SAMPLE: 2502599

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Benzene	100	ug/L	20	20.1	80 - 124
Ethylbenzene	106	ug/L	20	21.2	80 - 124
Toluene	113	ug/L	20	22.6	80 - 125
Total Xylenes	106	ug/L	60	63.8	79 - 125
1,2-Dichloroethane-d4 (S)	90.9	%			62 - 133
4-Bromofluorobenzene (S)	92	%			79 - 114
Dibromofluoromethane (S)	89.3	%			78 - 116
Toluene-d8 (S)	93.4	%			76 - 127

MATRIX SPIKE: 2502783 DUPLICATE: 2502784 ORIGINAL: 2214606006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	0	ug/L	20	21.1695	20.8758	106	104	80 - 124	1.4	26
Ethylbenzene	0	ug/L	20	22.9688	23.325	115	117	80 - 124	1.54	19
Toluene	0	ug/L	20	22.8052	22.9368	114	115	80 - 125	.58	20
Total Xylenes	0	ug/L	60	66.6175	68.0886	111	113	79 - 125	2.18	35
1,2-Dichloroethane-d4 (S)	96.5	%				96.5	96.6	62 - 133		
4-Bromofluorobenzene (S)	88.4	%				88.4	90.1	79 - 114		
Dibromofluoromethane (S)	89.4	%				89.4	90.7	78 - 116		

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Toluene-d8 (S)	91.4	%		91.4	92.8	76 - 127

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: VOMS/42751 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 5035

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011

METHOD BLANK: 2502600

Parameter	Blank Result	Units	Reporting Limit
Benzene	2.0 U	ug/kg	2.0
Ethylbenzene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,2-Dichloroethane-d4 (S)	87.6	%	56 - 124
4-Bromofluorobenzene (S)	103	%	51 - 128
Dibromofluoromethane (S)	111	%	62 - 123
Toluene-d8 (S)	101	%	59 - 131

LABORATORY CONTROL SAMPLE: 2502601 DUPLICATE: 2502602

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Benzene	118	ug/kg	20	23.6	23.9	119	75 - 132	1.06	40
Ethylbenzene	95.1	ug/kg	20	19.0	19.6	97.8	73 - 133	2.77	40
Toluene	96.9	ug/kg	20	19.4	19.6	98.2	73 - 129	1.33	40
Total Xylenes	96.5	ug/kg	60	57.9	60.2	100	73 - 130	3.91	40
1,2-Dichloroethane-d4 (S)	97.8	%			97.8		56 - 124		
4-Bromofluorobenzene (S)	101	%			101		51 - 128		
Dibromofluoromethane (S)	112	%			112		62 - 123		
Toluene-d8 (S)	95.5	%			95.5		59 - 131		

MATRIX SPIKE SAMPLE: 2502904 ORIGINAL: 2215395008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Benzene	0	ug/kg	16.1	18.1166	113	75 - 132
Ethylbenzene	0	ug/kg	16.1	15.1022	93.8	73 - 133
Toluene	.36156	ug/kg	16.1	15.1581	91.9	73 - 129
Total Xylenes	0	ug/kg	48.3	46.3262	95.9	73 - 130
1,2-Dichloroethane-d4 (S)	104	%				56 - 124
4-Bromofluorobenzene (S)	101	%				51 - 128

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Dibromofluoromethane (S)	116	%	62 - 123
Toluene-d8 (S)	94.9	%	59 - 131

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QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: VOMS/42766 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 5035

Associated Lab Samples: 2215395012, 2215395013

METHOD BLANK: 2503560

Parameter	Blank Result	Units	Reporting Limit
Benzene	2.0 U	ug/kg	2.0
Ethylbenzene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,2-Dichloroethane-d4 (S)	98	%	56 - 124
4-Bromofluorobenzene (S)	101	%	51 - 128
Dibromofluoromethane (S)	100	%	62 - 123
Toluene-d8 (S)	108	%	59 - 131

LABORATORY CONTROL SAMPLE: 2503561 DUPLICATE: 2503562

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Benzene	102	ug/kg	20	20.3	21.4	107	75 - 132	5.1	40
Ethylbenzene	109	ug/kg	20	21.8	22.0	110	73 - 133	.89	40
Toluene	105	ug/kg	20	21.0	21.4	107	73 - 129	1.62	40
Total Xylenes	109	ug/kg	60	65.2	66.3	110	73 - 130	1.65	40
1,2-Dichloroethane-d4 (S)	99.1	%			99.1		56 - 124		
4-Bromofluorobenzene (S)	103	%			103		51 - 128		
Dibromofluoromethane (S)	103	%			103		62 - 123		
Toluene-d8 (S)	108	%			108		59 - 131		

MATRIX SPIKE SAMPLE: 2503974 ORIGINAL: 2215395013

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Benzene	0	ug/kg	17.5	13.1133	74.9*	75 - 132
Ethylbenzene	0	ug/kg	17.5	13.8979	79.4	73 - 133
Toluene	.32905	ug/kg	17.5	13.3292	74.2	73 - 129
Total Xylenes	0	ug/kg	52.5	41.5827	79.1	73 - 130
1,2-Dichloroethane-d4 (S)	119	%				56 - 124
4-Bromofluorobenzene (S)	101	%				51 - 128
Dibromofluoromethane (S)	113	%				62 - 123

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Toluene-d8 (S)	103	%	59 - 131

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: WETC/184429 **Analysis Method:** S2540G-11

QC Batch Method: S2540G-11

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

SAMPLE DUPLICATE: 2502642 ORIGINAL: 2214671001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	0	%	0	NC	10
Total Solids	100	%	100	0	5

SAMPLE DUPLICATE: 2502643 ORIGINAL: 2215170005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	1.7441	%	2.5362	37*	10
Total Solids	98.2558	%	97.4637	.81	5

SAMPLE DUPLICATE: 2502644 ORIGINAL: 2215345001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	15.1315	%	12.5112	19*	10
Total Solids	84.8684	%	87.4887	3.04	5

SAMPLE DUPLICATE: 2502645 ORIGINAL: 2215395001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.2957	%	21.8137	18.6*	10
Total Solids	73.7042	%	78.1862	5.9*	5

SAMPLE DUPLICATE: 2502646 ORIGINAL: 2215395012

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	21.826	%	21.3262	2.32	10
Total Solids	78.1739	%	78.6737	.64	5

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

QC Batch: WETC/184632 **Analysis Method:** S2320B-97

QC Batch Method: S2320B-97

Associated Lab Samples: 2215395001, 2215395002, 2215395003, 2215395004, 2215395006, 2215395007, 2215395008, 2215395009, 2215395010, 2215395011, 2215395012, 2215395013

METHOD BLANK: 2504848

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504850 ORIGINAL: 2215395001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	11.18876	mg/kg	16.76388	39.9*	20

METHOD BLANK: 2504852

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504854 ORIGINAL: 2215395012

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	2.94124	mg/kg	6.4111	74.2*	20

METHOD BLANK: 2504856

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504858 ORIGINAL: 2215867001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215395 Project Shuttle

Alkalinity, Total	135.7672	mg/kg	307.8146	77.6*	20

METHOD BLANK: 2504860

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504862 ORIGINAL: 2215867011

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	11.44201	mg/kg	15.66747	31.2*	20

METHOD BLANK: 2504864

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

QUALITY CONTROL DATA QUALIFIERS

Workorder: 2215395 Project Shuttle

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2504848	1	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504850	2	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504852	3	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504854	4	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504856	5	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504858	6	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504860	7	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504862	8	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504864	9	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215395 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215395001	SB-JO-1 (0-6")	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395002	SB-JO-1 (12-18")	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395003	SB-JO-1 (5-5.5')	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395004	SB-JO-1 (9.5-10')	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395006	SB-JO-2 (0-6")	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395007	SB-JO-2 (12-18")	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395008	SB-JO-2 (4.5-5')	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395009	SB-JO-2 (9.5-10')	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395010	SB-JO-4 (0-6")	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395011	SB-JO-4 (12-18")	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395012	SB-JO-4 (4.5-5')	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395013	SB-JO-4 (9.5-10')	SW846 3051	MDIG/63314	SW846 6020A	META/56501
2215395001	SB-JO-1 (0-6")	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395002	SB-JO-1 (12-18")	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395003	SB-JO-1 (5-5.5')	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395004	SB-JO-1 (9.5-10')	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395006	SB-JO-2 (0-6")	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395007	SB-JO-2 (12-18")	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395008	SB-JO-2 (4.5-5')	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395009	SB-JO-2 (9.5-10')	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395010	SB-JO-4 (0-6")	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395011	SB-JO-4 (12-18")	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395012	SB-JO-4 (4.5-5')	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395013	SB-JO-4 (9.5-10')	SW846 7471B	MDIG/63315	SW846 7471B	META/56496
2215395001	SB-JO-1 (0-6")	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395002	SB-JO-1 (12-18")	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395003	SB-JO-1 (5-5.5')	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395004	SB-JO-1 (9.5-10')	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395006	SB-JO-2 (0-6")	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395007	SB-JO-2 (12-18")	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215395 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215395008	SB-JO-2 (4.5-5')	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395009	SB-JO-2 (9.5-10')	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395010	SB-JO-4 (0-6")	SW846 3546	EXTR/47062	SW846 8082A	SVGC/44806
2215395001	SB-JO-1 (0-6")	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395002	SB-JO-1 (12-18")	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395003	SB-JO-1 (5-5.5')	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395004	SB-JO-1 (9.5-10')	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395006	SB-JO-2 (0-6")	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395007	SB-JO-2 (12-18")	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395008	SB-JO-2 (4.5-5')	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395009	SB-JO-2 (9.5-10')	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395010	SB-JO-4 (0-6")	SW846 3546	EXTR/47063	SW846 8081B	SVGC/44829
2215395001	SB-JO-1 (0-6")			SW846 9045D	WETC/184417
2215395006	SB-JO-2 (0-6")			SW846 9045D	WETC/184417
2215395010	SB-JO-4 (0-6")			SW846 9045D	WETC/184417
2215395005	TB-1 (031617)			SW846 8260B	VOMS/42750
2215395001	SB-JO-1 (0-6")	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395002	SB-JO-1 (12-18")	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395003	SB-JO-1 (5-5.5')	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395004	SB-JO-1 (9.5-10')	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395006	SB-JO-2 (0-6")	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395007	SB-JO-2 (12-18")	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395008	SB-JO-2 (4.5-5')	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395009	SB-JO-2 (9.5-10')	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395010	SB-JO-4 (0-6")	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752
2215395011	SB-JO-4 (12-18")	SW846 5035	VOMS/42751	SW846 8260B	VOMS/42752

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215395 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215395001	SB-JO-1 (0-6")			S2540G-11	WETC/184429
2215395002	SB-JO-1 (12-18")			S2540G-11	WETC/184429
2215395003	SB-JO-1 (5-5.5')			S2540G-11	WETC/184429
2215395004	SB-JO-1 (9.5-10')			S2540G-11	WETC/184429
2215395006	SB-JO-2 (0-6")			S2540G-11	WETC/184429
2215395007	SB-JO-2 (12-18")			S2540G-11	WETC/184429
2215395008	SB-JO-2 (4.5-5')			S2540G-11	WETC/184429
2215395009	SB-JO-2 (9.5-10')			S2540G-11	WETC/184429
2215395010	SB-JO-4 (0-6")			S2540G-11	WETC/184429
2215395011	SB-JO-4 (12-18")			S2540G-11	WETC/184429
2215395012	SB-JO-4 (4.5-5')			S2540G-11	WETC/184429
2215395013	SB-JO-4 (9.5-10')			S2540G-11	WETC/184429
2215395001	SB-JO-1 (0-6")	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395002	SB-JO-1 (12-18")	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395003	SB-JO-1 (5-5.5')	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395004	SB-JO-1 (9.5-10')	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395006	SB-JO-2 (0-6")	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395007	SB-JO-2 (12-18")	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395008	SB-JO-2 (4.5-5')	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395009	SB-JO-2 (9.5-10')	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27779
2215395010	SB-JO-4 (0-6")	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27785
2215395011	SB-JO-4 (12-18")	SW846 3546	EXTR/47081	SW846 8270D	SVMS/27785
2215395001	SB-JO-1 (0-6")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395002	SB-JO-1 (12-18")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395003	SB-JO-1 (5-5.5')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395004	SB-JO-1 (9.5-10')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395006	SB-JO-2 (0-6")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395007	SB-JO-2 (12-18")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395008	SB-JO-2 (4.5-5')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395009	SB-JO-2 (9.5-10')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215395 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215395010	SB-JO-4 (0-6")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395011	SB-JO-4 (12-18")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395012	SB-JO-4 (4.5-5')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395013	SB-JO-4 (9.5-10')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215395012	SB-JO-4 (4.5-5')	SW846 5035	VOMS/42766	SW846 8260B	VOMS/42767
2215395013	SB-JO-4 (9.5-10')	SW846 5035	VOMS/42766	SW846 8260B	VOMS/42767
2215395001	SB-JO-1 (0-6")	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395002	SB-JO-1 (12-18")	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395003	SB-JO-1 (5-5.5')	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395004	SB-JO-1 (9.5-10')	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395006	SB-JO-2 (0-6")	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395007	SB-JO-2 (12-18")	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395008	SB-JO-2 (4.5-5')	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395009	SB-JO-2 (9.5-10')	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395010	SB-JO-4 (0-6")	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395011	SB-JO-4 (12-18")	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395012	SB-JO-4 (4.5-5')	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395013	SB-JO-4 (9.5-10')	SW846 5035	VOGC/9426	SW846 8015D	VOGC/9427
2215395001	SB-JO-1 (0-6")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395002	SB-JO-1 (12-18")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395003	SB-JO-1 (5-5.5')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395004	SB-JO-1 (9.5-10')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395006	SB-JO-2 (0-6")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395007	SB-JO-2 (12-18")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395008	SB-JO-2 (4.5-5')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395009	SB-JO-2 (9.5-10')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395010	SB-JO-4 (0-6")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395011	SB-JO-4 (12-18")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395012	SB-JO-4 (4.5-5')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215395 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215395013	SB-JO-4 (9.5-10')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215395012	SB-JO-4 (4.5-5')	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215395013	SB-JO-4 (9.5-10')	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215395001	SB-JO-1 (0-6")			S2320B-97	WETC/184632
2215395002	SB-JO-1 (12-18")			S2320B-97	WETC/184632
2215395003	SB-JO-1 (5-5.5')			S2320B-97	WETC/184632
2215395004	SB-JO-1 (9.5-10')			S2320B-97	WETC/184632
2215395006	SB-JO-2 (0-6")			S2320B-97	WETC/184632
2215395007	SB-JO-2 (12-18")			S2320B-97	WETC/184632
2215395008	SB-JO-2 (4.5-5')			S2320B-97	WETC/184632
2215395009	SB-JO-2 (9.5-10')			S2320B-97	WETC/184632
2215395010	SB-JO-4 (0-6")			S2320B-97	WETC/184632
2215395011	SB-JO-4 (12-18")			S2320B-97	WETC/184632
2215395012	SB-JO-4 (4.5-5')			S2320B-97	WETC/184632
2215395013	SB-JO-4 (9.5-10')			S2320B-97	WETC/184632
2215395011	SB-JO-4 (12-18")	SW846 3546	EXTR/47106	SW846 8081B	SVGC/44857
2215395012	SB-JO-4 (4.5-5')	SW846 3546	EXTR/47106	SW846 8081B	SVGC/44857
2215395013	SB-JO-4 (9.5-10')	SW846 3546	EXTR/47106	SW846 8081B	SVGC/44857
2215395011	SB-JO-4 (12-18")	SW846 3546	EXTR/47107	SW846 8082A	SVGC/44847
2215395012	SB-JO-4 (4.5-5')	SW846 3546	EXTR/47107	SW846 8082A	SVGC/44847
2215395013	SB-JO-4 (9.5-10')	SW846 3546	EXTR/47107	SW846 8082A	SVGC/44847

Jefferson Orchard

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

Page 1 of 2
Courier:
Tracking #:

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

* 2 2 1 5 3 9 5 *

Co. Name: ERM
Contact (Report to): David Connelly Phone: (304) 757-4777
Address: 204 Chase Drive
Hurricane, WV 25526

Bill to (if different than Report to): Same as Above PO#: 0397010
Project Name/#: Project Shuttle ALS Quote #:
TAT: Normal-Standard TAT is 10-12 business days. Date Required: 3/28/17
Rush-Subject to ALS approval and surcharges. 5-DAY Approved By: Paul Painter
Email? X Y David.connelly@erm.com +
Fax? Y No.: megan.innis@erm.com

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	pH / Alkalinity	VOCs	TPH-GRO	TPH-DRO/RRO, RCRA 8 metals, PAH, PCB, Pesticides, Herbicides	Alkalinity only	VOCs (TB)					
***Container Type						CG	TCK	CG	CG	CG	CG					
***Container Size						4oz	-	40ml	16oz	40s	40					
Preservative						-	DI H_2O	MeOH	-	-	HCl					
1 SB-JO-1 (0-6")		3/16/17	1100	G	SO	X	X	X	X							
2 SB-JO-1 (12-18")			1115				X	X	X	X						
3 SB-JO-1 (5-5.5')			1135				X	X	X	X						
4 SB-JO-1 (9.5-10')			1145		↓		X	X	X	X						
5 TB-1 (031617)			0900	G	W						X					
6 SB-JO-2 (0-6")			1240		SO	X	X	X	X							
7 SB-JO-2 (12-18")			1248				X	X	X	X						
8 SB-JO-2 (4.5-5')			1300				X	X	X	X						

Enter Number of Containers Per Analysis

Preserved In: 5 METHANOL
Cooler Temp:
Therm. ID: 3146
No. of Coolers:
Notes:

Circle appropriate Y or N.	Container in good condition?	COC/Labels complete/accurate?	Received on ice?	(if present) Seals intact?	Custody seals Present?	Correct preservation?	Correct sample volume?	Correct containers?
	N	N	N	N		N	N	N
	Y	Y	Y	Y		Y	Y	Y

SAMPLED BY (Please Print): MEGAN INNIS
Project Comments: 3/16/17 2258

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Megan Innis	3/16/17	1506	2 Jeremy Hill / ALS	3/16	1506
3 Jeremy Hill / ALS	3/16		4 (A) ALS		1520
5 (A) ALS		2120	6	3/16	2120
7			8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other:
EDDs Required? X If yes, format type: Excel
DQO Criteria Required?
SDWA Forms? yes
State Samples Collected in? MD, NJ, NY, PA
Other: West Virginia

ALS FIELD SERVICES: Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
Rev 01-2013

Jefferson Orchard

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

COC# 221539 J

Co. Name: ERM
Contact (Report to): David Connelly
Phone: (304) 757-4777
Address: 204 Chase Drive, Hurricane, WV 25526
Bill to (if different than Report to): Same As Above
PO#: 0397010
Project Name/#: Project Shuttle
ALS Quote #:
TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. 5-DAY
Date Required: 3/28/17
Approved By: Paul Painter
Email? ☒ Y david.Connelly@erm.com + Megan.Innis@erm.com
Fax? ☐ Y No.:

	Analysis	pH/Alkalinity	VOCs	TPH-GRO	TPH-DRO/ORO, RCRA 8 metals, PAH, PCB, Pesticides, Herbicides	Alkalinity only
	***Container Type	CG	TCK	CG	CG	CG
	***Container Size	4oz	–	40ml	16oz	40z
	***Preservative	–	DI H2O	MeOH	–	–

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	pH/Alkalinity	VOCs	TPH-GRO	TPH-DRO/ORO, RCRA 8 metals, PAH, PCB, Pesticides, Herbicides	Alkalinity only
1	SB-JD-2 (9.5-10')		3/16/17	1310	G	SO		X	X	X	X
2	SB-JD-4 (0-6")		↓	1400	↓	↓	X	X	X	X	
3	SB-JD-4 (12-18")		↓	1410	↓	↓		X	X	X	X
4	SB-JD-4 (4.5-5')		↓	1420	↓	↓		X	X	X	X
5	SB-JD-4 (9.5-10')		↓	1430	↓	↓		X	X	X	X
6											
7											
8											

Receipt Information (completed by Sample Receiving)
Performed by: [signature]
Cooler Temp: 1
Therm. ID: 3/8
No. of Coolers:
Notes:

Circle appropriate Y or N.

Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
Y (N)	Y (N)	Y N	Y N	Y N	Y N	Y N	Y N	Y (N)

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	Megan Innis	3/16/17	1506	2	[signature]	3/16	1506
3	[signature]	3/16		4	[signature] ALS		1508
5	[signature] ALS		2120	6	[signature]	3/16	2120
7				8			
9				10			

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ other:
EDDs Required? ☒ If yes, format type: Excel
SDWA Forms?: yes ☐ yes ☐ yes ☐ yes ☐
State Samples Collected In?: MD ☐ NJ ☐ NY ☐ PA ☐ Other: West Virginia
DOD Criteria Required?

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 27, 2017

Mr. David Connelly
Environmental Resource Management (ERM)-WV
204 Chase Drive
Hurricane, WV 25526

Certificate of Analysis

Project Name:	**JEFFERSON COUNTY**	Workorder:	**2215866**
Purchase Order:	**0397010**	Workorder ID:	**Project Shuttle**

Dear Mr. Connelly:

Enclosed are the analytical results for samples received by the laboratory on Friday, March 17, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Megan Innis , Mr. James Hemme

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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SAMPLE SUMMARY

Workorder: 2215866 Project Shuttle

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2215866001	SB-JO-7(0-6")	Solid	3/17/2017 08:15	3/17/2017 22:40	Ms. Megan Innis
2215866002	SB-JO-7(12-18")	Solid	3/17/2017 08:25	3/17/2017 22:40	Ms. Megan Innis
2215866003	SB-JO-7(4.5-5')	Solid	3/17/2017 08:32	3/17/2017 22:40	Ms. Megan Innis
2215866004	SB-JO-7(9.5-10')	Solid	3/17/2017 08:42	3/17/2017 22:40	Ms. Megan Innis
2215866005	SB-JO-DUP1(0-6")	Solid	3/17/2017 09:05	3/17/2017 22:40	Ms. Megan Innis
2215866006	SB-JO-DUP1(12-18")	Solid	3/17/2017 09:15	3/17/2017 22:40	Ms. Megan Innis
2215866007	SB-JO-DUP1(5-5.5')	Solid	3/17/2017 09:20	3/17/2017 22:40	Ms. Megan Innis
2215866008	SB-JO-DUP1(9.5-10')	Solid	3/17/2017 09:30	3/17/2017 22:40	Ms. Megan Innis
2215866009	TB-1(031717)	Water	3/17/2017 08:00	3/17/2017 22:40	Ms. Megan Innis

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SAMPLE SUMMARY

Workorder: 2215866 Project Shuttle

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 2215866 Project Shuttle

Sample Comments

Lab ID: 2215866001 **Sample ID:** SB-JO-7(0-6") **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8082 PCB analysis due to sample matrix interference. Reporting limits were adjusted accordingly. One or more of the surrogates could not be evaluated as a result of the dilution.

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866001** Date Collected: 3/17/2017 08:15 Matrix: Solid

Sample ID: **SB-JO-7(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	14.7		mg/kg	13.5	3.2	SW846 8015D	3/20/17 16:10	JSR	3/22/17 03:05	BS	B
Gasoline Range Organics	2860J	J	ug/kg	11200	1550	SW846 8015D	3/17/17 08:15	DD	3/21/17 11:56	DD	A
Oil Range Oranics C28-C35	5.6J	J,1	mg/kg	13.5	2.8	SW846 8015D	3/20/17 16:10	JSR	3/22/17 03:05	BS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	123		%	72 - 134		SW846 8015D	3/17/17 08:15	DD	3/21/17 11:56	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	96.4		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 03:05	BS	B
VOLATILE ORGANICS											
Benzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
Ethylbenzene	2.7 U	U	ug/kg	2.7	0.92	SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
Toluene	2.7 U	U	ug/kg	2.7	0.90	SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
Total Xylenes	8.1 U	U	ug/kg	8.1	1.9	SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	102		%	56 - 124		SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
4-Bromofluorobenzene (S)	105		%	51 - 128		SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
Dibromofluoromethane (S)	107		%	62 - 123		SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
Toluene-d8 (S)	111		%	59 - 131		SW846 8260B	3/17/17 08:15	CJG	3/21/17 02:18	CJG	D
SEMIVOLATILES											
Acenaphthene	63.9 U	U	ug/kg	63.9	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Acenaphthylene	63.9 U	U	ug/kg	63.9	8.9	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Anthracene	23.3J	J	ug/kg	63.9	10.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Benzo(a)anthracene	56.5J	J	ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Benzo(a)pyrene	13.2J	J	ug/kg	63.9	5.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Benzo(b)fluoranthene	78.3		ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Benzo(g,h,i)perylene	26.9J	J	ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Benzo(k)fluoranthene	23.3J	J	ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Chrysene	77.6		ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Dibenzo(a,h)anthracene	13.3J	J	ug/kg	63.9	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Fluoranthene	114		ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Fluorene	10.1J	J	ug/kg	63.9	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Indeno(1,2,3-cd)pyrene	63.9 U	U	ug/kg	63.9	8.9	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Naphthalene	123		ug/kg	63.9	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Phenanthrene	133		ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Pyrene	109		ug/kg	63.9	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866001** Date Collected: 3/17/2017 08:15 Matrix: Solid

Sample ID: **SB-JO-7(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	79.6		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Nitrobenzene-d5 (S)	76.4		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
Terphenyl-d14 (S)	84.9		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 17:55	CGS	B
PCBs											
Total Polychlorinated Biphenyl	20.5 U	U	mg/kg	20.5	1.9	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1016	20.5 U	U	mg/kg	20.5	3.7	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1221	20.5 U	U	mg/kg	20.5	1.9	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1232	20.5 U	U	mg/kg	20.5	3.7	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1242	20.5 U	U	mg/kg	20.5	5.6	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1248	20.5 U	U	mg/kg	20.5	3.7	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1254	20.5 U	U	mg/kg	20.5	3.7	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1260	20.5 U	U	mg/kg	20.5	3.7	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1262	20.5 U	U	mg/kg	20.5	4.4	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Aroclor-1268	20.5 U	U	mg/kg	20.5	5.6	SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	0		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
Tetrachloro-m-xylene (S)	0		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/24/17 06:06	EGO	G
PESTICIDES											
Aldrin	2.1 U	U	ug/kg	2.1	0.68	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
alpha-BHC	23.1		ug/kg	2.1	0.19	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
beta-BHC	15.4		ug/kg	2.1	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
delta-BHC	2.1 U	U	ug/kg	2.1	0.16	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
gamma-BHC	12.7		ug/kg	2.1	0.17	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
alpha-Chlordane	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
gamma-Chlordane	1270		ug/kg	212	36.1	SW846 8081B	3/22/17 13:15	JTH	3/24/17 19:16	RWS	B
4,4'-DDD	28400		ug/kg	4110	336	SW846 8081B	3/22/17 13:15	JTH	3/27/17 13:56	RWS	B
4,4'-DDE	28400		ug/kg	4110	560	SW846 8081B	3/22/17 13:15	JTH	3/27/17 13:56	RWS	B
4,4'-DDT	4.1 U	U	ug/kg	4.1	0.47	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Dieldrin	3870		ug/kg	411	47.3	SW846 8081B	3/22/17 13:15	JTH	3/24/17 19:16	RWS	B
Endosulfan I	353		ug/kg	21.2	2.6	SW846 8081B	3/22/17 13:15	JTH	3/24/17 18:54	RWS	B
Endosulfan II	141		ug/kg	41.1	8.6	SW846 8081B	3/22/17 13:15	JTH	3/24/17 18:54	RWS	B
Endosulfan Sulfate	4.1 U	U	ug/kg	4.1	0.27	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Endrin	806		ug/kg	411	29.9	SW846 8081B	3/22/17 13:15	JTH	3/24/17 19:16	RWS	B
Endrin Aldehyde	4.1 U	U	ug/kg	4.1	0.45	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Endrin Ketone	368		ug/kg	41.1	5.7	SW846 8081B	3/22/17 13:15	JTH	3/24/17 18:54	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866001** Date Collected: 3/17/2017 08:15 Matrix: Solid

Sample ID: **SB-JO-7(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	6.4		ug/kg	2.1	0.21	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Heptachlor Epoxide	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Methoxychlor	4.1 U	U	ug/kg	4.1	0.55	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Toxaphene	43.6 U	U	ug/kg	43.6	7.2	SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	0		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/27/17 14:45	RWS	B
Decachlorobiphenyls (S)	63.4		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
Tetrachloro-m-xylene (S)	0		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/27/17 14:45	RWS	B
Tetrachloro-m-xylene (S)	55.8		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 17:50	RWS	B
HERBICIDES											
2,4-D	87.0 U	U	ug/kg	87.0	33.8	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
2,4-DB	87.0 U	U	ug/kg	87.0	46.7	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
Dalapon	87.0 U	U	ug/kg	87.0	22.1	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
Dicamba	87.0 U	U	ug/kg	87.0	31.2	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
Dichloroprop	87.0 U	U	ug/kg	87.0	35.1	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
Dinoseb	217 U	U	ug/kg	217	44.1	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
Pentachlorophenol	87.0 U	U	ug/kg	87.0	49.3	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
2,4,5-T	87.0 U	U	ug/kg	87.0	36.4	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
2,4,5-TP	87.0 U	U	ug/kg	87.0	40.3	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	77.4		%	36 - 113		SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:03	EGO	B
WET CHEMISTRY											
Alkalinity, Total	143	6	mg/kg	66	20	S2320B-97			3/22/17 12:41	MSA	B
Moisture	23.7		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
pH	6.96	5	pH_Units		1	SW846 9045D			3/21/17 03:43	MSA	B
Total Solids	76.3		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	10.1		mg/kg	1.9	0.64	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2
Barium, Total	125		mg/kg	3.2	1.0	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2
Cadmium, Total	0.64 U	U	mg/kg	0.64	0.21	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2
Chromium, Total	20.5	2	mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2
Lead, Total	16.9		mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2
Mercury, Total	0.030J	J	mg/kg	0.061	0.019	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:45	AXC	B1
Selenium, Total	7.1	3	mg/kg	3.2	1.0	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2
Silver, Total	1.3 U	U	mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:39	ZMC	B2

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866001** Date Collected: 3/17/2017 08:15 Matrix: Solid

Sample ID: **SB-JO-7(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866002** Date Collected: 3/17/2017 08:25 Matrix: Solid

Sample ID: **SB-JO-7(12-18'')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	6.3J	J	mg/kg	12.5	2.9	SW846 8015D	3/20/17 16:10	JSR	3/22/17 03:43	BS	B
Gasoline Range Organics	1840J	J	ug/kg	9440	1310	SW846 8015D	3/17/17 08:25	DD	3/21/17 12:30	DD	A
Oil Range Oranics C28-C35	12.5 U	U,1	mg/kg	12.5	2.6	SW846 8015D	3/20/17 16:10	JSR	3/22/17 03:43	BS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	122		%	72 - 134		SW846 8015D	3/17/17 08:25	DD	3/21/17 12:30	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	95.6		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 03:43	BS	B
VOLATILE ORGANICS											
Benzene	2.1 U	U	ug/kg	2.1	0.53	SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
Ethylbenzene	2.1 U	U	ug/kg	2.1	0.72	SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
Toluene	2.1 U	U	ug/kg	2.1	0.71	SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
Total Xylenes	6.4 U	U	ug/kg	6.4	1.5	SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	103		%	56 - 124		SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
4-Bromofluorobenzene (S)	103		%	51 - 128		SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
Dibromofluoromethane (S)	107		%	62 - 123		SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
Toluene-d8 (S)	108		%	59 - 131		SW846 8260B	3/17/17 08:25	CJG	3/21/17 02:41	CJG	D
SEMIVOLATILES											
Acenaphthene	60.0 U	U	ug/kg	60.0	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Acenaphthylene	60.0 U	U	ug/kg	60.0	8.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Anthracene	60.0 U	U	ug/kg	60.0	9.6	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Benzo(a)anthracene	17.9J	J	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Benzo(a)pyrene	60.0 U	U	ug/kg	60.0	4.8	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Benzo(b)fluoranthene	60.0 U	U	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Benzo(g,h,i)perylene	8.0J	J	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Benzo(k)fluoranthene	60.0 U	U	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Chrysene	10.3J	J	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Dibenzo(a,h)anthracene	60.0 U	U	ug/kg	60.0	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Fluoranthene	16.0J	J	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Fluorene	60.0 U	U	ug/kg	60.0	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Indeno(1,2,3-cd)pyrene	12.5J	J	ug/kg	60.0	8.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Naphthalene	60.0 U	U	ug/kg	60.0	7.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Phenanthrene	7.8J	J	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Pyrene	12.9J	J	ug/kg	60.0	6.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866002** Date Collected: 3/17/2017 08:25 Matrix: Solid

Sample ID: **SB-JO-7(12-18'')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	80		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Nitrobenzene-d5 (S)	79.3		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
Terphenyl-d14 (S)	90.3		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 18:20	CGS	B
PCBs											
Total Polychlorinated Biphenyl	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1016	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1221	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1232	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1242	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1248	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1254	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1260	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1262	0.040 U	U	mg/kg	0.040	0.0085	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Aroclor-1268	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	105		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
Tetrachloro-m-xylene (S)	106		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:03	EGO	G
PESTICIDES											
Aldrin	2.1 U	U	ug/kg	2.1	0.67	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
alpha-BHC	2.1 U	U	ug/kg	2.1	0.18	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
beta-BHC	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
delta-BHC	2.1 U	U	ug/kg	2.1	0.16	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
gamma-BHC	2.1 U	U	ug/kg	2.1	0.17	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
alpha-Chlordane	2.1 U	U	ug/kg	2.1	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
gamma-Chlordane	4.9		ug/kg	2.1	0.35	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
4,4'-DDD	205		ug/kg	40.1	3.3	SW846 8081B	3/22/17 13:15	JTH	3/24/17 19:39	RWS	B
4,4'-DDE	70.2		ug/kg	40.1	5.5	SW846 8081B	3/22/17 13:15	JTH	3/24/17 19:39	RWS	B
4,4'-DDT	3560		ug/kg	401	46.2	SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:01	RWS	B
Dieldrin	66.7		ug/kg	40.1	4.6	SW846 8081B	3/22/17 13:15	JTH	3/24/17 19:39	RWS	B
Endosulfan I	2.1 U	U	ug/kg	2.1	0.26	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Endosulfan II	4.0 U	U	ug/kg	4.0	0.84	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Endosulfan Sulfate	4.0 U	U	ug/kg	4.0	0.27	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Endrin	6.3		ug/kg	4.0	0.29	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Endrin Aldehyde	4.0 U	U	ug/kg	4.0	0.44	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Endrin Ketone	2.1J	J	ug/kg	4.0	0.56	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866002** Date Collected: 3/17/2017 08:25 Matrix: Solid

Sample ID: **SB-JO-7(12-18'')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Heptachlor Epoxide	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Methoxychlor	4.0 U	U	ug/kg	4.0	0.53	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Toxaphene	42.5 U	U	ug/kg	42.5	7.0	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	79		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Decachlorobiphenyls (S)	87.6		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:01	RWS	B
Tetrachloro-m-xylene (S)	55.7		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:13	RWS	B
Tetrachloro-m-xylene (S)	65.5		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:01	RWS	B
HERBICIDES											
2,4-D	83.3 U	U	ug/kg	83.3	32.3	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
2,4-DB	83.3 U	U	ug/kg	83.3	44.8	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
Dalapon	83.3 U	U	ug/kg	83.3	21.1	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
Dicamba	83.3 U	U	ug/kg	83.3	29.8	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
Dichloroprop	83.3 U	U	ug/kg	83.3	33.6	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
Dinoseb	208 U	U	ug/kg	208	42.3	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
Pentachlorophenol	83.3 U	U	ug/kg	83.3	47.3	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
2,4,5-T	83.3 U	U	ug/kg	83.3	34.8	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
2,4,5-TP	83.3 U	U	ug/kg	83.3	38.5	SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	41.5		%	36 - 113		SW846 8151A	3/24/17 01:35	VLM	3/24/17 08:40	EGO	B
WET CHEMISTRY											
Alkalinity, Total	87	2	mg/kg	62	20	S2320B-97			3/22/17 15:09	MSA	B
Moisture	19.9		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
pH	7.39	3	pH_Units		1	SW846 9045D			3/21/17 03:49	MSA	B
Total Solids	80.1		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	5.8		mg/kg	1.7	0.58	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2
Barium, Total	23.6		mg/kg	2.9	0.92	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2
Cadmium, Total	0.58 U	U	mg/kg	0.58	0.19	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2
Chromium, Total	31.1		mg/kg	1.2	0.38	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2
Lead, Total	9.1		mg/kg	1.2	0.38	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2
Mercury, Total	0.080		mg/kg	0.053	0.017	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:46	AXC	B1
Selenium, Total	1.1J	J	mg/kg	2.9	0.92	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2
Silver, Total	1.2 U	U	mg/kg	1.2	0.38	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 08:55	ZMC	B2

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866002** Date Collected: 3/17/2017 08:25 Matrix: Solid

Sample ID: **SB-JO-7(12-18'')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866003** Date Collected: 3/17/2017 08:32 Matrix: Solid
Sample ID: **SB-JO-7(4.5-5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Benzene	2.2 U	U	ug/kg	2.2	0.56	SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
Ethylbenzene	2.2 U	U	ug/kg	2.2	0.76	SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
Toluene	2.2 U	U	ug/kg	2.2	0.75	SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
Total Xylenes	6.7 U	U	ug/kg	6.7	1.6	SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	115		%	56 - 124		SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
4-Bromofluorobenzene (S)	103		%	51 - 128		SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
Dibromofluoromethane (S)	111		%	62 - 123		SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
Toluene-d8 (S)	106		%	59 - 131		SW846 8260B	3/17/17 08:32	CJG	3/21/17 03:05	CJG	D
SEMIVOLATILES											
Acenaphthene	63.8 U	U	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Acenaphthylene	63.8 U	U	ug/kg	63.8	8.9	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Anthracene	63.8 U	U	ug/kg	63.8	10.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Benzo(a)anthracene	18.8J	J	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Benzo(a)pyrene	63.8 U	U	ug/kg	63.8	5.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Benzo(b)fluoranthene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Benzo(g,h,i)perylene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Benzo(k)fluoranthene	7.6J	J	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Chrysene	11.7J	J	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Dibenzo(a,h)anthracene	14.1J	J	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Fluoranthene	11.1J	J	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Fluorene	8.6J	J	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Indeno(1,2,3-cd)pyrene	63.8 U	U	ug/kg	63.8	8.9	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Naphthalene	63.8 U	U	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Phenanthrene	10.6J	J	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Pyrene	10.5J	J	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	83.2		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Nitrobenzene-d5 (S)	84.4		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
Terphenyl-d14 (S)	93.6		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:10	CGS	B
PETROLEUM HC's											
Diesel Range Organics C10-C28	3.6J	J	mg/kg	13.9	3.3	SW846 8015D	3/20/17 16:10	JSR	3/22/17 04:57	BS	B
Gasoline Range Organics	1270J	J	ug/kg	8530	1190	SW846 8015D	3/17/17 08:32	DD	3/21/17 13:03	DD	A
Oil Range Oranics C28-C35	13.9 U	U,1	mg/kg	13.9	2.9	SW846 8015D	3/20/17 16:10	JSR	3/22/17 04:57	BS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866003** Date Collected: 3/17/2017 08:32 Matrix: Solid

Sample ID: **SB-JO-7(4.5-5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	120		%	72 - 134		SW846 8015D	3/17/17 08:32	DD	3/21/17 13:03	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	81.3		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 04:57	BS	B
PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1262	0.042 U	U	mg/kg	0.042	0.0089	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Aroclor-1268	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	102		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
Tetrachloro-m-xylene (S)	99.2		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:26	EGO	G
PESTICIDES											
Aldrin	2.2 U	U	ug/kg	2.2	0.70	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
alpha-BHC	2.2 U	U	ug/kg	2.2	0.19	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
beta-BHC	0.42J	J	ug/kg	2.2	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
delta-BHC	2.2 U	U	ug/kg	2.2	0.16	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
gamma-BHC	2.2 U	U	ug/kg	2.2	0.18	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
alpha-Chlordane	2.2 U	U	ug/kg	2.2	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
gamma-Chlordane	7.7		ug/kg	2.2	0.37	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
4,4'-DDD	353		ug/kg	41.8	3.4	SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:24	RWS	B
4,4'-DDE	94.7		ug/kg	41.8	5.7	SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:24	RWS	B
4,4'-DDT	6340		ug/kg	418	48.2	SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:46	RWS	B
Dieldrin	33.1		ug/kg	4.2	0.48	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Endosulfan I	2.2 U	U	ug/kg	2.2	0.27	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Endosulfan II	1.3J	J	ug/kg	4.2	0.87	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Endosulfan Sulfate	4.2 U	U	ug/kg	4.2	0.28	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Endrin	5.2		ug/kg	4.2	0.30	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Endrin Aldehyde	4.2 U	U	ug/kg	4.2	0.46	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866003** Date Collected: 3/17/2017 08:32 Matrix: Solid

Sample ID: **SB-JO-7(4.5-5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Endrin Ketone	1.6J	J	ug/kg	4.2	0.58	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Heptachlor	2.2 U	U	ug/kg	2.2	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Heptachlor Epoxide	2.2 U	U	ug/kg	2.2	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Methoxychlor	4.2 U	U	ug/kg	4.2	0.56	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Toxaphene	44.4 U	U	ug/kg	44.4	7.4	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	61.7		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Decachlorobiphenyls (S)	125		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:46	RWS	B
Tetrachloro-m-xylene (S)	55.7		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:35	RWS	B
Tetrachloro-m-xylene (S)	65.2		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/24/17 20:46	RWS	B
HERBICIDES											
2,4-D	88.1 U	U	ug/kg	88.1	34.2	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
2,4-DB	88.1 U	U	ug/kg	88.1	47.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
Dalapon	88.1 U	U	ug/kg	88.1	22.3	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
Dicamba	88.1 U	U	ug/kg	88.1	31.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
Dichloroprop	88.1 U	U	ug/kg	88.1	35.5	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
Dinoseb	219 U	U	ug/kg	219	44.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
Pentachlorophenol	88.1 U	U	ug/kg	88.1	49.9	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
2,4,5-T	88.1 U	U	ug/kg	88.1	36.8	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
2,4,5-TP	88.1 U	U	ug/kg	88.1	40.7	SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	74.4		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/21/17 23:45	EGO	B
WET CHEMISTRY											
Alkalinity, Total	80	2	mg/kg	66	20	S2320B-97			3/22/17 15:19	MSA	B
Moisture	24.2		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
pH	7.29	3	pH_Units		1	SW846 9045D			3/21/17 03:51	MSA	B
Total Solids	75.8		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	5.9		mg/kg	1.8	0.61	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2
Barium, Total	18.7		mg/kg	3.1	0.98	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2
Cadmium, Total	0.61 U	U	mg/kg	0.61	0.20	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2
Chromium, Total	28.4		mg/kg	1.2	0.40	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2
Lead, Total	13.6		mg/kg	1.2	0.40	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2
Mercury, Total	0.10		mg/kg	0.062	0.020	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:47	AXC	B1
Selenium, Total	1.8J	J	mg/kg	3.1	0.98	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866003** Date Collected: 3/17/2017 08:32 Matrix: Solid

Sample ID: **SB-JO-7(4.5-5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Silver, Total	1.2 U	U	mg/kg	1.2	0.40	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:03	ZMC	B2

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866004** Date Collected: 3/17/2017 08:42 Matrix: Solid

Sample ID: **SB-JO-7(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Benzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
Ethylbenzene	2.9 U	U	ug/kg	2.9	0.97	SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
Toluene	2.9 U	U	ug/kg	2.9	0.96	SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
Total Xylenes	8.6 U	U	ug/kg	8.6	2.0	SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	56 - 124		SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
4-Bromofluorobenzene (S)	104		%	51 - 128		SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
Dibromofluoromethane (S)	110		%	62 - 123		SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
Toluene-d8 (S)	108		%	59 - 131		SW846 8260B	3/17/17 08:42	JAH	3/21/17 15:16	TMP	E
SEMIVOLATILES											
Acenaphthene	81.0 U	U	ug/kg	81.0	9.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Acenaphthylene	81.0 U	U	ug/kg	81.0	11.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Anthracene	81.0 U	U	ug/kg	81.0	13.0	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Benzo(a)anthracene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Benzo(a)pyrene	81.0 U	U	ug/kg	81.0	6.5	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Benzo(b)fluoranthene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Benzo(g,h,i)perylene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Benzo(k)fluoranthene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Chrysene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Dibenzo(a,h)anthracene	81.0 U	U	ug/kg	81.0	9.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Fluoranthene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Fluorene	81.0 U	U	ug/kg	81.0	9.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Indeno(1,2,3-cd)pyrene	81.0 U	U	ug/kg	81.0	11.3	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Naphthalene	81.0 U	U	ug/kg	81.0	9.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Phenanthrene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Pyrene	81.0 U	U	ug/kg	81.0	8.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	79.8		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Nitrobenzene-d5 (S)	79.9		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
Terphenyl-d14 (S)	90.6		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 19:35	CGS	B
PETROLEUM HC's											
Diesel Range Organics C10-C28	17.0 U	U	mg/kg	17.0	4.0	SW846 8015D	3/20/17 16:10	JSR	3/22/17 05:34	BS	B
Gasoline Range Organics	11300 U	U	ug/kg	11300	1570	SW846 8015D	3/17/17 08:42	DD	3/21/17 13:37	DD	A
Oil Range Oranics C28-C35	17.0 U	U,1	mg/kg	17.0	3.5	SW846 8015D	3/20/17 16:10	JSR	3/22/17 05:34	BS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866004** Date Collected: 3/17/2017 08:42 Matrix: Solid

Sample ID: **SB-JO-7(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	122		%	72 - 134		SW846 8015D	3/17/17 08:42	DD	3/21/17 13:37	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	92.6		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 05:34	BS	B
PCBs											
Total Polychlorinated Biphenyl	0.051 U	U	mg/kg	0.051	0.0046	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1016	0.051 U	U	mg/kg	0.051	0.0092	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1221	0.051 U	U	mg/kg	0.051	0.0046	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1232	0.051 U	U	mg/kg	0.051	0.0092	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1242	0.051 U	U	mg/kg	0.051	0.014	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1248	0.051 U	U	mg/kg	0.051	0.0092	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1254	0.051 U	U	mg/kg	0.051	0.0092	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1260	0.051 U	U	mg/kg	0.051	0.0092	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1262	0.051 U	U	mg/kg	0.051	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Aroclor-1268	0.051 U	U	mg/kg	0.051	0.014	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	101		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
Tetrachloro-m-xylene (S)	103		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:38	EGO	G
PESTICIDES											
Aldrin	2.6 U	U	ug/kg	2.6	0.85	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
alpha-BHC	2.6 U	U	ug/kg	2.6	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
beta-BHC	0.91J	J	ug/kg	2.6	0.28	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
delta-BHC	2.6 U	U	ug/kg	2.6	0.20	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
gamma-BHC	2.6 U	U	ug/kg	2.6	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
alpha-Chlordane	2.6 U	U	ug/kg	2.6	0.28	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
gamma-Chlordane	2.6 U	U	ug/kg	2.6	0.45	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
4,4'-DDD	5.1 U	U	ug/kg	5.1	0.42	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
4,4'-DDE	5.1 U	U	ug/kg	5.1	0.69	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
4,4'-DDT	3.5J	J	ug/kg	5.1	0.59	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Dieldrin	3.1J	J	ug/kg	5.1	0.59	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Endosulfan I	2.6 U	U	ug/kg	2.6	0.32	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Endosulfan II	5.1 U	U	ug/kg	5.1	1.1	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Endosulfan Sulfate	5.1 U	U	ug/kg	5.1	0.34	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Endrin	5.1 U	U	ug/kg	5.1	0.37	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Endrin Aldehyde	5.1 U	U	ug/kg	5.1	0.55	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866004** Date Collected: 3/17/2017 08:42 Matrix: Solid

Sample ID: **SB-JO-7(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Endrin Ketone	5.1 U	U	ug/kg	5.1	0.71	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Heptachlor	2.6 U	U	ug/kg	2.6	0.26	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Heptachlor Epoxide	2.6 U	U	ug/kg	2.6	0.26	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Methoxychlor	5.1 U	U	ug/kg	5.1	0.68	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Toxaphene	53.9 U	U	ug/kg	53.9	8.9	SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	83.3		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
Tetrachloro-m-xylene (S)	55		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 18:57	RWS	B
HERBICIDES											
2,4-D	109 U	U	ug/kg	109	42.3	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
2,4-DB	109 U	U	ug/kg	109	58.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
Dalapon	109 U	U	ug/kg	109	27.6	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
Dicamba	109 U	U	ug/kg	109	39.0	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
Dichloroprop	109 U	U	ug/kg	109	43.9	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
Dinoseb	272 U	U	ug/kg	272	55.3	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
Pentachlorophenol	109 U	U	ug/kg	109	61.8	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
2,4,5-T	109 U	U	ug/kg	109	45.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
2,4,5-TP	109 U	U	ug/kg	109	50.4	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	105		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:22	EGO	B
WET CHEMISTRY											
Alkalinity, Total	28J	J,2	mg/kg	82	20	S2320B-97			3/22/17 15:28	MSA	B
Moisture	39.1		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
pH	6.33	3	pH_Units		1	SW846 9045D			3/21/17 03:58	MSA	B
Total Solids	60.9		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	23.4		mg/kg	2.2	0.72	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2
Barium, Total	24.5		mg/kg	3.6	1.2	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2
Cadmium, Total	0.72 U	U	mg/kg	0.72	0.24	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2
Chromium, Total	35.6		mg/kg	1.4	0.48	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2
Lead, Total	21.8		mg/kg	1.4	0.48	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2
Mercury, Total	0.27		mg/kg	0.073	0.023	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:48	AXC	B1
Selenium, Total	12.3		mg/kg	3.6	1.2	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2
Silver, Total	1.4 U	U	mg/kg	1.4	0.48	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:07	ZMC	B2

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866004** Date Collected: 3/17/2017 08:42 Matrix: Solid

Sample ID: **SB-JO-7(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866005** Date Collected: 3/17/2017 09:05 Matrix: Solid

Sample ID: **SB-JO-DUP1(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.6 U	U	mg/kg	13.6	3.2	SW846 8015D	3/20/17 16:10	JSR	3/22/17 06:11	BS	B
Gasoline Range Organics	3020J	J	ug/kg	8990	1250	SW846 8015D	3/17/17 09:05	DD	3/21/17 14:11	DD	A
Oil Range Oranics C28-C35	13.6 U	U,1	mg/kg	13.6	2.8	SW846 8015D	3/20/17 16:10	JSR	3/22/17 06:11	BS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	122		%	72 - 134		SW846 8015D	3/17/17 09:05	DD	3/21/17 14:11	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	77.5		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 06:11	BS	B
VOLATILE ORGANICS											
Benzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.79	SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
Toluene	2.3 U	U	ug/kg	2.3	0.78	SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
Total Xylenes	7.0 U	U	ug/kg	7.0	1.6	SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119		%	56 - 124		SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
Dibromofluoromethane (S)	111		%	62 - 123		SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
Toluene-d8 (S)	108		%	59 - 131		SW846 8260B	3/17/17 09:05	CJG	3/21/17 03:51	CJG	D
SEMIVOLATILES											
Acenaphthene	63.8 U	U	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Acenaphthylene	63.8 U	U	ug/kg	63.8	8.9	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Anthracene	63.8 U	U	ug/kg	63.8	10.2	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Benzo(a)anthracene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Benzo(a)pyrene	63.8 U	U	ug/kg	63.8	5.1	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Benzo(b)fluoranthene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Benzo(g,h,i)perylene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Benzo(k)fluoranthene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Chrysene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Dibenzo(a,h)anthracene	63.8 U	U	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Fluoranthene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Fluorene	63.8 U	U	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Indeno(1,2,3-cd)pyrene	63.8 U	U	ug/kg	63.8	8.9	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Naphthalene	63.8 U	U	ug/kg	63.8	7.7	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Phenanthrene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Pyrene	63.8 U	U	ug/kg	63.8	6.4	SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866005** Date Collected: 3/17/2017 09:05 Matrix: Solid

Sample ID: **SB-JO-DUP1(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	78.8		%	40 - 110		SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Nitrobenzene-d5 (S)	79.4		%	38 - 112		SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
Terphenyl-d14 (S)	94.4		%	45 - 126		SW846 8270D	3/21/17 03:30	CMA	3/21/17 20:00	CGS	B
PCBs											
Total Polychlorinated Biphenyl	0.043 U	U	mg/kg	0.043	0.0039	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1016	0.043 U	U	mg/kg	0.043	0.0079	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1221	0.043 U	U	mg/kg	0.043	0.0039	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1232	0.043 U	U	mg/kg	0.043	0.0079	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1242	0.043 U	U	mg/kg	0.043	0.012	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1248	0.043 U	U	mg/kg	0.043	0.0079	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1254	0.043 U	U	mg/kg	0.043	0.0079	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1260	0.043 U	U	mg/kg	0.043	0.0079	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1262	0.043 U	U	mg/kg	0.043	0.0092	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Aroclor-1268	0.043 U	U	mg/kg	0.043	0.012	SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	103		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
Tetrachloro-m-xylene (S)	102		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 12:49	EGO	G
PESTICIDES											
Aldrin	2.2 U	U	ug/kg	2.2	0.72	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
alpha-BHC	2.2 U	U	ug/kg	2.2	0.20	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
beta-BHC	2.2 U	U	ug/kg	2.2	0.24	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
delta-BHC	2.2 U	U	ug/kg	2.2	0.17	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
gamma-BHC	2.2 U	U	ug/kg	2.2	0.18	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
alpha-Chlordane	2.2 U	U	ug/kg	2.2	0.24	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
gamma-Chlordane	2.2 U	U	ug/kg	2.2	0.38	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
4,4'-DDD	9.7		ug/kg	4.3	0.35	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
4,4'-DDE	14.7		ug/kg	4.3	0.59	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
4,4'-DDT	201		ug/kg	43.2	5.0	SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:09	RWS	B
Dieldrin	27.3		ug/kg	4.3	0.50	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Endosulfan I	2.2 U	U	ug/kg	2.2	0.28	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Endosulfan II	4.3 U	U	ug/kg	4.3	0.90	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Endosulfan Sulfate	4.3 U	U	ug/kg	4.3	0.29	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Endrin	0.91J	J	ug/kg	4.3	0.31	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Endrin Aldehyde	4.3 U	U	ug/kg	4.3	0.47	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Endrin Ketone	4.3 U	U	ug/kg	4.3	0.60	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866005** Date Collected: 3/17/2017 09:05 Matrix: Solid

Sample ID: **SB-JO-DUP1(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	2.2 U	U	ug/kg	2.2	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Heptachlor Epoxide	2.2 U	U	ug/kg	2.2	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Methoxychlor	4.3 U	U	ug/kg	4.3	0.58	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Toxaphene	45.8 U	U	ug/kg	45.8	7.6	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	75		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Decachlorobiphenyls (S)	77.9		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:09	RWS	B
Tetrachloro-m-xylene (S)	60.7		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:20	RWS	B
Tetrachloro-m-xylene (S)	61.3		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:09	RWS	B
HERBICIDES											
2,4-D	87.7 U	U	ug/kg	87.7	34.0	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
2,4-DB	87.7 U	U	ug/kg	87.7	47.1	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
Dalapon	87.7 U	U	ug/kg	87.7	22.3	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
Dicamba	87.7 U	U	ug/kg	87.7	31.4	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
Dichloroprop	87.7 U	U	ug/kg	87.7	35.4	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
Dinoseb	219 U	U	ug/kg	219	44.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
Pentachlorophenol	87.7 U	U	ug/kg	87.7	49.8	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
2,4,5-T	87.7 U	U	ug/kg	87.7	36.7	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
2,4,5-TP	87.7 U	U	ug/kg	87.7	40.6	SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	73.1		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/22/17 00:59	EGO	B
WET CHEMISTRY											
Alkalinity, Total	102	2	mg/kg	66	20	S2320B-97			3/22/17 15:38	MSA	B
Moisture	24.1		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
Total Solids	75.9		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	7.6		mg/kg	1.9	0.63	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2
Barium, Total	39.7		mg/kg	3.2	1.0	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2
Cadmium, Total	0.63 U	U	mg/kg	0.63	0.21	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2
Chromium, Total	43.5		mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2
Lead, Total	15.1		mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2
Mercury, Total	0.071		mg/kg	0.057	0.018	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:51	AXC	B1
Selenium, Total	1.5J	J	mg/kg	3.2	1.0	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2
Silver, Total	1.3 U	U	mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:11	ZMC	B2

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866005** Date Collected: 3/17/2017 09:05 Matrix: Solid

Sample ID: **SB-JO-DUP1(0-6")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866006** Date Collected: 3/17/2017 09:15 Matrix: Solid

Sample ID: **SB-JO-DUP1(12-18")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.2 U	U	mg/kg	13.2	3.1	SW846 8015D	3/20/17 16:10	JSR	3/22/17 06:47	BS	B
Gasoline Range Organics	1950J	J	ug/kg	8270	1150	SW846 8015D	3/17/17 09:15	DD	3/21/17 14:45	DD	A
Oil Range Oranics C28-C35	13.2 U	U,1	mg/kg	13.2	2.7	SW846 8015D	3/20/17 16:10	JSR	3/22/17 06:47	BS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	121		%	72 - 134		SW846 8015D	3/17/17 09:15	DD	3/21/17 14:45	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	80.8		%	38 - 118		SW846 8015D	3/20/17 16:10	JSR	3/22/17 06:47	BS	B
VOLATILE ORGANICS											
Benzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
Ethylbenzene	2.2 U	U	ug/kg	2.2	0.75	SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
Toluene	2.2 U	U	ug/kg	2.2	0.74	SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
Total Xylenes	6.6 U	U	ug/kg	6.6	1.5	SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	56 - 124		SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
4-Bromofluorobenzene (S)	104		%	51 - 128		SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
Dibromofluoromethane (S)	110		%	62 - 123		SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
Toluene-d8 (S)	109		%	59 - 131		SW846 8260B	3/17/17 09:15	CJG	3/21/17 04:14	CJG	D
SEMIVOLATILES											
Acenaphthene	62.1 U	U	ug/kg	62.1	7.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Acenaphthylene	62.1 U	U	ug/kg	62.1	8.7	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Anthracene	62.1 U	U	ug/kg	62.1	9.9	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Benzo(a)anthracene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Benzo(a)pyrene	62.1 U	U	ug/kg	62.1	5.0	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Benzo(b)fluoranthene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Benzo(g,h,i)perylene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Benzo(k)fluoranthene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Chrysene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Dibenzo(a,h)anthracene	62.1 U	U	ug/kg	62.1	7.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Fluoranthene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Fluorene	62.1 U	U	ug/kg	62.1	7.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Indeno(1,2,3-cd)pyrene	62.1 U	U	ug/kg	62.1	8.7	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Naphthalene	62.1 U	U	ug/kg	62.1	7.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Phenanthrene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Pyrene	62.1 U	U	ug/kg	62.1	6.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866006** Date Collected: 3/17/2017 09:15 Matrix: Solid

Sample ID: **SB-JO-DUP1(12-18")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	84.5		%	40 - 110		SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Nitrobenzene-d5 (S)	83.1		%	38 - 112		SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
Terphenyl-d14 (S)	92		%	45 - 126		SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:30	CGS	B
PCBs											
Total Polychlorinated Biphenyl	0.039 U	U	mg/kg	0.039	0.0036	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1016	0.039 U	U	mg/kg	0.039	0.0072	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1221	0.039 U	U	mg/kg	0.039	0.0036	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1232	0.039 U	U	mg/kg	0.039	0.0072	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1242	0.039 U	U	mg/kg	0.039	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1248	0.039 U	U	mg/kg	0.039	0.0072	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1254	0.039 U	U	mg/kg	0.039	0.0072	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1260	0.039 U	U	mg/kg	0.039	0.0072	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1262	0.039 U	U	mg/kg	0.039	0.0084	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Aroclor-1268	0.039 U	U	mg/kg	0.039	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	97.1		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
Tetrachloro-m-xylene (S)	105		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:01	EGO	G
PESTICIDES											
Aldrin	2.0 U	U	ug/kg	2.0	0.66	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
alpha-BHC	2.0 U	U	ug/kg	2.0	0.18	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
beta-BHC	2.0 U	U	ug/kg	2.0	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
delta-BHC	2.0 U	U	ug/kg	2.0	0.16	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
gamma-BHC	2.0 U	U	ug/kg	2.0	0.17	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
alpha-Chlordane	2.0 U	U	ug/kg	2.0	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
gamma-Chlordane	2.0 U	U	ug/kg	2.0	0.35	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
4,4'-DDD	9.5		ug/kg	3.9	0.32	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
4,4'-DDE	8.3		ug/kg	3.9	0.54	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
4,4'-DDT	159		ug/kg	39.4	4.5	SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:31	RWS	B
Dieldrin	4.8		ug/kg	3.9	0.45	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Endosulfan I	2.0 U	U	ug/kg	2.0	0.25	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Endosulfan II	3.9 U	U	ug/kg	3.9	0.82	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Endosulfan Sulfate	3.9 U	U	ug/kg	3.9	0.26	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Endrin	3.9 U	U	ug/kg	3.9	0.29	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Endrin Aldehyde	3.9 U	U	ug/kg	3.9	0.43	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Endrin Ketone	3.9 U	U	ug/kg	3.9	0.55	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866006** Date Collected: 3/17/2017 09:15 Matrix: Solid

Sample ID: **SB-JO-DUP1(12-18")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Heptachlor	2.0 U	U	ug/kg	2.0	0.20	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Heptachlor Epoxide	2.0 U	U	ug/kg	2.0	0.20	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Methoxychlor	3.9 U	U	ug/kg	3.9	0.53	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Toxaphene	41.8 U	U	ug/kg	41.8	6.9	SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	68.2		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Decachlorobiphenyls (S)	77.4		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:31	RWS	B
Tetrachloro-m-xylene (S)	56.5		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 19:42	RWS	B
Tetrachloro-m-xylene (S)	59.4		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:31	RWS	B
HERBICIDES											
2,4-D	83.2 U	U	ug/kg	83.2	32.3	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
2,4-DB	83.2 U	U	ug/kg	83.2	44.7	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
Dalapon	83.2 U	U	ug/kg	83.2	21.1	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
Dicamba	83.2 U	U	ug/kg	83.2	29.8	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
Dichloroprop	83.2 U	U	ug/kg	83.2	33.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
Dinoseb	207 U	U	ug/kg	207	42.2	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
Pentachlorophenol	83.2 U	U	ug/kg	83.2	47.2	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
2,4,5-T	83.2 U	U	ug/kg	83.2	34.8	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
2,4,5-TP	83.2 U	U	ug/kg	83.2	38.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	69.2		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/22/17 01:36	EGO	B
WET CHEMISTRY											
Alkalinity, Total	91	2	mg/kg	63	20	S2320B-97			3/22/17 15:47	MSA	B
Moisture	20.5		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
Total Solids	79.5		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	7.2		mg/kg	1.7	0.58	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2
Barium, Total	18.7		mg/kg	2.9	0.93	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2
Cadmium, Total	0.58 U	U	mg/kg	0.58	0.19	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2
Chromium, Total	33.6		mg/kg	1.2	0.38	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2
Lead, Total	11.1		mg/kg	1.2	0.38	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2
Mercury, Total	0.092		mg/kg	0.057	0.018	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:52	AXC	B1
Selenium, Total	1.2J	J	mg/kg	2.9	0.93	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2
Silver, Total	1.2 U	U	mg/kg	1.2	0.38	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:15	ZMC	B2

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866006** Date Collected: 3/17/2017 09:15 Matrix: Solid

Sample ID: **SB-JO-DUP1(12-18")** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866007** Date Collected: 3/17/2017 09:20 Matrix: Solid

Sample ID: **SB-JO-DUP1(5-5.5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Benzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.79	SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
Toluene	2.3 U	U	ug/kg	2.3	0.78	SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
Total Xylenes	7.0 U	U	ug/kg	7.0	1.6	SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	56 - 124		SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
4-Bromofluorobenzene (S)	103		%	51 - 128		SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
Dibromofluoromethane (S)	108		%	62 - 123		SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
Toluene-d8 (S)	110		%	59 - 131		SW846 8260B	3/17/17 09:20	CJG	3/21/17 04:38	CJG	D
SEMIVOLATILES											
Acenaphthene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Acenaphthylene	65.5 U	U	ug/kg	65.5	9.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Anthracene	65.5 U	U	ug/kg	65.5	10.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Benzo(a)anthracene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Benzo(a)pyrene	65.5 U	U	ug/kg	65.5	5.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Benzo(b)fluoranthene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Benzo(g,h,i)perylene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Benzo(k)fluoranthene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Chrysene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Dibenzo(a,h)anthracene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Fluoranthene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Fluorene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Indeno(1,2,3-cd)pyrene	65.5 U	U	ug/kg	65.5	9.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Naphthalene	65.5 U	U	ug/kg	65.5	7.9	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Phenanthrene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Pyrene	65.5 U	U	ug/kg	65.5	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	68.7		%	40 - 110		SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Nitrobenzene-d5 (S)	76.8		%	38 - 112		SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
Terphenyl-d14 (S)	76.4		%	45 - 126		SW846 8270D	3/22/17 03:05	CMA	3/22/17 22:54	CGS	B
PETROLEUM HC's											
Diesel Range Organics C10-C28	14.1 U	U	mg/kg	14.1	3.3	SW846 8015D	3/23/17 08:55	JTH	3/24/17 07:27	BS	B
Gasoline Range Organics	2200J	J	ug/kg	8830	1230	SW846 8015D	3/17/17 09:20	DD	3/21/17 15:18	DD	A
Oil Range Oranics C28-C35	14.1 U	U,1	mg/kg	14.1	2.9	SW846 8015D	3/23/17 08:55	JTH	3/24/17 07:27	BS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866007** Date Collected: 3/17/2017 09:20 Matrix: Solid

Sample ID: **SB-JO-DUP1(5-5.5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	121		%	72 - 134		SW846 8015D	3/17/17 09:20	DD	3/21/17 15:18	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	76.3		%	38 - 118		SW846 8015D	3/23/17 08:55	JTH	3/24/17 07:27	BS	B
PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1262	0.042 U	U	mg/kg	0.042	0.0088	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Aroclor-1268	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	104		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
Tetrachloro-m-xylene (S)	103		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:12	EGO	G
PESTICIDES											
Aldrin	2.1 U	U	ug/kg	2.1	0.69	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
alpha-BHC	2.1 U	U	ug/kg	2.1	0.19	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
beta-BHC	2.1 U	U	ug/kg	2.1	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
delta-BHC	2.1 U	U	ug/kg	2.1	0.16	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
gamma-BHC	2.1 U	U	ug/kg	2.1	0.18	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
alpha-Chlordane	2.1 U	U	ug/kg	2.1	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
gamma-Chlordane	0.47J	J	ug/kg	2.1	0.37	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
4,4'-DDD	19.8		ug/kg	4.2	0.34	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
4,4'-DDE	18.7		ug/kg	4.2	0.57	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
4,4'-DDT	428		ug/kg	41.6	4.8	SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:54	RWS	B
Dieldrin	22.7		ug/kg	4.2	0.48	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Endosulfan I	2.1 U	U	ug/kg	2.1	0.26	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Endosulfan II	4.2 U	U	ug/kg	4.2	0.87	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Endosulfan Sulfate	4.2 U	U	ug/kg	4.2	0.28	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Endrin	1.7J	J	ug/kg	4.2	0.30	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Endrin Aldehyde	4.2 U	U	ug/kg	4.2	0.45	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866007** Date Collected: 3/17/2017 09:20 Matrix: Solid

Sample ID: **SB-JO-DUP1(5-5.5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Endrin Ketone	4.2 U	U	ug/kg	4.2	0.58	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Heptachlor	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Heptachlor Epoxide	2.1 U	U	ug/kg	2.1	0.21	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Methoxychlor	4.2 U	U	ug/kg	4.2	0.55	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Toxaphene	44.1 U	U	ug/kg	44.1	7.3	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	73.4		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:54	RWS	B
Decachlorobiphenyls (S)	71.1		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
Tetrachloro-m-xylene (S)	51.6		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/24/17 21:54	RWS	B
Tetrachloro-m-xylene (S)	55.5		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:05	RWS	B
HERBICIDES											
2,4-D	88.0 U	U	ug/kg	88.0	34.2	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
2,4-DB	88.0 U	U	ug/kg	88.0	47.3	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
Dalapon	88.0 U	U	ug/kg	88.0	22.3	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
Dicamba	88.0 U	U	ug/kg	88.0	31.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
Dichloroprop	88.0 U	U	ug/kg	88.0	35.5	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
Dinoseb	219 U	U	ug/kg	219	44.7	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
Pentachlorophenol	88.0 U	U	ug/kg	88.0	49.9	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
2,4,5-T	88.0 U	U	ug/kg	88.0	36.8	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
2,4,5-TP	88.0 U	U	ug/kg	88.0	40.7	SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	69.5		%	36 - 113		SW846 8151A	3/21/17 01:40	VLM	3/22/17 02:13	EGO	B
WET CHEMISTRY											
Alkalinity, Total	85	2	mg/kg	67	20	S2320B-97			3/22/17 15:57	MSA	B
Moisture	25.1		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
Total Solids	74.9		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	8.0		mg/kg	1.9	0.63	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2
Barium, Total	45.1		mg/kg	3.2	1.0	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2
Cadmium, Total	0.63 U	U	mg/kg	0.63	0.21	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2
Chromium, Total	40.0		mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2
Lead, Total	15.3		mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2
Mercury, Total	0.074		mg/kg	0.059	0.019	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:56	AXC	B1
Selenium, Total	2.1J	J	mg/kg	3.2	1.0	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2
Silver, Total	1.3 U	U	mg/kg	1.3	0.42	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:31	ZMC	B2

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866007** Date Collected: 3/17/2017 09:20 Matrix: Solid

Sample ID: **SB-JO-DUP1(5-5.5')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866008** Date Collected: 3/17/2017 09:30 Matrix: Solid

Sample ID: **SB-JO-DUP1(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Benzene	2.3 U	U	ug/kg	2.3	0.56	SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.77	SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
Toluene	2.3 U	U	ug/kg	2.3	0.75	SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
Total Xylenes	6.8 U	U	ug/kg	6.8	1.6	SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	120		%	56 - 124		SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
4-Bromofluorobenzene (S)	101		%	51 - 128		SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
Dibromofluoromethane (S)	112		%	62 - 123		SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
Toluene-d8 (S)	105		%	59 - 131		SW846 8260B	3/17/17 09:30	JAH	3/21/17 15:40	TMP	E
SEMIVOLATILES											
Acenaphthene	65.1 U	U	ug/kg	65.1	7.8	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Acenaphthylene	65.1 U	U	ug/kg	65.1	9.1	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Anthracene	65.1 U	U	ug/kg	65.1	10.4	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Benzo(a)anthracene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Benzo(a)pyrene	65.1 U	U	ug/kg	65.1	5.2	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Benzo(b)fluoranthene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Benzo(g,h,i)perylene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Benzo(k)fluoranthene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Chrysene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Dibenzo(a,h)anthracene	65.1 U	U	ug/kg	65.1	7.8	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Fluoranthene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Fluorene	65.1 U	U	ug/kg	65.1	7.8	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Indeno(1,2,3-cd)pyrene	65.1 U	U	ug/kg	65.1	9.1	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Naphthalene	65.1 U	U	ug/kg	65.1	7.8	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Phenanthrene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Pyrene	65.1 U	U	ug/kg	65.1	6.5	SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	84.1		%	40 - 110		SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Nitrobenzene-d5 (S)	87.7		%	38 - 112		SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
Terphenyl-d14 (S)	93.1		%	45 - 126		SW846 8270D	3/22/17 03:05	CMA	3/22/17 23:19	CGS	B
PETROLEUM HC's											
Diesel Range Organics C10-C28	13.6 U	U	mg/kg	13.6	3.2	SW846 8015D	3/23/17 08:55	JTH	3/24/17 08:02	BS	B
Gasoline Range Organics	8060 U	U	ug/kg	8060	1120	SW846 8015D	3/17/17 09:30	DD	3/21/17 15:52	DD	A
Oil Range Oranics C28-C35	13.6 U	U,1	mg/kg	13.6	2.8	SW846 8015D	3/23/17 08:55	JTH	3/24/17 08:02	BS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866008** Date Collected: 3/17/2017 09:30 Matrix: Solid

Sample ID: **SB-JO-DUP1(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	121		%	72 - 134		SW846 8015D	3/17/17 09:30	DD	3/21/17 15:52	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	82.7		%	38 - 118		SW846 8015D	3/23/17 08:55	JTH	3/24/17 08:02	BS	B
PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.0039	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0039	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.012	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0077	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1262	0.042 U	U	mg/kg	0.042	0.0090	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Aroclor-1268	0.042 U	U	mg/kg	0.042	0.012	SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	113		%	49 - 115		SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
Tetrachloro-m-xylene (S)	109		%	27 - 137		SW846 8082A	3/22/17 13:15	JTH	3/23/17 13:24	EGO	G
PESTICIDES											
Aldrin	2.2 U	U	ug/kg	2.2	0.71	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
alpha-BHC	2.2 U	U	ug/kg	2.2	0.19	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
beta-BHC	0.87J	J	ug/kg	2.2	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
delta-BHC	2.2 U	U	ug/kg	2.2	0.17	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
gamma-BHC	2.2 U	U	ug/kg	2.2	0.18	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
alpha-Chlordane	2.2 U	U	ug/kg	2.2	0.23	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
gamma-Chlordane	2.2 U	U	ug/kg	2.2	0.37	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
4,4'-DDD	0.98J	J	ug/kg	4.2	0.35	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
4,4'-DDE	1.9J	J	ug/kg	4.2	0.58	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
4,4'-DDT	13.9		ug/kg	4.2	0.49	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Dieldrin	12.7		ug/kg	4.2	0.49	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Endosulfan I	2.2 U	U	ug/kg	2.2	0.27	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Endosulfan II	4.2 U	U	ug/kg	4.2	0.89	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Endosulfan Sulfate	4.2 U	U	ug/kg	4.2	0.28	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Endrin	1.4J	J	ug/kg	4.2	0.31	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Endrin Aldehyde	4.2 U	U	ug/kg	4.2	0.46	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866008** Date Collected: 3/17/2017 09:30 Matrix: Solid

Sample ID: **SB-JO-DUP1(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Endrin Ketone	4.2 U	U	ug/kg	4.2	0.59	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Heptachlor	2.2 U	U	ug/kg	2.2	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Heptachlor Epoxide	2.2 U	U	ug/kg	2.2	0.22	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Methoxychlor	4.2 U	U	ug/kg	4.2	0.57	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Toxaphene	45.0 U	U	ug/kg	45.0	7.5	SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	67.7		%	30 - 135		SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
Tetrachloro-m-xylene (S)	57.1		%	30 - 111		SW846 8081B	3/22/17 13:15	JTH	3/23/17 20:27	RWS	B
HERBICIDES											
2,4-D	87.6 U	U	ug/kg	87.6	34.0	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
2,4-DB	87.6 U	U	ug/kg	87.6	47.1	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
Dalapon	87.6 U	U	ug/kg	87.6	22.2	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
Dicamba	87.6 U	U	ug/kg	87.6	31.4	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
Dichloroprop	87.6 U	U	ug/kg	87.6	35.3	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
Dinoseb	218 U	U	ug/kg	218	44.4	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
Pentachlorophenol	87.6 U	U	ug/kg	87.6	49.7	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
2,4,5-T	87.6 U	U	ug/kg	87.6	36.6	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
2,4,5-TP	87.6 U	U	ug/kg	87.6	40.5	SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	75.8		%	36 - 113		SW846 8151A	3/22/17 01:35	VLM	3/22/17 10:38	EGO	B
WET CHEMISTRY											
Alkalinity, Total	50J	J,3	mg/kg	65	20	S2320B-97			3/24/17 02:43	MSA	B
Moisture	23.7		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
Total Solids	76.3		%	0.1	0.01	S2540G-11			3/20/17 13:39	VKB	
METALS											
Arsenic, Total	10.6		mg/kg	1.7	0.56	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2
Barium, Total	24.6		mg/kg	2.8	0.89	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2
Cadmium, Total	0.56 U	U	mg/kg	0.56	0.18	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2
Chromium, Total	22.0		mg/kg	1.1	0.37	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2
Lead, Total	21.3		mg/kg	1.1	0.37	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2
Mercury, Total	0.056J	J	mg/kg	0.062	0.020	SW846 7471B	3/20/17 02:35	AXC	3/20/17 06:57	AXC	B1
Selenium, Total	5.6		mg/kg	2.8	0.89	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2
Silver, Total	1.1 U	U	mg/kg	1.1	0.37	SW846 6020A	3/21/17 00:40	ZMC	3/21/17 09:35	ZMC	B2

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866008** Date Collected: 3/17/2017 09:30 Matrix: Solid

Sample ID: **SB-JO-DUP1(9.5-10')** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866009** Date Collected: 3/17/2017 08:00 Matrix: Water

Sample ID: **TB-1(031717)** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.9J	J	ug/L	10.0	3.1	SW846 8260B		3/20/17 11:54	TMP	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/20/17 11:54	TMP	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/20/17 11:54	TMP	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/20/17 11:54	TMP	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/20/17 11:54	TMP	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/20/17 11:54	TMP	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/20/17 11:54	TMP	A
Carbon Disulfide	0.49J	J	ug/L	1.0	0.23	SW846 8260B		3/20/17 11:54	TMP	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/20/17 11:54	TMP	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/20/17 11:54	TMP	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/20/17 11:54	TMP	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/20/17 11:54	TMP	A
Chloroform	1.0 U	U	ug/L	1.0	0.21	SW846 8260B		3/20/17 11:54	TMP	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/20/17 11:54	TMP	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/20/17 11:54	TMP	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/20/17 11:54	TMP	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/20/17 11:54	TMP	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/20/17 11:54	TMP	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/20/17 11:54	TMP	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/20/17 11:54	TMP	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/20/17 11:54	TMP	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/20/17 11:54	TMP	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/20/17 11:54	TMP	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/20/17 11:54	TMP	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/20/17 11:54	TMP	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/20/17 11:54	TMP	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/20/17 11:54	TMP	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/20/17 11:54	TMP	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/20/17 11:54	TMP	A
1,4-Dioxane	320 U	U	ug/L	320	58.9	SW846 8260B		3/20/17 11:54	TMP	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/20/17 11:54	TMP	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/20/17 11:54	TMP	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/20/17 11:54	TMP	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/20/17 11:54	TMP	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/20/17 11:54	TMP	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/20/17 11:54	TMP	A

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

Lab ID: **2215866009** Date Collected: 3/17/2017 08:00 Matrix: Water

Sample ID: **TB-1(031717)** Date Received: 3/17/2017 22:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/20/17 11:54	TMP	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/20/17 11:54	TMP	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/20/17 11:54	TMP	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/20/17 11:54	TMP	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/20/17 11:54	TMP	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/20/17 11:54	TMP	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/20/17 11:54	TMP	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/20/17 11:54	TMP	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/20/17 11:54	TMP	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/20/17 11:54	TMP	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/20/17 11:54	TMP	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/20/17 11:54	TMP	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/20/17 11:54	TMP	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/20/17 11:54	TMP	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/20/17 11:54	TMP	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/20/17 11:54	TMP	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/20/17 11:54	TMP	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	106		%	62 - 133	SW846 8260B			3/20/17 11:54	TMP	A
4-Bromofluorobenzene (S)	93.6		%	79 - 114	SW846 8260B			3/20/17 11:54	TMP	A
Dibromofluoromethane (S)	102		%	78 - 116	SW846 8260B			3/20/17 11:54	TMP	A
Toluene-d8 (S)	94.1		%	76 - 127	SW846 8260B			3/20/17 11:54	TMP	A

Ms. Susan J Scherer
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2215866001	1	SB-JO-7(0-6")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866001	2	SB-JO-7(0-6")	SW846 6020A	Chromium, Total
One of the two matrix spike analyses performed on this sample failed to meet acceptable recovery limits. The other matrix spike was within acceptable recovery limits. Matrix interferences are the possible cause for the failure.				
2215866001	3	SB-JO-7(0-6")	SW846 6020A	Selenium, Total
One of the two matrix spike analyses performed on this sample failed to meet acceptable recovery limits. The other matrix spike was within acceptable recovery limits. Matrix interferences are the possible cause for the failure.				
2215866001	5	SB-JO-7(0-6")	SW846 9045D	pH
The solid pH measured in water was 6.955 at 19.5 degrees C.				
2215866001	6	SB-JO-7(0-6")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866002	1	SB-JO-7(12-18")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866002	2	SB-JO-7(12-18")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866002	3	SB-JO-7(12-18")	SW846 9045D	pH
The solid pH measured in water was 7.391 at 19.7 degrees C.				
2215866003	1	SB-JO-7(4.5-5')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866003	2	SB-JO-7(4.5-5')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866003	3	SB-JO-7(4.5-5')	SW846 9045D	pH
The solid pH measured in water was 7.286 at 19.6 degrees C.				
2215866004	1	SB-JO-7(9.5-10')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866004	2	SB-JO-7(9.5-10')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866004	3	SB-JO-7(9.5-10')	SW846 9045D	pH
The solid pH measured in water was 6.331 at 19.5 degrees C.				
2215866005	1	SB-JO-DUP1(0-6")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866005	2	SB-JO-DUP1(0-6")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866006	1	SB-JO-DUP1(12-18")	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866006	2	SB-JO-DUP1(12-18")	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866007	1	SB-JO-DUP1(5-5.5')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215866007	2	SB-JO-DUP1(5-5.5')	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2215866008	1	SB-JO-DUP1(9.5-10')	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215866 Project Shuttle

2215866008	3	SB-JO-DUP1(9.5-10')	S2320B-97	Alkalinity, Total

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47082 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006

METHOD BLANK: 2503490

Parameter	Blank Result	Units	Reporting Limit
Diesel Range Organics C10-C28	10.6 U	mg/kg	10.6
Oil Range Oranics C28-C35	10.6 U	mg/kg	10.6
o-Terphenyl (S)	95.6	%	38 - 118

LABORATORY CONTROL SAMPLE: 2503491

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	52.5	mg/kg	33.3	17.5	38 - 118
Oil Range Oranics C28-C35	4.33*	mg/kg	13.7	10.6 U	39 - 106
o-Terphenyl (S)	80.2	%			38 - 118

LABORATORY CONTROL SAMPLE: 2503492

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	29.2*	mg/kg	33.3	9.7J	38 - 118
Oil Range Oranics C28-C35	39.5	mg/kg	13.7	5.4J	39 - 106
o-Terphenyl (S)	77.7	%			38 - 118

MATRIX SPIKE SAMPLE: 2503493 ORIGINAL: 2215395004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Diesel Range Organics C10-C28	1.57559	mg/kg	32.5	20.0614	56.9	38 - 118
Oil Range Oranics C28-C35	.97982	mg/kg	13.4	.2769	-5.25*	39 - 106
o-Terphenyl (S)	88	%				38 - 118

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

SAMPLE DUPLICATE: 2503494 ORIGINAL: 2215395009

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Diesel Range Organics C10-C28	1.30853	mg/kg	2.19178	50.5*	30
Oil Range Oranics C28-C35	.64743	mg/kg	.92489	35.3*	30

MATRIX SPIKE SAMPLE: 2503495 ORIGINAL: 2215866002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Diesel Range Organics C10-C28	5.05601	mg/kg	33.1	24.9174	60	38 - 118
Oil Range Oranics C28-C35	.96384	mg/kg	13.6	5.4062	32.6*	39 - 106
o-Terphenyl (S)	96.3	%				38 - 118

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47093 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007

METHOD BLANK: 2503961

Parameter	Blank Result	Units	Reporting Limit
2,4-D	67.0 U	ug/kg	67.0
2,4-DB	67.0 U	ug/kg	67.0
Dalapon	67.0 U	ug/kg	67.0
Dicamba	67.0 U	ug/kg	67.0
Dichloroprop	67.0 U	ug/kg	67.0
Dinoseb	167 U	ug/kg	167
Pentachlorophenol	67.0 U	ug/kg	67.0
2,4,5-T	67.0 U	ug/kg	67.0
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	73.4	%	36 - 113

LABORATORY CONTROL SAMPLE: 2503962

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	81.2	ug/kg	333	271	23 - 130
2,4-DB	52.4	ug/kg	333	175	10 - 130
Dalapon	30	ug/kg	333	100	24 - 65
Dicamba	61.9	ug/kg	333	206	44 - 89
Dichloroprop	61	ug/kg	333	203	36 - 107
Dinoseb	63.4	ug/kg	333	211	25 - 100
Pentachlorophenol	52.1	ug/kg	333	174	43 - 90
2,4,5-T	63	ug/kg	333	210	22 - 132
2,4,5-TP	64.3	ug/kg	333	214	49 - 105
2,4-Dichlorophenylacetic acid (S)	69.9	%			36 - 113

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47097 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005

METHOD BLANK: 2504179

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	50.0 U	ug/kg	50.0
Acenaphthylene	50.0 U	ug/kg	50.0
Anthracene	50.0 U	ug/kg	50.0
Benzo(a)anthracene	50.0 U	ug/kg	50.0
Benzo(a)pyrene	4.0J	ug/kg	50.0
Benzo(b)fluoranthene	50.0 U	ug/kg	50.0
Benzo(g,h,i)perylene	50.0 U	ug/kg	50.0
Benzo(k)fluoranthene	50.0 U	ug/kg	50.0
Chrysene	50.0 U	ug/kg	50.0
Dibenzo(a,h)anthracene	50.0 U	ug/kg	50.0
Fluoranthene	50.0 U	ug/kg	50.0
Fluorene	50.0 U	ug/kg	50.0
Indeno(1,2,3-cd)pyrene	9.1J	ug/kg	50.0
Naphthalene	50.0 U	ug/kg	50.0
Phenanthrene	50.0 U	ug/kg	50.0
Pyrene	5.7J	ug/kg	50.0
2,4,6-Tribromophenol (S)			
2-Fluorobiphenyl (S)	72.1	%	40 - 110
2-Fluorophenol (S)			
Nitrobenzene-d5 (S)	71	%	38 - 112
Phenol-d5 (S)			
Terphenyl-d14 (S)	80.8	%	45 - 126

LABORATORY CONTROL SAMPLE: 2504180

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	84.8	ug/kg	3330	2830	59 - 115
Acenaphthylene	86.3	ug/kg	3330	2880	59 - 114
Anthracene	85.4	ug/kg	3330	2850	63 - 112
Benzo(a)anthracene	86.1	ug/kg	3330	2870	61 - 118
Benzo(a)pyrene	84.8	ug/kg	3330	2830	61 - 114
Benzo(b)fluoranthene	88.8	ug/kg	3330	2960	64 - 113
Benzo(g,h,i)perylene	80.4	ug/kg	3330	2680	61 - 118
Benzo(k)fluoranthene	88.5	ug/kg	3330	2950	62 - 113
Chrysene	91.2	ug/kg	3330	3040	63 - 111

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Dibenzo(a,h)anthracene	88.6	ug/kg	3330	2950	64 - 117
Fluoranthene	85.8	ug/kg	3330	2860	61 - 116
Fluorene	83.2	ug/kg	3330	2770	61 - 112
Indeno(1,2,3-cd)pyrene	87.4	ug/kg	3330	2910	62 - 113
Naphthalene	82.2	ug/kg	3330	2740	56 - 105
Phenanthrene	85.9	ug/kg	3330	2860	62 - 109
Pyrene	83.7	ug/kg	3330	2790	60 - 114
2,4,6-Tribromophenol (S)					
2-Fluorobiphenyl (S)	84.6	%			40 - 110
2-Fluorophenol (S)					
Nitrobenzene-d5 (S)	79.6	%			38 - 112
Phenol-d5 (S)					
Terphenyl-d14 (S)	82.4	%			45 - 126

MATRIX SPIKE SAMPLE: 2504181 ORIGINAL: 2215866002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/kg	3330	2805.14	84.2	59 - 115
Acenaphthylene	0	ug/kg	3330	2848.63	85.5	59 - 114
Anthracene	0	ug/kg	3330	2821.37	84.6	63 - 112
Benzo(a)anthracene	14.3292	ug/kg	3330	2847.15	85	61 - 118
Benzo(a)pyrene	0	ug/kg	3330	2764.76	82.9	61 - 114
Benzo(b)fluoranthene	0	ug/kg	3330	2895.16	86.9	64 - 113
Benzo(g,h,i)perylene	6.42439	ug/kg	3330	2391.72	71.6	61 - 118
Benzo(k)fluoranthene	0	ug/kg	3330	2885.31	86.6	62 - 113
Chrysene	8.23346	ug/kg	3330	2934.69	87.8	63 - 111
Dibenzo(a,h)anthracene	0	ug/kg	3330	2732.12	82	64 - 117
Fluoranthene	12.8352	ug/kg	3330	2823.71	84.3	61 - 116
Fluorene	0	ug/kg	3330	2861.02	85.8	61 - 112
Indeno(1,2,3-cd)pyrene	10.014	ug/kg	3330	2604.56	77.8	62 - 113
Naphthalene	0	ug/kg	3330	2731.78	82	56 - 105
Phenanthrene	6.26211	ug/kg	3330	2826.19	84.6	62 - 109
Pyrene	10.3209	ug/kg	3330	2840.72	84.9	60 - 114
2-Fluorobiphenyl (S)	81.3	%				40 - 110
Nitrobenzene-d5 (S)	76.1	%				38 - 112
Terphenyl-d14 (S)	91.2	%				45 - 126

SAMPLE DUPLICATE: 2504182 ORIGINAL: 2215866005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Acenaphthene	0	ug/kg	0	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	0	ug/kg	0	NC	20
Benzo(a)anthracene	0	ug/kg	5.93583	NC	22
Benzo(a)pyrene	0	ug/kg	0	NC	24
Benzo(b)fluoranthene	0	ug/kg	0	NC	28
Benzo(g,h,i)perylene	0	ug/kg	0	NC	30
Benzo(k)fluoranthene	0	ug/kg	0	NC	22
Chrysene	0	ug/kg	0	NC	20
Dibenzo(a,h)anthracene	0	ug/kg	0	NC	28
Fluoranthene	0	ug/kg	0	NC	21
Fluorene	0	ug/kg	0	NC	16
Indeno(1,2,3-cd)pyrene	0	ug/kg	0	NC	30
Naphthalene	0	ug/kg	0	NC	21
Phenanthrene	0	ug/kg	0	NC	20
Pyrene	0	ug/kg	0	NC	20

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47105 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215866008

METHOD BLANK: 2504843

Parameter	Blank Result	Units	Reporting Limit
2,4-D	67.0 U	ug/kg	67.0
2,4-DB	67.0 U	ug/kg	67.0
Dalapon	67.0 U	ug/kg	67.0
Dicamba	67.0 U	ug/kg	67.0
Dichloroprop	67.0 U	ug/kg	67.0
Dinoseb	167 U	ug/kg	167
Pentachlorophenol	67.0 U	ug/kg	67.0
2,4,5-T	67.0 U	ug/kg	67.0
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	83.9	%	36 - 113

LABORATORY CONTROL SAMPLE: 2504844

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	80.8	ug/kg	333	269	23 - 130
2,4-DB	60.5	ug/kg	333	202	10 - 130
Dalapon	38.7	ug/kg	333	129	24 - 65
Dicamba	70.1	ug/kg	333	234	44 - 89
Dichloroprop	61.1	ug/kg	333	204	36 - 107
Dinoseb	61.1	ug/kg	333	204	25 - 100
Pentachlorophenol	52.5	ug/kg	333	175	43 - 90
2,4,5-T	62.8	ug/kg	333	209	22 - 132
2,4,5-TP	64.1	ug/kg	333	214	49 - 105
2,4-Dichlorophenylacetic acid (S)	73.4	%			36 - 113

MATRIX SPIKE: 2504845 DUPLICATE: 2504846 ORIGINAL: 2215867001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4-D	0	ug/kg	327	290.134	291.248	88.8	89.4	23 - 130	.38	34
2,4-DB	0	ug/kg	327	212.17	254.607	64.9	78.2	10 - 130	18.2	42

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Dalapon	0	ug/kg	327	122.995	126.56	37.6	38.9	24 - 65	2.86	35
Dicamba	0	ug/kg	327	223.354	220.304	68.3	67.6	44 - 89	1.37	24
Dichloroprop	0	ug/kg	327	206.715	207.881	63.3	63.8	36 - 107	.56	26
Dinoseb	0	ug/kg	327	212.255	194.826	65	59.8	25 - 100	8.56	58
Pentachlorophenol	0	ug/kg	327	125.566	131.939	38.4*	40.5*	43 - 90	4.95	19
2,4,5-T	0	ug/kg	327	224.181	223.153	68.6	68.5	22 - 132	.46	18
2,4,5-TP	0	ug/kg	327	213.696	201.312	65.4	61.8	49 - 105	5.97	20
2,4-Dichlorophenylacetic acid (S)	70.3	%				70.3	70.6	36 - 113		

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47110 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215866006, 2215866007, 2215866008

METHOD BLANK: 2504957

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	50.0 U	ug/kg	50.0
Acenaphthylene	50.0 U	ug/kg	50.0
Anthracene	50.0 U	ug/kg	50.0
Benzo(a)anthracene	50.0 U	ug/kg	50.0
Benzo(a)pyrene	50.0 U	ug/kg	50.0
Benzo(b)fluoranthene	50.0 U	ug/kg	50.0
Benzo(g,h,i)perylene	50.0 U	ug/kg	50.0
Benzo(k)fluoranthene	50.0 U	ug/kg	50.0
Chrysene	50.0 U	ug/kg	50.0
Dibenzo(a,h)anthracene	50.0 U	ug/kg	50.0
Fluoranthene	50.0 U	ug/kg	50.0
Fluorene	50.0 U	ug/kg	50.0
Indeno(1,2,3-cd)pyrene	50.0 U	ug/kg	50.0
Naphthalene	50.0 U	ug/kg	50.0
Phenanthrene	50.0 U	ug/kg	50.0
Pyrene	50.0 U	ug/kg	50.0
2,4,6-Tribromophenol (S)			
2-Fluorobiphenyl (S)	94.4	%	40 - 110
2-Fluorophenol (S)			
Nitrobenzene-d5 (S)	92.6	%	38 - 112
Phenol-d5 (S)			
Terphenyl-d14 (S)	97.3	%	45 - 126

LABORATORY CONTROL SAMPLE: 2504958

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	94	ug/kg	3330	3130	59 - 115
Acenaphthylene	96.4	ug/kg	3330	3210	59 - 114
Anthracene	93.5	ug/kg	3330	3120	63 - 112
Benzo(a)anthracene	94.7	ug/kg	3330	3160	61 - 118
Benzo(a)pyrene	94	ug/kg	3330	3130	61 - 114
Benzo(b)fluoranthene	96.1	ug/kg	3330	3200	64 - 113
Benzo(g,h,i)perylene	89.9	ug/kg	3330	3000	61 - 118
Benzo(k)fluoranthene	95.8	ug/kg	3330	3190	62 - 113
Chrysene	102	ug/kg	3330	3400	63 - 111

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Dibenzo(a,h)anthracene	98.7	ug/kg	3330	3290	64 - 117
Fluoranthene	96.8	ug/kg	3330	3230	61 - 116
Fluorene	96.2	ug/kg	3330	3210	61 - 112
Indeno(1,2,3-cd)pyrene	95.3	ug/kg	3330	3180	62 - 113
Naphthalene	90.9	ug/kg	3330	3030	56 - 105
Phenanthrene	94.6	ug/kg	3330	3150	62 - 109
Pyrene	94.1	ug/kg	3330	3140	60 - 114
2,4,6-Tribromophenol (S)					
2-Fluorobiphenyl (S)	89.5	%			40 - 110
2-Fluorophenol (S)					
Nitrobenzene-d5 (S)	87	%			38 - 112
Phenol-d5 (S)					
Terphenyl-d14 (S)	89.5	%			45 - 126

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47117 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2505074

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
gamma-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Endrin Aldehyde	3.3 U	ug/kg	3.3
Endrin Ketone	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Heptachlor Epoxide	1.7 U	ug/kg	1.7
Methoxychlor	3.3 U	ug/kg	3.3
Toxaphene	35.0 U	ug/kg	35.0
Decachlorobiphenyls (S)	75	%	30 - 135
Tetrachloro-m-xylene (S)	61.1	%	30 - 111

LABORATORY CONTROL SAMPLE: 2505075

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	88.1	ug/kg	33.3	29.4	58 - 103
alpha-BHC	88	ug/kg	33.3	29.3	57 - 105
beta-BHC	91	ug/kg	33.3	30.3	53 - 106
delta-BHC	91.6	ug/kg	33.3	30.5	60 - 103
gamma-BHC	88.6	ug/kg	33.3	29.5	59 - 102
alpha-Chlordane	93.9	ug/kg	33.3	31.3	62 - 98
gamma-Chlordane	95.4	ug/kg	33.3	31.8	58 - 103
4,4'-DDD	92	ug/kg	33.3	30.7	57 - 111

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

4,4'-DDE	94.5	ug/kg	33.3	31.5	63 - 112
4,4'-DDT	101	ug/kg	33.3	33.7	60 - 122
Dieldrin	102	ug/kg	33.3	34.1	62 - 109
Endosulfan I	91.1	ug/kg	33.3	30.4	57 - 98
Endosulfan II	86.9	ug/kg	33.3	29.0	59 - 112
Endosulfan Sulfate	79.8	ug/kg	33.3	26.6	27 - 96
Endrin	106	ug/kg	33.3	35.2	63 - 108
Endrin Aldehyde	73.6	ug/kg	33.3	24.5	21 - 92
Endrin Ketone	95.1	ug/kg	33.3	31.7	32 - 103
Heptachlor	102	ug/kg	33.3	34.0	51 - 105
Heptachlor Epoxide	94.3	ug/kg	33.3	31.4	62 - 99
Methoxychlor	111	ug/kg	33.3	36.8	50 - 114
Toxaphene		ug/kg		35.0 U	
Decachlorobiphenyls (S)	78.8	%			30 - 135
Tetrachloro-m-xylene (S)	62.3	%			30 - 111

MATRIX SPIKE SAMPLE: 2505076 ORIGINAL: 2215863001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aldrin	0	ug/kg	31.4	28.2027	89.7	58 - 103
alpha-BHC	0	ug/kg	31.4	26.6738	84.8	57 - 105
beta-BHC	0	ug/kg	31.4	28.4644	90.5	53 - 106
delta-BHC	0	ug/kg	31.4	29.4093	93.5	60 - 103
gamma-BHC	0	ug/kg	31.4	27.1276	86.3	59 - 102
alpha-Chlordane	0	ug/kg	31.4	28.3306	90.1	62 - 98
gamma-Chlordane	0	ug/kg	31.4	28.8879	91.9	58 - 103
4,4'-DDD	.58654	ug/kg	31.4	29.6194	92.3	57 - 111
4,4'-DDE	.33845	ug/kg	31.4	28.8195	90.6	63 - 112
4,4'-DDT	6.3922	ug/kg	31.4	31.1568	78.8	60 - 122
Dieldrin	0	ug/kg	31.4	31.3598	99.7	62 - 109
Endosulfan I	0	ug/kg	31.4	27.5966	87.8	57 - 98
Endosulfan II	0	ug/kg	31.4	26.5726	84.5	59 - 112
Endosulfan Sulfate	0	ug/kg	31.4	25.151	80	27 - 96
Endrin	0	ug/kg	31.4	32.9178	105	63 - 108
Endrin Aldehyde	0	ug/kg	31.4	23.1046	73.5	21 - 92
Endrin Ketone	.28965	ug/kg	31.4	29.9246	94.2	32 - 103
Heptachlor	0	ug/kg	31.4	26.649	84.7	51 - 105
Heptachlor Epoxide	0	ug/kg	31.4	29.909	95.1	62 - 99
Methoxychlor	0	ug/kg	31.4	35.5094	113	50 - 114
Decachlorobiphenyls (S)	76.4	%				30 - 135
Tetrachloro-m-xylene (S)	66.3	%				30 - 111

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

SAMPLE DUPLICATE: 2505077 ORIGINAL: 2215863003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
alpha-Chlordane	0	ug/kg	0	NC	40
gamma-Chlordane	0	ug/kg	0	NC	40
4,4'-DDD	0	ug/kg	0	NC	40
4,4'-DDE	0	ug/kg	0	NC	40
4,4'-DDT	0	ug/kg	0	NC	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40
Endrin	0	ug/kg	0	NC	40
Endrin Aldehyde	0	ug/kg	0	NC	40
Endrin Ketone	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40
Heptachlor Epoxide	0	ug/kg	0	NC	35
Methoxychlor	0	ug/kg	0	NC	40
Toxaphene	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47118 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2505078

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Aroclor-1262	0.033 U	mg/kg	0.033
Aroclor-1268	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	106	%	49 - 115
Tetrachloro-m-xylene (S)	110	%	27 - 137

LABORATORY CONTROL SAMPLE: 2505079

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	93.2	mg/kg	.33	0.31	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	91.2	mg/kg	.33	0.30	53 - 134
Aroclor-1262		mg/kg		0.033 U	
Aroclor-1268		mg/kg		0.033 U	
Decachlorobiphenyls (S)	95.7	%			49 - 115
Tetrachloro-m-xylene (S)	101	%			27 - 137

SAMPLE DUPLICATE: 2505080 ORIGINAL: 2215863003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	0	mg/kg	0	NC	40
Aroclor-1260	0	mg/kg	0	NC	40
Aroclor-1262	0	mg/kg	0	NC	
Aroclor-1268	0	mg/kg	0	NC	

MATRIX SPIKE SAMPLE: 2505081 ORIGINAL: 2215866002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aroclor-1016	0	mg/kg	.32	.27729	86	43 - 132
Aroclor-1260	0	mg/kg	.32	.38448	119	53 - 134
Decachlorobiphenyls (S)	96.1	%				49 - 115
Tetrachloro-m-xylene (S)	101	%				27 - 137

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47127 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 3546

Associated Lab Samples: 2215866007, 2215866008

METHOD BLANK: 2505416

Parameter	Blank Result	Units	Reporting Limit
Diesel Range Organics C10-C28	10.6 U	mg/kg	10.6
Oil Range Oranics C28-C35	10.6 U	mg/kg	10.6
o-Terphenyl (S)	88.5	%	38 - 118

LABORATORY CONTROL SAMPLE: 2505417

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	67.2	mg/kg	33.3	22.4	38 - 118
o-Terphenyl (S)	87.1	%			38 - 118

LABORATORY CONTROL SAMPLE: 2505418

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	40.4	mg/kg	33.3	13.5	38 - 118
Oil Range Oranics C28-C35	66.1	mg/kg	13.7	9.1J	39 - 106
o-Terphenyl (S)	82.4	%			38 - 118

MATRIX SPIKE: 2505419 DUPLICATE: 2505420 ORIGINAL: 2215867002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Diesel Range Organics C10-C28	1.76469	mg/kg	32.9	23.1841	23.6508	65.1	67	38 - 118	1.99	30
Oil Range Oranics C28-C35	.67582	mg/kg	13.6	.40302	.24532	-2.01*	-3.2*	39 - 106	48.6	30
o-Terphenyl (S)	87.7	%				87.7	90	38 - 118		

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: EXTR/47146 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215866001, 2215866002

METHOD BLANK: 2506416

Parameter	Blank Result	Units	Reporting Limit
2,4-D	67.0 U	ug/kg	67.0
2,4-DB	67.0 U	ug/kg	67.0
Dalapon	67.0 U	ug/kg	67.0
Dicamba	67.0 U	ug/kg	67.0
Dichloroprop	67.0 U	ug/kg	67.0
Dinoseb	167 U	ug/kg	167
Pentachlorophenol	67.0 U	ug/kg	67.0
2,4,5-T	67.0 U	ug/kg	67.0
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	72.7	%	36 - 113

LABORATORY CONTROL SAMPLE: 2506417

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	90.1	ug/kg	333	300	23 - 130
2,4-DB	61.2	ug/kg	333	204	10 - 130
Dalapon	41.1	ug/kg	333	137	24 - 65
Dicamba	73.1	ug/kg	333	244	44 - 89
Dichloroprop	64.9	ug/kg	333	216	36 - 107
Dinoseb	72.3	ug/kg	333	241	25 - 100
Pentachlorophenol	54.7	ug/kg	333	182	43 - 90
2,4,5-T	71.3	ug/kg	333	238	22 - 132
2,4,5-TP	70.9	ug/kg	333	236	49 - 105
2,4-Dichlorophenylacetic acid (S)	72.3	%			36 - 113

MATRIX SPIKE: 2506418 DUPLICATE: 2506419 ORIGINAL: 2216436001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4-D	0	ug/kg	324	312.122	281.094	96.4	86.3	23 - 130	10.5	34
2,4-DB	0	ug/kg	324	272.735	248.168	84.3	76.2	10 - 130	9.43	42

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Dalapon	0	ug/kg	324	130.919	104.776	40.5	32.2	24 - 65	22.2	35
Dicamba	0	ug/kg	324	233.347	211.17	72.1	64.8	44 - 89	9.98	24
Dichloroprop	0	ug/kg	324	220.548	199.804	68.1	61.3	36 - 107	9.87	26
Dinoseb	0	ug/kg	324	277.193	310.456	85.7	95.3	25 - 100	11.3	58
Pentachlorophenol	0	ug/kg	324	190.048	180.243	58.7	55.3	43 - 90	5.3	19
2,4,5-T	0	ug/kg	324	260.266	235.455	80.4	72.3	22 - 132	10	18
2,4,5-TP	0	ug/kg	324	238.601	211.297	73.7	64.9	49 - 105	12.1	20
2,4-Dichlorophenylacetic acid (S)	75.6	%				75.6	69.3	36 - 113		

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QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: MDIG/63344 **Analysis Method:** SW846 7471B

QC Batch Method: SW846 7471B

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2503328

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.050 U	mg/kg	0.050

LABORATORY CONTROL SAMPLE: 2503329

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	99.5	mg/kg	.4	0.40	80 - 120

MATRIX SPIKE: 2503330 DUPLICATE: 2503331 ORIGINAL: 2215751002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.23704	mg/kg	.94	1.14151	1.07647	95.9	85.6	80 - 120	5.86	20

MATRIX SPIKE: 2503332 DUPLICATE: 2503333 ORIGINAL: 2215866006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.07309	mg/kg	.98	1.04118	.95849	98.7	93.9	80 - 120	8.27	20

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: MDIG/63376 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3051

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2504049

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	1.5 U	mg/kg	1.5
Barium, Total	2.5 U	mg/kg	2.5
Cadmium, Total	0.50 U	mg/kg	0.50
Chromium, Total	1.0 U	mg/kg	1.0
Lead, Total	1.0 U	mg/kg	1.0
Selenium, Total	2.5 U	mg/kg	2.5
Silver, Total	1.0 U	mg/kg	1.0

LABORATORY CONTROL SAMPLE: 2504050

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	101	mg/kg	20	20.1	80 - 120
Barium, Total	107	mg/kg	200	215	80 - 120
Cadmium, Total	102	mg/kg	20	20.4	80 - 120
Chromium, Total	106	mg/kg	20	21.2	80 - 120
Lead, Total	105	mg/kg	20	20.9	80 - 120
Selenium, Total	96.1	mg/kg	20	19.2	80 - 120
Silver, Total	106	mg/kg	10	10.6	80 - 120

MATRIX SPIKE: 2504051 DUPLICATE: 2504052 ORIGINAL: 2215866001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	7.71618	mg/kg	19.6	24.57451	23.36618	86	79.8	75 - 125	5.04	20
Barium, Total	95.12647	mg/kg	196	273.7946	266.7019	91.1	87.5	75 - 125	2.62	20
Cadmium, Total	.08922	mg/kg	19.6	16.57451	15.86471	84.1	80.5	75 - 125	4.38	20
Chromium, Total	15.64706	mg/kg	19.6	36.75147	28.90735	108	67.6*	75 - 125	23.9	20
Lead, Total	12.85392	mg/kg	19.6	32.89608	32.65098	102	101	75 - 125	.75	20
Selenium, Total	5.41569	mg/kg	19.6	20.14608	18.86127	75.1	68.6*	75 - 125	6.59	20
Silver, Total	.05931	mg/kg	9.8	8.75196	8.45392	88.7	85.6	75 - 125	3.46	20

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QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: VOGC/9428 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 5035

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2504258

Parameter	Blank Result	Units	Reporting Limit
Gasoline Range Organics	4820J	ug/kg	10000
a,a,a-Trifluorotoluene (S)	119	%	72 - 134

LABORATORY CONTROL SAMPLE: 2504259

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Gasoline Range Organics	91	ug/kg	100000	91000	73 - 133
a,a,a-Trifluorotoluene (S)	102	%			72 - 134

MATRIX SPIKE: 2504420 DUPLICATE: 2504421 ORIGINAL: 2215661005

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Gasoline Range Organics	3744.08	ug/kg	83800	74324.3	71964.3	84.3	81.5	73 - 133	3.23	18
a,a,a-Trifluorotoluene (S)	95.2	%				95.2	85.5	72 - 134		

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: VOMS/42768 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 2215866009

METHOD BLANK: 2503563

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/L	10.0
Benzene	1.0 U	ug/L	1.0
Bromochloromethane	1.0 U	ug/L	1.0
Bromodichloromethane	1.0 U	ug/L	1.0
Bromoform	1.0 U	ug/L	1.0
Bromomethane	1.0 U	ug/L	1.0
2-Butanone	10.0 U	ug/L	10.0
Carbon Disulfide	1.0 U	ug/L	1.0
Carbon Tetrachloride	1.0 U	ug/L	1.0
Chlorobenzene	1.0 U	ug/L	1.0
Chlorodibromomethane	1.0 U	ug/L	1.0
Chloroethane	1.0 U	ug/L	1.0
Chloroform	1.0 U	ug/L	1.0
Chloromethane	1.0 U	ug/L	1.0
Cyclohexane	1.0 U	ug/L	1.0
1,2-Dibromo-3-chloropropane	7.0 U	ug/L	7.0
1,2-Dibromoethane	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	1.0 U	ug/L	1.0
Dichlorodifluoromethane	1.0 U	ug/L	1.0
1,1-Dichloroethane	1.0 U	ug/L	1.0
1,2-Dichloroethane	1.0 U	ug/L	1.0
1,1-Dichloroethene	1.0 U	ug/L	1.0
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0
1,2-Dichloropropane	1.0 U	ug/L	1.0
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0
1,4-Dioxane	320 U	ug/L	320
Ethylbenzene	1.0 U	ug/L	1.0
Freon 113	1.0 U	ug/L	1.0
2-Hexanone	5.0 U	ug/L	5.0
Isopropylbenzene	1.0 U	ug/L	1.0
Methyl acetate	2.0 U	ug/L	2.0
Methyl cyclohexane	1.0 U	ug/L	1.0
Methyl t-Butyl Ether	1.0 U	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

4-Methyl-2-Pentanone(MIBK)	5.0 U	ug/L	5.0
Methylene Chloride	1.0 U	ug/L	1.0
Styrene	1.0 U	ug/L	1.0
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0
Tetrachloroethene	1.0 U	ug/L	1.0
Toluene	1.0 U	ug/L	1.0
Total Xylenes	3.0 U	ug/L	3.0
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0
1,2,4-Trichlorobenzene	2.0 U	ug/L	2.0
1,1,1-Trichloroethane	1.0 U	ug/L	1.0
1,1,2-Trichloroethane	1.0 U	ug/L	1.0
Trichloroethene	1.0 U	ug/L	1.0
Trichlorofluoromethane	1.0 U	ug/L	1.0
Vinyl Chloride	1.0 U	ug/L	1.0
o-Xylene	1.0 U	ug/L	1.0
mp-Xylene	2.0 U	ug/L	2.0
1,2-Dichloroethane-d4 (S)	107	%	62 - 133
4-Bromofluorobenzene (S)	97.4	%	79 - 114
Dibromofluoromethane (S)	101	%	78 - 116
Toluene-d8 (S)	96.3	%	76 - 127

LABORATORY CONTROL SAMPLE: 2503564

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	132	ug/L	100	132	40 - 151
Benzene	103	ug/L	20	20.5	80 - 124
Bromochloromethane	119*	ug/L	20	23.9	73 - 117
Bromodichloromethane	107	ug/L	20	21.5	79 - 126
Bromoform	110	ug/L	20	21.9	70 - 123
Bromomethane	146	ug/L	20	29.2	45 - 148
2-Butanone	111	ug/L	100	111	50 - 152
Carbon Disulfide	100	ug/L	20	20.0	57 - 131
Carbon Tetrachloride	119	ug/L	20	23.7	62 - 132
Chlorobenzene	99.6	ug/L	20	19.9	85 - 117
Chlorodibromomethane	102	ug/L	20	20.3	77 - 122
Chloroethane	129	ug/L	20	25.7	51 - 142
Chloroform	116	ug/L	20	23.3	78 - 122
Chloromethane	144	ug/L	20	28.9	38 - 156
Cyclohexane	109	ug/L	20	21.9	66 - 130
1,2-Dibromo-3-chloropropane	111	ug/L	20	22.3	59 - 133
1,2-Dibromoethane	101	ug/L	20	20.3	80 - 124
1,2-Dichlorobenzene	96	ug/L	20	19.2	82 - 118
1,3-Dichlorobenzene	99	ug/L	20	19.8	81 - 118

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

1,4-Dichlorobenzene	98.8	ug/L	20	19.8	81 - 116
Dichlorodifluoromethane	116	ug/L	20	23.3	17 - 166
1,1-Dichloroethane	109	ug/L	20	21.8	78 - 124
1,2-Dichloroethane	105	ug/L	20	21.0	70 - 133
1,1-Dichloroethene	107	ug/L	20	21.4	63 - 128
cis-1,2-Dichloroethene	104	ug/L	20	20.9	78 - 125
trans-1,2-Dichloroethene	108	ug/L	20	21.6	71 - 122
1,2-Dichloropropane	107	ug/L	20	21.4	81 - 127
cis-1,3-Dichloropropene	103	ug/L	20	20.6	81 - 121
trans-1,3-Dichloropropene	115	ug/L	20	23.0	78 - 126
1,4-Dioxane	42.7	ug/L	500	213J	1 - 280
Ethylbenzene	105	ug/L	20	21.0	80 - 124
Freon 113	113	ug/L	20	22.6	50 - 130
2-Hexanone	108	ug/L	100	108	65 - 154
Isopropylbenzene	100	ug/L	20	20.1	73 - 129
Methyl acetate	128	ug/L	20	25.7	70 - 130
Methyl cyclohexane	115	ug/L	20	23.0	70 - 130
Methyl t-Butyl Ether	100	ug/L	20	20.1	69 - 115
4-Methyl-2-Pentanone(MIBK)	109	ug/L	100	109	71 - 146
Methylene Chloride	105	ug/L	20	21.0	76 - 121
Styrene	103	ug/L	20	20.7	79 - 123
1,1,2,2-Tetrachloroethane	107	ug/L	20	21.5	74 - 135
Tetrachloroethene	97.1	ug/L	20	19.4	72 - 124
Toluene	107	ug/L	20	21.3	80 - 125
Total Xylenes	101	ug/L	60	60.8	79 - 125
1,2,3-Trichlorobenzene	82.4	ug/L	20	16.5	61 - 126
1,2,4-Trichlorobenzene	87.7	ug/L	20	17.5	67 - 123
1,1,1-Trichloroethane	109	ug/L	20	21.8	66 - 130
1,1,2-Trichloroethane	99.9	ug/L	20	20.0	82 - 126
Trichloroethene	95.4	ug/L	20	19.1	77 - 124
Trichlorofluoromethane	134*	ug/L	20	26.9	38 - 123
Vinyl Chloride	121	ug/L	20	24.3	27 - 138
o-Xylene	96.4	ug/L	20	19.3	79 - 124
mp-Xylene	104	ug/L	40	41.6	79 - 125
1,2-Dichloroethane-d4 (S)	97.9	%			62 - 133
4-Bromofluorobenzene (S)	91.4	%			79 - 114
Dibromofluoromethane (S)	94.5	%			78 - 116
Toluene-d8 (S)	92.3	%			76 - 127

MATRIX SPIKE: 2503755 DUPLICATE: 2503756 ORIGINAL: 2215728001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

trans-1,2-Dichloroethene	1.06634	ug/L	20	22.7244	24.2969	108	116	71 - 122	6.69	22
Trichloroethene	106.829	ug/L	20	121.704	122.272	NC	NC	77 - 124	.47	18
Vinyl Chloride	10.3761	ug/L	20	33.3623	34.548	115	121	27 - 138	3.49	40
1,2-Dichloroethane-d4 (S)	101	%				101	97.2	62 - 133		
4-Bromofluorobenzene (S)	85.4	%				85.4	90.5	79 - 114		
Dibromofluoromethane (S)	93.6	%				93.6	91.2	78 - 116		
Toluene-d8 (S)	87.9	%				87.9	93	76 - 127		

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: VOMS/42772 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 5035

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2503924

Parameter	Blank Result	Units	Reporting Limit
Benzene	2.0 U	ug/kg	2.0
Ethylbenzene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,2-Dichloroethane-d4 (S)	99.3	%	56 - 124
4-Bromofluorobenzene (S)	105	%	51 - 128
Dibromofluoromethane (S)	106	%	62 - 123
Toluene-d8 (S)	109	%	59 - 131

LABORATORY CONTROL SAMPLE: 2503925 DUPLICATE: 2503926

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Benzene	100	ug/kg	20	20.1	20.6	103	75 - 132	2.64	40
Ethylbenzene	106	ug/kg	20	21.3	21.7	108	73 - 133	2.02	40
Toluene	103	ug/kg	20	20.6	20.7	103	73 - 129	.18	40
Total Xylenes	106	ug/kg	60	63.8	64.6	108	73 - 130	1.35	40
1,2-Dichloroethane-d4 (S)	101	%			101		56 - 124		
4-Bromofluorobenzene (S)	101	%			101		51 - 128		
Dibromofluoromethane (S)	106	%			106		62 - 123		
Toluene-d8 (S)	105	%			105		59 - 131		

MATRIX SPIKE SAMPLE: 2504312 ORIGINAL: 2215866006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Benzene	0	ug/kg	18.2	15.2816	84	75 - 132
Ethylbenzene	0	ug/kg	18.2	15.8882	87.4	73 - 133
Toluene	0	ug/kg	18.2	15.4536	85	73 - 129
Total Xylenes	0	ug/kg	54.5	47.2376	86.6	73 - 130
1,2-Dichloroethane-d4 (S)	103	%				56 - 124
4-Bromofluorobenzene (S)	101	%				51 - 128
Dibromofluoromethane (S)	107	%				62 - 123

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Toluene-d8 (S)	104	%	59 - 131

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: VOMS/42776 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 5035

Associated Lab Samples: 2215866004, 2215866008

METHOD BLANK: 2504345

Parameter	Blank Result	Units	Reporting Limit
Benzene	2.0 U	ug/kg	2.0
Ethylbenzene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,2-Dichloroethane-d4 (S)	92.5	%	56 - 124
4-Bromofluorobenzene (S)	101	%	51 - 128
Dibromofluoromethane (S)	105	%	62 - 123
Toluene-d8 (S)	110	%	59 - 131

LABORATORY CONTROL SAMPLE: 2504346 DUPLICATE: 2504347

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Benzene	102	ug/kg	20	20.4	21.0	105	75 - 132	2.65	40
Ethylbenzene	104	ug/kg	20	20.9	21.8	109	73 - 133	4.19	40
Toluene	103	ug/kg	20	20.5	20.9	104	73 - 129	1.66	40
Total Xylenes	104	ug/kg	60	62.6	65.0	108	73 - 130	3.82	40
1,2-Dichloroethane-d4 (S)	103	%			103		56 - 124		
4-Bromofluorobenzene (S)	101	%			101		51 - 128		
Dibromofluoromethane (S)	106	%			106		62 - 123		
Toluene-d8 (S)	105	%			105		59 - 131		

MATRIX SPIKE SAMPLE: 2504837 ORIGINAL: 2215867020

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Benzene	0	ug/kg	16.4	14.5463	88.6	75 - 132
Ethylbenzene	0	ug/kg	16.4	15.1681	92.4	73 - 133
Toluene	0	ug/kg	16.4	14.243	86.7	73 - 129
Total Xylenes	0	ug/kg	49.3	45.2446	91.8	73 - 130
1,2-Dichloroethane-d4 (S)	106	%				56 - 124
4-Bromofluorobenzene (S)	100	%				51 - 128
Dibromofluoromethane (S)	108	%				62 - 123

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Toluene-d8 (S)	102	%	59 - 131

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: WETC/184539 **Analysis Method:** S2540G-11

QC Batch Method: S2540G-11

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

SAMPLE DUPLICATE: 2503835 ORIGINAL: 2215766001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	6.5433	%	6.7291	2.8	10
Total Solids	93.4566	%	93.2708	.2	5

SAMPLE DUPLICATE: 2503836 ORIGINAL: 2215805001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	98.1972	%	98.1699	.03	10
Total Solids	1.8027	%	1.83	1.5	5

SAMPLE DUPLICATE: 2503837 ORIGINAL: 2215849001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	9.8643	%	10.6796	7.94	10
Total Solids	90.1356	%	89.3203	.91	5

SAMPLE DUPLICATE: 2503838 ORIGINAL: 2215866006

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	20.5231	%	22.8512	10.7*	10
Total Solids	79.4768	%	77.1487	2.97	5

SAMPLE DUPLICATE: 2503839 ORIGINAL: 2215867008

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.0365	%	26.454	1.59	10
Total Solids	73.9634	%	73.5459	.57	5

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QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

SAMPLE DUPLICATE: 2503840 ORIGINAL: 2215867018

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	14.8026	%	14.0228	5.41	10
Total Solids	85.1973	%	85.9771	.91	5

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: WETC/184632 **Analysis Method:** S2320B-97

QC Batch Method: S2320B-97

Associated Lab Samples: 2215866001, 2215866002, 2215866003, 2215866004, 2215866005, 2215866006, 2215866007, 2215866008

METHOD BLANK: 2504848

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504850 ORIGINAL: 2215395001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	11.18876	mg/kg	16.76388	39.9*	20

METHOD BLANK: 2504852

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504854 ORIGINAL: 2215395012

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	2.94124	mg/kg	6.4111	74.2*	20

METHOD BLANK: 2504856

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504858 ORIGINAL: 2215867001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

Alkalinity, Total	135.7672	mg/kg	307.8146	77.6*	20

METHOD BLANK: 2504860

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

SAMPLE DUPLICATE: 2504862 ORIGINAL: 2215867011

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	11.44201	mg/kg	15.66747	31.2*	20

METHOD BLANK: 2504864

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	50 U	mg/kg	50

QUALITY CONTROL DATA

Workorder: 2215866 Project Shuttle

QC Batch: WETC/184754 **Analysis Method:** S2320B-97

QC Batch Method: S2320B-97

Associated Lab Samples: 2215866008

METHOD BLANK: 2506295

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	15J	mg/kg	50

SAMPLE DUPLICATE: 2506297 ORIGINAL: 2215866008

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Alkalinity, Total	38.04	mg/kg	36.96	2.88	20

METHOD BLANK: 2506299

Parameter	Blank Result	Units	Reporting Limit
Alkalinity, Total	16J	mg/kg	50

QUALITY CONTROL DATA QUALIFIERS

Workorder: 2215866 Project Shuttle

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2503564	1	Lab Control Standard	SW846 8260B	Bromochloromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 119 and the control limits were 73 to 117.				
2503564	2	Lab Control Standard	SW846 8260B	Trichlorofluoromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 134 and the control limits were 38 to 123.				
2504848	3	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504850	4	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504852	5	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504854	6	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504856	7	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504858	8	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504860	9	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504862	10	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2504864	11	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2506295	12	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2506297	13	Duplicate	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				
2506299	14	Method Blank	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/Kg.				

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215866 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215866001	SB-JO-7(0-6")	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866002	SB-JO-7(12-18")	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866003	SB-JO-7(4.5-5')	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866004	SB-JO-7(9.5-10')	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866005	SB-JO-DUP1(0-6")	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866006	SB-JO-DUP1(12-18")	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866007	SB-JO-DUP1(5-5.5')	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866008	SB-JO-DUP1(9.5-10')	SW846 7471B	MDIG/63344	SW846 7471B	META/56523
2215866001	SB-JO-7(0-6")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215866002	SB-JO-7(12-18")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215866003	SB-JO-7(4.5-5')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215866004	SB-JO-7(9.5-10')	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215866005	SB-JO-DUP1(0-6")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215866006	SB-JO-DUP1(12-18")	SW846 3546	EXTR/47082	SW846 8015D	SVGC/44838
2215866009	TB-1(031717)			SW846 8260B	VOMS/42768
2215866001	SB-JO-7(0-6")			S2540G-11	WETC/184539
2215866002	SB-JO-7(12-18")			S2540G-11	WETC/184539
2215866003	SB-JO-7(4.5-5')			S2540G-11	WETC/184539
2215866004	SB-JO-7(9.5-10')			S2540G-11	WETC/184539
2215866005	SB-JO-DUP1(0-6")			S2540G-11	WETC/184539
2215866006	SB-JO-DUP1(12-18")			S2540G-11	WETC/184539
2215866007	SB-JO-DUP1(5-5.5')			S2540G-11	WETC/184539
2215866008	SB-JO-DUP1(9.5-10')			S2540G-11	WETC/184539
2215866001	SB-JO-7(0-6")	SW846 5035	VOMS/42772	SW846 8260B	VOMS/42773
2215866002	SB-JO-7(12-18")	SW846 5035	VOMS/42772	SW846 8260B	VOMS/42773
2215866003	SB-JO-7(4.5-5')	SW846 5035	VOMS/42772	SW846 8260B	VOMS/42773
2215866005	SB-JO-DUP1(0-6")	SW846 5035	VOMS/42772	SW846 8260B	VOMS/42773
2215866006	SB-JO-DUP1(12-18")	SW846 5035	VOMS/42772	SW846 8260B	VOMS/42773

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215866 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215866007	SB-JO-DUP1(5-5.5')	SW846 5035	VOMS/42772	SW846 8260B	VOMS/42773
2215866003	SB-JO-7(4.5-5')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215866004	SB-JO-7(9.5-10')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215866005	SB-JO-DUP1(0-6")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215866006	SB-JO-DUP1(12-18")	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215866007	SB-JO-DUP1(5-5.5')	SW846 8151A	EXTR/47093	SW846 8151A	SVGC/44841
2215866001	SB-JO-7(0-6")	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866002	SB-JO-7(12-18")	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866003	SB-JO-7(4.5-5')	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866004	SB-JO-7(9.5-10')	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866005	SB-JO-DUP1(0-6")	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866006	SB-JO-DUP1(12-18")	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866007	SB-JO-DUP1(5-5.5')	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866008	SB-JO-DUP1(9.5-10')	SW846 3051	MDIG/63376	SW846 6020A	META/56543
2215866001	SB-JO-7(0-6")			SW846 9045D	WETC/184574
2215866002	SB-JO-7(12-18")			SW846 9045D	WETC/184574
2215866003	SB-JO-7(4.5-5')			SW846 9045D	WETC/184574
2215866004	SB-JO-7(9.5-10')			SW846 9045D	WETC/184574
2215866001	SB-JO-7(0-6")	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215866002	SB-JO-7(12-18")	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215866003	SB-JO-7(4.5-5')	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215866004	SB-JO-7(9.5-10')	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215866005	SB-JO-DUP1(0-6")	SW846 3546	EXTR/47097	SW846 8270D	SVMS/27785
2215866001	SB-JO-7(0-6")	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866002	SB-JO-7(12-18")	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866003	SB-JO-7(4.5-5')	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215866 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215866004	SB-JO-7(9.5-10')	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866005	SB-JO-DUP1(0-6")	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866006	SB-JO-DUP1(12-18")	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866007	SB-JO-DUP1(5-5.5')	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866008	SB-JO-DUP1(9.5-10')	SW846 5035	VOGC/9428	SW846 8015D	VOGC/9429
2215866004	SB-JO-7(9.5-10')	SW846 5035	VOMS/42776	SW846 8260B	VOMS/42777
2215866008	SB-JO-DUP1(9.5-10')	SW846 5035	VOMS/42776	SW846 8260B	VOMS/42777
2215866008	SB-JO-DUP1(9.5-10')	SW846 8151A	EXTR/47105	SW846 8151A	SVGC/44850
2215866001	SB-JO-7(0-6")			S2320B-97	WETC/184632
2215866002	SB-JO-7(12-18")			S2320B-97	WETC/184632
2215866003	SB-JO-7(4.5-5')			S2320B-97	WETC/184632
2215866004	SB-JO-7(9.5-10')			S2320B-97	WETC/184632
2215866005	SB-JO-DUP1(0-6")			S2320B-97	WETC/184632
2215866006	SB-JO-DUP1(12-18")			S2320B-97	WETC/184632
2215866007	SB-JO-DUP1(5-5.5')			S2320B-97	WETC/184632
2215866006	SB-JO-DUP1(12-18")	SW846 3546	EXTR/47110	SW846 8270D	SVMS/27795
2215866007	SB-JO-DUP1(5-5.5')	SW846 3546	EXTR/47110	SW846 8270D	SVMS/27795
2215866008	SB-JO-DUP1(9.5-10')	SW846 3546	EXTR/47110	SW846 8270D	SVMS/27795
2215866001	SB-JO-7(0-6")	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866002	SB-JO-7(12-18")	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866003	SB-JO-7(4.5-5')	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866004	SB-JO-7(9.5-10')	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866005	SB-JO-DUP1(0-6")	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866006	SB-JO-DUP1(12-18")	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866007	SB-JO-DUP1(5-5.5')	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868
2215866008	SB-JO-DUP1(9.5-10')	SW846 3546	EXTR/47117	SW846 8081B	SVGC/44868

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215866 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215866001	SB-JO-7(0-6")	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866002	SB-JO-7(12-18")	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866003	SB-JO-7(4.5-5')	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866004	SB-JO-7(9.5-10')	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866005	SB-JO-DUP1(0-6")	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866006	SB-JO-DUP1(12-18")	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866007	SB-JO-DUP1(5-5.5')	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866008	SB-JO-DUP1(9.5-10')	SW846 3546	EXTR/47118	SW846 8082A	SVGC/44858
2215866007	SB-JO-DUP1(5-5.5')	SW846 3546	EXTR/47127	SW846 8015D	SVGC/44879
2215866008	SB-JO-DUP1(9.5-10')	SW846 3546	EXTR/47127	SW846 8015D	SVGC/44879
2215866008	SB-JO-DUP1(9.5-10')			S2320B-97	WETC/184754
2215866001	SB-JO-7(0-6")	SW846 8151A	EXTR/47146	SW846 8151A	SVGC/44882
2215866002	SB-JO-7(12-18")	SW846 8151A	EXTR/47146	SW846 8151A	SVGC/44882

Jefferson Orchard

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

55

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2

Courier:
Tracking #:

* 2 2 1 5 8 6 6 *

Co. Name: ERM
Contact (Report to): David Connelly
Phone: (304) 757-4777
Address: 204 Chase Drive
Hurricane, WV 25526
Bill to (if different than Report to): Same As Above
PO#: 0397010
Project Name/#: Project Shuttle
ALS Quote #:
TAT: Normal-Standard TAT is 10-12 business days. / Rush-Subject to ALS approval and surcharges. 5-DAY
Date Required: 3/28/17 Approved By: Paul Painter
Email? X Y David.Connelly@erm.com +
Fax? Y No.: Megan.Innis@erm.com

	pH/Alkalinity	VOCs	TPH-GRO	TPH-DRO/ORO, RCRA 8 metals, PAH, PCB, Pest, Herbs	Alkalinity only
***Container Type	CG	TOC	CG	CG	CG
***Container Size	4oz	—	40ml	16oz	4oz
***Preservative	—	Di H2O	MeOH	—	—

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	pH/Alkalinity	VOCs	TPH-GRO	TPH-DRO/ORO, RCRA 8 metals, PAH, PCB, Pest, Herbs	Alkalinity only
1 SB-JD-7 (0-6")		3/17/17	0815	G	SO	X	X	X	X	error
2 SB-JD-7 (12-18")		↓	0825	↓	↓	X	X	X	X	~~X~~
3 SB-JD-7 (4.5-5')		↓	0832	↓	↓	X	X	X	X	~~X~~
4 SB-JD-7 (9.5-10')		↓	0842	↓	↓	X	X	X	X	~~X~~
5 SB-JD-DUP1 (0-6")		↓	0905	↓	↓	X	X	X	X	
6 SB-JD-DUP1 (12-18")		↓	0915	↓	↓		X	X	X	X
7 SB-JD-DUP1 (5-5.5')		↓	0920	↓	↓		X	X	X	X
8 SB-JD-DUP1 (9.5-10')		↓	0930	↓	↓		X	X	X	X

(completed by Sample Receiving)
Preferred: [illegible]
Cooler Temp: 1
Therm. ID: 356
No. of Coolers:
Notes:

Circle appropriate Y or N.		
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	(N)
Custody seals Present?	Y	(N)
(If present) Seals intact?	Y	(N)
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	Megan Innis	3/17/17	455 PM	2	[signature] / ALS	3/17	1655
3	[signature]	3/17		4	[signature]		1930
5	[signature] ALS		2240	6	[signature]	3/17	2240
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [X] If yes, format type: Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ] Other: West Virginia

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

Jefferson Orchard

ALS Environmental

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Middletown, PA 17057
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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Page 2 of 2

Courier:

Tracking #:

Sdele COC#

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: ERM

Contact (Report to): David Connelly Phone: (304)7574777

Address: 204 Chase Drive
Hurricane, WV 25526

Bill to (if different than Report to): Same As Above PO#: 0397010

Project Name/#: Project Shuttle ALS Quote #:

TAT: ☐ Normal-Standard TAT is 10-12 business days. Date Required: 3/28/17
☐ Rush-Subject to ALS approval and surcharges. 5 DAY Approved By: Paul Painter

Email? ☒ Y David.Connelly@erm.com +
Fax? ☐ Y No: Megan.Innis@erm.com

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	***Container Type	***Container Size	*** Preservative	ANALYSES/METHOD REQUESTED										Enter Number of Containers Per Analysis
						CG	40mL	HCl											
											VOCs (78)								
1 TB-1 (031717)		3/17/17	0800	G	W				X										
2																			
3																			
4																			
5																			
6																			
7																			
8																			

Receipt Information (completed by Sample Receiving)
Performed by: SES
Cooler Temp: 1
Therm. ID: 318
No. of Coolers:
Notes:

Circle appropriate Y or N.	Container in good condition?	COC/Labels complete/accurate?	Received on ice?	(if present) Seals intact?	Custody seals Present?	Correct sample volume?	Correct containers?
N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Megan Innis	3/17/17	1455PM	2 [signature]	3/17	1655
3 [signature]	3/17		4		1730
5		2240	6 [signature]	3/17	2240
7			8		
9			10		

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ env

EDDs Required? ☒ If yes, format type: Excel

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected in? MD ☐ NJ ☐ NY ☐ PA ☐ Other West Virginia

DOD Criteria Required?

ALS FIELD SERVICES
☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 28, 2017

Mr. David Connelly
Environmental Resource Management (ERM)-WV
204 Chase Drive
Hurricane, WV 25526

Certificate of Analysis

Project Name:	**JEFFERSON COUNTY**	Workorder:	**2215051**
Purchase Order:	**0397010**	Workorder ID:	**Project Shuttle**

Dear Mr. Connelly:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, March 15, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Megan Innis , Mr. James Hemme

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2215051 Project Shuttle

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2215051001	W-JO-Labor Camp	Ground Water	3/15/2017 09:00	3/15/2017 21:40	Ms. Megan Innis
2215051002	TB-2(031517)	Water	3/15/2017 08:30	3/15/2017 21:40	Ms. Megan Innis

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2215051 Project Shuttle

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

PROJECT SUMMARY

Workorder: 2215051 Project Shuttle

Workorder Comments

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051001** Date Collected: 3/15/2017 09:00 Matrix: Ground Water

Sample ID: **W-JO-Labor Camp** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	10.0 U	U	ug/L	10.0	3.1	SW846 8260B		3/17/17 07:55	SYB	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 07:55	SYB	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 07:55	SYB	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 07:55	SYB	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 07:55	SYB	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 07:55	SYB	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 07:55	SYB	A
Carbon Disulfide	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 07:55	SYB	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 07:55	SYB	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 07:55	SYB	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 07:55	SYB	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 07:55	SYB	A
Chloroform	0.30J	J	ug/L	1.0	0.21	SW846 8260B		3/17/17 07:55	SYB	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 07:55	SYB	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 07:55	SYB	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 07:55	SYB	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 07:55	SYB	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 07:55	SYB	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 07:55	SYB	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 07:55	SYB	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 07:55	SYB	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 07:55	SYB	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 07:55	SYB	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 07:55	SYB	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 07:55	SYB	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 07:55	SYB	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 07:55	SYB	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 07:55	SYB	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 07:55	SYB	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 07:55	SYB	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 07:55	SYB	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 07:55	SYB	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 07:55	SYB	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 07:55	SYB	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 07:55	SYB	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 07:55	SYB	A

ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051001** Date Collected: 3/15/2017 09:00 Matrix: Ground Water

Sample ID: **W-JO-Labor Camp** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 07:55	SYB	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 07:55	SYB	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 07:55	SYB	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 07:55	SYB	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 07:55	SYB	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 07:55	SYB	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 07:55	SYB	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 07:55	SYB	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 07:55	SYB	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 07:55	SYB	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 07:55	SYB	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 07:55	SYB	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 07:55	SYB	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 07:55	SYB	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 07:55	SYB	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 07:55	SYB	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.4		%	62 - 133	SW846 8260B			3/17/17 07:55	SYB	A
4-Bromofluorobenzene (S)	91.5		%	79 - 114	SW846 8260B			3/17/17 07:55	SYB	A
Dibromofluoromethane (S)	95.9		%	78 - 116	SW846 8260B			3/17/17 07:55	SYB	A
Toluene-d8 (S)	94.8		%	76 - 127	SW846 8260B			3/17/17 07:55	SYB	A

SEMIVOLATILES

Acenaphthene	1.4 U	U	ug/L	1.4	0.14	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Acenaphthylene	1.4 U	U	ug/L	1.4	0.18	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Anthracene	1.4 U	U	ug/L	1.4	0.14	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Benzo(a)anthracene	1.4 U	U	ug/L	1.4	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Benzo(a)pyrene	1.4 U	U	ug/L	1.4	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Benzo(b)fluoranthene	1.4 U	U	ug/L	1.4	0.10	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Benzo(g,h,i)perylene	1.4 U	U	ug/L	1.4	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Benzo(k)fluoranthene	1.4 U	U	ug/L	1.4	0.18	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Chrysene	1.4 U	U	ug/L	1.4	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Dibenzo(a,h)anthracene	1.4 U	U	ug/L	1.4	0.20	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Fluoranthene	1.4 U	U	ug/L	1.4	0.16	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Fluorene	1.4 U	U	ug/L	1.4	0.19	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Indeno(1,2,3-cd)pyrene	1.4 U	U	ug/L	1.4	0.094	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Naphthalene	1.4 U	U	ug/L	1.4	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Phenanthrene	1.4 U	U	ug/L	1.4	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I

ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051001** Date Collected: 3/15/2017 09:00 Matrix: Ground Water

Sample ID: **W-JO-Labor Camp** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Pyrene	1.4 U	U	ug/L	1.4	0.15	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	45.7	2	%	52 - 118		SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Nitrobenzene-d5 (S)	49.2		%	27 - 139		SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
Terphenyl-d14 (S)	49.9		%	46 - 133		SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:00	GEC	I
SEMIVOLATILE SIM											
Acenaphthene	0.094 U	U	ug/L	0.094	0.010	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Acenaphthylene	0.094 U	U	ug/L	0.094	0.010	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Anthracene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Benzo(a)anthracene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Benzo(a)pyrene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Benzo(b)fluoranthene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Benzo(g,h,i)perylene	0.094 U	U	ug/L	0.094	0.036	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Benzo(k)fluoranthene	0.094 U	U	ug/L	0.094	0.024	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Chrysene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Dibenzo(a,h)anthracene	0.066 U	U	ug/L	0.066	0.022	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
1,4-Dioxane	0.094 U	U	ug/L	0.094	0.018	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Fluoranthene	0.094 U	U	ug/L	0.094	0.017	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Fluorene	0.094 U	U	ug/L	0.094	0.014	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Indeno(1,2,3-cd)pyrene	0.094 U	U	ug/L	0.094	0.039	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Naphthalene	0.094 U	U	ug/L	0.094	0.035	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Phenanthrene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Pyrene	0.094 U	U	ug/L	0.094	0.014	8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	56.4		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
2-Methylnapthalene-d10 (S)	56.4		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Fluoranthene-d10 (S)	66		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
Fluoranthene-d10 (S)	66		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 15:39	CGS	I
PESTICIDES											
Aldrin	0.019 U	U	ug/L	0.019	0.0047	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
alpha-BHC	0.019 U	U	ug/L	0.019	0.0019	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
beta-BHC	0.019 U	U	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
delta-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
gamma-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
alpha-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
gamma-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051001** Date Collected: 3/15/2017 09:00 Matrix: Ground Water

Sample ID: **W-JO-Labor Camp** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4,4'-DDD	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
4,4'-DDE	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
4,4'-DDT	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Dieldrin	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Endosulfan I	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Endosulfan II	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Endosulfan Sulfate	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Endrin	0.019 U	U	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Endrin Aldehyde	0.019 U	U	ug/L	0.019	0.0094	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Endrin Ketone	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Heptachlor	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Heptachlor Epoxide	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Methoxychlor	0.019 U	U	ug/L	0.019	0.0085	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Toxaphene	0.94 U	U	ug/L	0.94	0.18	SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	19.9	3	%	30 - 140		SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
Tetrachloro-m-xylene (S)	67.2		%	30 - 123		SW846 8081B	3/17/17 08:30	JXD	3/20/17 21:59	RWS	K
PETROLEUM HC's											
Diesel Range Organics C10-C28	0.16 U	U	mg/L	0.16	0.051	SW846 8015D	3/20/17 07:55	JTH	3/21/17 13:40	BS	E
Gasoline Range Organics	16.8J	J	ug/L	100	13.9	SW846 8015D			3/20/17 11:45	DD	A
Oil Range Oranics C28-C35	0.20 U	U,1	mg/L	0.20	0.092	SW846 8015D	3/20/17 07:55	JTH	3/21/17 13:40	BS	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	123		%	90 - 129		SW846 8015D			3/20/17 11:45	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	85.6		%	26 - 139		SW846 8015D	3/20/17 07:55	JTH	3/21/17 13:40	BS	E
HERBICIDES											
2,4-D	0.20 U	U	ug/L	0.20	0.025	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
2,4-DB	0.30 U	U	ug/L	0.30	0.046	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
Dalapon	1.0 U	U	ug/L	1.0	0.036	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
Dicamba	0.20 U	U	ug/L	0.20	0.046	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
Dichloroprop	0.50 U	U	ug/L	0.50	0.055	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
Dinoseb	5.0 U	U	ug/L	5.0	0.14	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
MCPA	40.0 U	U	ug/L	40.0	7.7	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
MCPP	40.0 U	U	ug/L	40.0	7.3	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
Pentachlorophenol	0.20 U	U	ug/L	0.20	0.020	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M

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ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051001** Date Collected: 3/15/2017 09:00 Matrix: Ground Water

Sample ID: **W-JO-Labor Camp** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
2,4,5-T	0.20 U	U	ug/L	0.20	0.039	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
2,4,5-TP	0.30 U	U	ug/L	0.30	0.023	SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	113		%	14 - 172		SW846 8151A	3/17/17 17:55	ACD	3/20/17 09:47	EGO	M
METALS											
Arsenic, Total	0.0033 U	U	mg/L	0.0033	0.0011	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Arsenic, Dissolved	0.0030 U	U	mg/L	0.0030	0.0010	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:31	MO	H2
Barium, Total	0.085		mg/L	0.0056	0.0019	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Barium, Dissolved	0.083		mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:31	MO	H2
Cadmium, Total	0.00047J	J	mg/L	0.0011	0.00037	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Cadmium, Dissolved	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:31	MO	H2
Chromium, Total	0.013		mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Chromium, Dissolved	0.00091J	J	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:31	MO	H2
Lead, Total	0.015		mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Lead, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:31	MO	H2
Mercury, Total	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/16/17 00:00	AXC	3/16/17 04:39	MNP	G1
Mercury, Dissolved	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/17/17 02:00	AXC	3/17/17 11:08	MNP	H1
Selenium, Total	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Selenium, Dissolved	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/21/17 05:59	ZMC	H2
Silver, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:24	ZMC	G2
Silver, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:31	MO	H2
WET CHEMISTRY											
Ammonia-N	0.317		mg/L	0.100	0.03	D6919-09			3/23/17 21:47	AK	P
Phenolics	0.005 U	U	mg/L	0.005	0.002	SW846 9066	3/20/17 00:00	JLG	3/22/17 10:37	JLG	O
Specific Conductance	729		umhos/cm	1	0.1	S2510B-97			3/16/17 06:40	MSA	Q

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051002** Date Collected: 3/15/2017 08:30 Matrix: Water

Sample ID: **TB-2(031517)** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	7.6J	J	ug/L	10.0	3.1	SW846 8260B		3/17/17 05:13	SYB	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 05:13	SYB	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 05:13	SYB	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 05:13	SYB	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 05:13	SYB	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 05:13	SYB	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 05:13	SYB	A
Carbon Disulfide	0.49J	J	ug/L	1.0	0.23	SW846 8260B		3/17/17 05:13	SYB	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 05:13	SYB	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 05:13	SYB	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 05:13	SYB	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 05:13	SYB	A
Chloroform	1.0 U	U	ug/L	1.0	0.21	SW846 8260B		3/17/17 05:13	SYB	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 05:13	SYB	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 05:13	SYB	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 05:13	SYB	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 05:13	SYB	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 05:13	SYB	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 05:13	SYB	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 05:13	SYB	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 05:13	SYB	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 05:13	SYB	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 05:13	SYB	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 05:13	SYB	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 05:13	SYB	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 05:13	SYB	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 05:13	SYB	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 05:13	SYB	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 05:13	SYB	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 05:13	SYB	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 05:13	SYB	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 05:13	SYB	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 05:13	SYB	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 05:13	SYB	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 05:13	SYB	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 05:13	SYB	A

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215051 Project Shuttle

Lab ID: **2215051002** Date Collected: 3/15/2017 08:30 Matrix: Water

Sample ID: **TB-2(031517)** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 05:13	SYB	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 05:13	SYB	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 05:13	SYB	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 05:13	SYB	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 05:13	SYB	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 05:13	SYB	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 05:13	SYB	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 05:13	SYB	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 05:13	SYB	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 05:13	SYB	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 05:13	SYB	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 05:13	SYB	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 05:13	SYB	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 05:13	SYB	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 05:13	SYB	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 05:13	SYB	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.5		%	62 - 133	SW846 8260B			3/17/17 05:13	SYB	A
4-Bromofluorobenzene (S)	91.7		%	79 - 114	SW846 8260B			3/17/17 05:13	SYB	A
Dibromofluoromethane (S)	96.5		%	78 - 116	SW846 8260B			3/17/17 05:13	SYB	A
Toluene-d8 (S)	98		%	76 - 127	SW846 8260B			3/17/17 05:13	SYB	A

Ms. Susan J Scherer
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2215051001	1	W-JO-Labor Camp	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215051001	2	W-JO-Labor Camp	SW846 8270D	2-Fluorobiphenyl
The surrogate 2-Fluorobiphenyl for method SW846 8270D was outside of control limits. The % Recovery was reported as 45.7 and the control limits were 52 to 118. This result was reported at a dilution of 1.				
2215051001	3	W-JO-Labor Camp	SW846 8081B	Decachlorobiphenyls
The surrogate Decachlorobiphenyls for method SW846 8081B was outside of control limits. The % Recovery was reported as 19.9 and the control limits were 30 to 140. This result was reported at a dilution of 1.				

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: EXTR/47067 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215051001

METHOD BLANK: 2502584

Parameter	Blank Result	Units	Reporting Limit
Aldrin	0.020 U	ug/L	0.020
alpha-BHC	0.020 U	ug/L	0.020
beta-BHC	0.020 U	ug/L	0.020
delta-BHC	0.020 U	ug/L	0.020
gamma-BHC	0.020 U	ug/L	0.020
alpha-Chlordane	0.020 U	ug/L	0.020
gamma-Chlordane	0.020 U	ug/L	0.020
4,4'-DDD	0.020 U	ug/L	0.020
4,4'-DDE	0.020 U	ug/L	0.020
4,4'-DDT	0.020 U	ug/L	0.020
Dieldrin	0.020 U	ug/L	0.020
Endosulfan I	0.020 U	ug/L	0.020
Endosulfan II	0.020 U	ug/L	0.020
Endosulfan Sulfate	0.020 U	ug/L	0.020
Endrin	0.020 U	ug/L	0.020
Endrin Aldehyde	0.020 U	ug/L	0.020
Endrin Ketone	0.020 U	ug/L	0.020
Heptachlor	0.020 U	ug/L	0.020
Heptachlor Epoxide	0.020 U	ug/L	0.020
Methoxychlor	0.020 U	ug/L	0.020
Toxaphene	1.0 U	ug/L	1.0
Decachlorobiphenyls (S)	74.3	%	30 - 140
Tetrachloro-m-xylene (S)	40.8	%	30 - 123

LABORATORY CONTROL SAMPLE: 2502585

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	72.2	ug/L	.5	0.36	45 - 121
alpha-BHC	80.5	ug/L	.5	0.40	60 - 137
beta-BHC	71.4	ug/L	.5	0.36	59 - 139
delta-BHC	84.9	ug/L	.5	0.42	59 - 141
gamma-BHC	81.3	ug/L	.5	0.41	58 - 138
alpha-Chlordane	79.3	ug/L	.5	0.40	62 - 131
gamma-Chlordane	81.5	ug/L	.5	0.41	60 - 129
4,4'-DDD	95.4	ug/L	.5	0.48	58 - 142

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

4,4'-DDE	88	ug/L	.5	0.44	61 - 132
4,4'-DDT	100	ug/L	.5	0.50	58 - 140
Dieldrin	84.3	ug/L	.5	0.42	61 - 138
Endosulfan I	79.3	ug/L	.5	0.40	53 - 128
Endosulfan II	93.7	ug/L	.5	0.47	57 - 142
Endosulfan Sulfate	86.8	ug/L	.5	0.43	36 - 148
Endrin	100	ug/L	.5	0.50	58 - 143
Endrin Aldehyde	69.3	ug/L	.5	0.35	23 - 139
Endrin Ketone	88.4	ug/L	.5	0.44	51 - 139
Heptachlor	78.6	ug/L	.5	0.39	51 - 124
Heptachlor Epoxide	81.3	ug/L	.5	0.41	62 - 131
Methoxychlor	119	ug/L	.5	0.60	56 - 140
Toxaphene		ug/L		1.0 U	
Decachlorobiphenyls (S)	70.7	%			30 - 140
Tetrachloro-m-xylene (S)	42.1	%			30 - 123

MATRIX SPIKE SAMPLE: 2502586 ORIGINAL: 2215051001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aldrin	0	ug/L	.5	.41273	83.4	45 - 121
alpha-BHC	0	ug/L	.5	.45478	91.9	60 - 137
beta-BHC	0	ug/L	.5	.47132	95.2	59 - 139
delta-BHC	0	ug/L	.5	.44844	90.6	59 - 141
gamma-BHC	0	ug/L	.5	.45592	92.1	58 - 138
alpha-Chlordane	0	ug/L	.5	.43538	87.9	62 - 131
gamma-Chlordane	0	ug/L	.5	.45288	91.5	60 - 129
4,4'-DDD	0	ug/L	.5	.53445	108	58 - 142
4,4'-DDE	0	ug/L	.5	.47929	96.8	61 - 132
4,4'-DDT	0	ug/L	.5	.47511	96	58 - 140
Dieldrin	0	ug/L	.5	.46588	94.1	61 - 138
Endosulfan I	0	ug/L	.5	.44119	89.1	53 - 128
Endosulfan II	0	ug/L	.5	.49543	100	57 - 142
Endosulfan Sulfate	0	ug/L	.5	.45748	92.4	36 - 148
Endrin	0	ug/L	.5	.56171	113	58 - 143
Endrin Aldehyde	0	ug/L	.5	.43968	88.8	23 - 139
Endrin Ketone	0	ug/L	.5	.49189	99.4	51 - 139
Heptachlor	0	ug/L	.5	.47265	95.5	51 - 124
Heptachlor Epoxide	0	ug/L	.5	.44744	90.4	62 - 131
Methoxychlor	0	ug/L	.5	.58409	118	56 - 140
Decachlorobiphenyls (S)	21.7	%				30 - 140
Tetrachloro-m-xylene (S)	64.1	%				30 - 123

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QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: EXTR/47077 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215051001

METHOD BLANK: 2502867

Parameter	Blank Result	Units	Reporting Limit
2,4-D	0.20 U	ug/L	0.20
2,4-DB	0.30 U	ug/L	0.30
Dalapon	1.0 U	ug/L	1.0
Dicamba	0.20 U	ug/L	0.20
Dichloroprop	0.50 U	ug/L	0.50
Dinoseb	5.0 U	ug/L	5.0
MCPA	40.0 U	ug/L	40.0
MCPP	40.0 U	ug/L	40.0
Pentachlorophenol	0.20 U	ug/L	0.20
2,4,5-T	0.20 U	ug/L	0.20
2,4,5-TP	0.30 U	ug/L	0.30
2,4-Dichlorophenylacetic acid (S)	100	%	14 - 172

LABORATORY CONTROL SAMPLE: 2502868

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	125	ug/L	2	2.5	56 - 156
2,4-DB	96.3	ug/L	2	1.9	23 - 174
Dalapon	93.3	ug/L	2	1.9	35 - 171
Dicamba	95.7	ug/L	2	1.9	64 - 115
Dichloroprop	84.8	ug/L	2	1.7	61 - 125
Dinoseb	10.3	ug/L	2	0.21J	1 - 98
MCPA	109	ug/L	200	218	11 - 194
MCPP	122	ug/L	200	243	14 - 205
Pentachlorophenol	70.1	ug/L	2	1.4	63 - 109
2,4,5-T	96.9	ug/L	2	1.9	57 - 127
2,4,5-TP	95.2	ug/L	2	1.9	58 - 123
2,4-Dichlorophenylacetic acid (S)	102	%			14 - 172

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

MATRIX SPIKE: 2502869 DUPLICATE: 2502870 ORIGINAL: 2214966009

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4-D	0	ug/L	40	46.8092	48.6555	117	122	56 - 156	3.87	40
2,4,5-TP	0	ug/L	40	39.8992	39.6631	99.7	99.2	58 - 123	.59	40
2,4-Dichlorophenylacetic acid (S)	109	%				109	106	14 - 172		

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: EXTR/47085 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215051001

METHOD BLANK: 2503540

Parameter	Blank Result	Units	Reporting Limit
Diesel Range Organics C10-C28	0.16 U	mg/L	0.16
Oil Range Oranics C28-C35	0.20 U	mg/L	0.20
o-Terphenyl (S)	97.8	%	26 - 139

LABORATORY CONTROL SAMPLE: 2503541

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	56.8	mg/L	.5	0.28	34 - 137
Oil Range Oranics C28-C35	0*	mg/L	.21	0.20 U	34 - 137
o-Terphenyl (S)	90.1	%			26 - 139

LABORATORY CONTROL SAMPLE: 2503542

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	48.8	mg/L	.5	0.24	34 - 137
Oil Range Oranics C28-C35	86.7	mg/L	.21	0.18J	34 - 137
o-Terphenyl (S)	100	%			26 - 139

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: EXTR/47098 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215051001

METHOD BLANK: 2504214

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	1.5 U	ug/L	1.5
Acenaphthylene	1.5 U	ug/L	1.5
Anthracene	1.5 U	ug/L	1.5
Benzo(a)anthracene	1.5 U	ug/L	1.5
Benzo(a)pyrene	1.5 U	ug/L	1.5
Benzo(b)fluoranthene	1.5 U	ug/L	1.5
Benzo(g,h,i)perylene	1.5 U	ug/L	1.5
Benzo(k)fluoranthene	1.5 U	ug/L	1.5
Chrysene	1.5 U	ug/L	1.5
Dibenzo(a,h)anthracene	1.5 U	ug/L	1.5
Fluoranthene	1.5 U	ug/L	1.5
Fluorene	1.5 U	ug/L	1.5
Indeno(1,2,3-cd)pyrene	1.5 U	ug/L	1.5
Naphthalene	1.5 U	ug/L	1.5
Phenanthrene	1.5 U	ug/L	1.5
Pyrene	1.5 U	ug/L	1.5
2-Fluorobiphenyl (S)	58.3	%	52 - 118
Nitrobenzene-d5 (S)	67	%	27 - 139
Terphenyl-d14 (S)	64.9	%	46 - 133

LABORATORY CONTROL SAMPLE: 2504215

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	57.2	ug/L	50	28.6	36 - 130
Acenaphthylene	62.5	ug/L	50	31.2	39 - 130
Anthracene	71.8	ug/L	50	35.9	48 - 133
Benzo(a)anthracene	73	ug/L	50	36.5	51 - 127
Benzo(a)pyrene	74.8	ug/L	50	37.4	53 - 127
Benzo(b)fluoranthene	75.7	ug/L	50	37.8	53 - 131
Benzo(g,h,i)perylene	70.8	ug/L	50	35.4	54 - 131
Benzo(k)fluoranthene	75.3	ug/L	50	37.7	52 - 130
Chrysene	74.3	ug/L	50	37.1	50 - 131
Dibenzo(a,h)anthracene	80	ug/L	50	40.0	56 - 130
Fluoranthene	79.5	ug/L	50	39.8	49 - 132
Fluorene	65.7	ug/L	50	32.9	42 - 131

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Indeno(1,2,3-cd)pyrene	78.7	ug/L	50	39.3	55 - 126
Naphthalene	48.9	ug/L	50	24.5	21 - 123
Phenanthrene	69.1	ug/L	50	34.6	46 - 131
Pyrene	67.7	ug/L	50	33.8	48 - 134
2-Fluorobiphenyl (S)	67	%			52 - 118
Nitrobenzene-d5 (S)	74.4	%			27 - 139
Terphenyl-d14 (S)	72	%			46 - 133

MATRIX SPIKE SAMPLE: 2504216 ORIGINAL: 2215052001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/L	49.5	29.991	60.6	36 - 130
Acenaphthylene	0	ug/L	49.5	32.5052	65.7	39 - 130
Anthracene	0	ug/L	49.5	34.1293	68.9	48 - 133
Benzo(a)anthracene	0	ug/L	49.5	34.8273	70.4	51 - 127
Benzo(a)pyrene	0	ug/L	49.5	35.82	72.4	53 - 127
Benzo(b)fluoranthene	0	ug/L	49.5	36.6311	74	53 - 131
Benzo(g,h,i)perylene	0	ug/L	49.5	34.7722	70.2	54 - 131
Benzo(k)fluoranthene	0	ug/L	49.5	36.0957	72.9	52 - 130
Chrysene	0	ug/L	49.5	36.4506	73.6	50 - 131
Dibenzo(a,h)anthracene	0	ug/L	49.5	38.5109	77.8	56 - 130
Fluoranthene	0	ug/L	49.5	36.0715	72.9	49 - 132
Fluorene	0	ug/L	49.5	32.8424	66.3	42 - 131
Indeno(1,2,3-cd)pyrene	0	ug/L	49.5	38.3228	77.4	55 - 126
Naphthalene	0	ug/L	49.5	27.277	55.1	21 - 123
Phenanthrene	0	ug/L	49.5	33.8921	68.5	46 - 131
Pyrene	0	ug/L	49.5	34.1772	69	48 - 134
2-Fluorobiphenyl (S)	64.8	%				52 - 118
Nitrobenzene-d5 (S)	69.7	%				27 - 139
Terphenyl-d14 (S)	65.6	%				46 - 133

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: EXTR/47099 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215051001

METHOD BLANK: 2504217

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	0.10 U	ug/L	0.10
Acenaphthylene	0.10 U	ug/L	0.10
Anthracene	0.10 U	ug/L	0.10
Benzo(a)anthracene	0.10 U	ug/L	0.10
Benzo(a)pyrene	0.10 U	ug/L	0.10
Benzo(b)fluoranthene	0.10 U	ug/L	0.10
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10
Benzo(k)fluoranthene	0.10 U	ug/L	0.10
Chrysene	0.10 U	ug/L	0.10
Dibenzo(a,h)anthracene	0.070 U	ug/L	0.070
Fluoranthene	0.10 U	ug/L	0.10
Fluorene	0.10 U	ug/L	0.10
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10
Naphthalene	0.10 U	ug/L	0.10
Phenanthrene	0.10 U	ug/L	0.10
Pyrene	0.10 U	ug/L	0.10
2-Methylnapthalene-d10 (S)	59.4	%	29 - 112
Fluoranthene-d10 (S)	70.5	%	45 - 130

LABORATORY CONTROL SAMPLE: 2504218

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	73.2	ug/L	1	0.73	46 - 121
Acenaphthylene	76	ug/L	1	0.76	49 - 122
Anthracene	75.3	ug/L	1	0.75	47 - 134
Benzo(a)anthracene	72.3	ug/L	1	0.72	51 - 141
Benzo(a)pyrene	67.4	ug/L	1	0.67	45 - 139
Benzo(b)fluoranthene	75.6	ug/L	1	0.76	48 - 147
Benzo(g,h,i)perylene	68.2	ug/L	1	0.68	43 - 153
Benzo(k)fluoranthene	74.8	ug/L	1	0.75	52 - 148
Chrysene	75.8	ug/L	1	0.76	52 - 144
Dibenzo(a,h)anthracene	68.6	ug/L	1	0.69	45 - 150
Fluoranthene	78	ug/L	1	0.78	51 - 149
Fluorene	74.4	ug/L	1	0.74	52 - 123
Indeno(1,2,3-cd)pyrene	67.6	ug/L	1	0.68	49 - 143

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Naphthalene	67	ug/L	1	0.67	44 - 113
Phenanthrene	73.7	ug/L	1	0.74	50 - 128
Pyrene	77.7	ug/L	1	0.78	48 - 143
2-Methylnapthalene-d10 (S)	63	%			29 - 112
Fluoranthene-d10 (S)	74.8	%			45 - 130

MATRIX SPIKE SAMPLE: 2504219 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/L	.94	.66757	70.8	46 - 121
Acenaphthylene	0	ug/L	.94	.69292	73.4	49 - 122
Anthracene	0	ug/L	.94	.68088	72.2	47 - 134
Benzo(a)anthracene	0	ug/L	.94	.63719	67.5	51 - 141
Benzo(a)pyrene	0	ug/L	.94	.61592	65.3	45 - 139
Benzo(b)fluoranthene	.02283	ug/L	.94	.67428	69.1	48 - 147
Benzo(g,h,i)perylene	0	ug/L	.94	.59841	63.4	43 - 153
Benzo(k)fluoranthene	0	ug/L	.94	.67651	71.7	52 - 148
Chrysene	0	ug/L	.94	.67813	71.9	52 - 144
Dibenzo(a,h)anthracene	.02326	ug/L	.94	.59438	60.5	45 - 150
Fluoranthene	0	ug/L	.94	.69252	73.4	51 - 149
Fluorene	0	ug/L	.94	.67243	71.3	52 - 123
Indeno(1,2,3-cd)pyrene	0	ug/L	.94	.59264	62.8	49 - 143
Naphthalene	0	ug/L	.94	.61862	65.6	44 - 113
Phenanthrene	0	ug/L	.94	.66216	70.2	50 - 128
Pyrene	0	ug/L	.94	.68561	72.7	48 - 143
2-Methylnapthalene-d10 (S)	63	%				29 - 112
Fluoranthene-d10 (S)	71.6	%				45 - 130

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: EXTR/47189 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215051001

METHOD BLANK: 2508481

Parameter	Blank Result	Units	Reporting Limit
2-Methylnapthalene-d10 (S)	59.4	%	29 - 112
Fluoranthene-d10 (S)	70.5	%	45 - 130

LABORATORY CONTROL SAMPLE: 2508482

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2-Methylnapthalene-d10 (S)	63	%			29 - 112
Fluoranthene-d10 (S)	74.8	%			45 - 130

MATRIX SPIKE SAMPLE: 2508483 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
2-Methylnapthalene-d10 (S)	63	%				29 - 112
Fluoranthene-d10 (S)	71.6	%				45 - 130

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: MDIG/63273 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 2215051001

METHOD BLANK: 2501601

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.00050 U	mg/L	0.00050

LABORATORY CONTROL SAMPLE: 2501602

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	95	mg/L	.002	0.0019	85 - 115

MATRIX SPIKE: 2501603 DUPLICATE: 2501604 ORIGINAL: 2214320001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.00485	.00491	97	98.2	70 - 130	1.23	20

MATRIX SPIKE: 2501605 DUPLICATE: 2501606 ORIGINAL: 2215041002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.0046	.00453	92	90.6	70 - 130	1.53	20

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: MDIG/63284 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 2215051001

METHOD BLANK: 2501681

Parameter	Blank Result	Units	Reporting Limit
Mercury, Dissolved	0.00050 U	mg/L	0.00050

LABORATORY CONTROL SAMPLE: 2501682

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Dissolved	93.5	mg/L	.002	0.0019	85 - 115

MATRIX SPIKE: 2501683 DUPLICATE: 2501684 ORIGINAL: 2213803001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Dissolved	0	mg/L	.005	.00439	.00439	87.8	87.8	70 - 130	0	20

MATRIX SPIKE: 2501685 DUPLICATE: 2501686 ORIGINAL: 2214333002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Dissolved	0	mg/L	.005	.00532	.00526	106	105	70 - 130	1.13	20

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: MDIG/63288 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3015

Associated Lab Samples: 2215051001

METHOD BLANK: 2501737

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	0.0033 U	mg/L	0.0033
Barium, Total	0.0056 U	mg/L	0.0056
Cadmium, Total	0.0011 U	mg/L	0.0011
Chromium, Total	0.0022 U	mg/L	0.0022
Lead, Total	0.0022 U	mg/L	0.0022
Selenium, Total	0.0056 U	mg/L	0.0056
Silver, Total	0.0022 U	mg/L	0.0022

LABORATORY CONTROL SAMPLE: 2501738

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	97.4	mg/L	.22	0.22	80 - 120
Barium, Total	105	mg/L	2.2	2.3	80 - 120
Cadmium, Total	104	mg/L	.22	0.23	80 - 120
Chromium, Total	107	mg/L	.22	0.24	80 - 120
Lead, Total	102	mg/L	.22	0.23	80 - 120
Selenium, Total	92.4	mg/L	.22	0.21	80 - 120
Silver, Total	116	mg/L	.11	0.13	80 - 120

MATRIX SPIKE: 2501739 DUPLICATE: 2501740 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	.00003	mg/L	.22	.19784	.19463	89	87.6	75 - 125	1.64	20
Barium, Total	.09735	mg/L	2.2	2.28586	2.29183	98.5	98.8	75 - 125	.26	20
Cadmium, Total	.00001	mg/L	.22	.2066	.20748	93	93.4	75 - 125	.42	20
Chromium, Total	.0019	mg/L	.22	.22159	.22172	98.9	98.9	75 - 125	.06	20
Lead, Total	.00014	mg/L	.22	.22156	.22655	99.6	102	75 - 125	2.22	20
Selenium, Total	.00035	mg/L	.22	.18407	.17818	82.7	80	75 - 125	3.25	20
Silver, Total	0	mg/L	.11	.1082	.108	97.4	97.2	75 - 125	.18	20

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: MDIG/63359 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3015

Associated Lab Samples: 2215051001

METHOD BLANK: 2503417

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Dissolved	0.0030 U	mg/L	0.0030
Barium, Dissolved	0.0056 U	mg/L	0.0056
Cadmium, Dissolved	0.0011 U	mg/L	0.0011
Chromium, Dissolved	0.0022 U	mg/L	0.0022
Lead, Dissolved	0.0022 U	mg/L	0.0022
Selenium, Dissolved	0.0056 U	mg/L	0.0056
Silver, Dissolved	0.0022 U	mg/L	0.0022

LABORATORY CONTROL SAMPLE: 2503418

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Dissolved	89.8	mg/L	.22	0.20	80 - 120
Barium, Dissolved	101	mg/L	2.2	2.2	80 - 120
Cadmium, Dissolved	93.6	mg/L	.22	0.21	80 - 120
Chromium, Dissolved	98.6	mg/L	.22	0.22	80 - 120
Lead, Dissolved	100	mg/L	.22	0.22	80 - 120
Selenium, Dissolved	84.6	mg/L	.22	0.19	80 - 120
Silver, Dissolved	102	mg/L	.11	0.11	80 - 120

MATRIX SPIKE: 2503419 DUPLICATE: 2503420 ORIGINAL: 2214606006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Dissolved	.00185	mg/L	.22	.20253	.20737	90.3	92.5	75 - 125	2.36	20
Barium, Dissolved	.07079	mg/L	2.2	2.32128	2.31765	101	101	75 - 125	.16	20
Cadmium, Dissolved	0	mg/L	.22	.21041	.21252	94.7	95.6	75 - 125	1	20
Chromium, Dissolved	.00082	mg/L	.22	.22109	.22187	99.1	99.5	75 - 125	.35	20
Lead, Dissolved	.00002	mg/L	.22	.22996	.22883	103	103	75 - 125	.49	20
Selenium, Dissolved	.00004	mg/L	.22	.18997	.18506	85.5	83.3	75 - 125	2.62	20
Silver, Dissolved	0	mg/L	.11	.11226	.11297	101	102	75 - 125	.63	20

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QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: VOGC/9425 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 8015D

Associated Lab Samples: 2215051001

LABORATORY CONTROL SAMPLE: 2503549

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Gasoline Range Organics	81	ug/L	1000	810	77 - 125
a,a,a-Trifluorotoluene (S)	94.8	%			90 - 129

METHOD BLANK: 2503548

Parameter	Blank Result	Units	Reporting Limit
Gasoline Range Organics	47.1J	ug/L	100
a,a,a-Trifluorotoluene (S)	121	%	90 - 129

MATRIX SPIKE: 2503662 DUPLICATE: 2503663 ORIGINAL: 2215047001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Gasoline Range Organics	32.5368	ug/L	1000	924.167	925.786	89.2	89.3	77 - 125	.18	10
a,a,a-Trifluorotoluene (S)	114	%				114	108	90 - 129		

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: VOMS/42747 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 2215051001, 2215051002

METHOD BLANK: 2502350

Parameter	Blank Result	Units	Reporting Limit
Acetone	3.5J	ug/L	10.0
Benzene	1.0 U	ug/L	1.0
Bromochloromethane	1.0 U	ug/L	1.0
Bromodichloromethane	1.0 U	ug/L	1.0
Bromoform	1.0 U	ug/L	1.0
Bromomethane	1.0 U	ug/L	1.0
2-Butanone	10.0 U	ug/L	10.0
Carbon Disulfide	0.27J	ug/L	1.0
Carbon Tetrachloride	1.0 U	ug/L	1.0
Chlorobenzene	1.0 U	ug/L	1.0
Chlorodibromomethane	1.0 U	ug/L	1.0
Chloroethane	1.0 U	ug/L	1.0
Chloroform	0.78J	ug/L	1.0
Chloromethane	1.0 U	ug/L	1.0
Cyclohexane	1.0 U	ug/L	1.0
1,2-Dibromo-3-chloropropane	7.0 U	ug/L	7.0
1,2-Dibromoethane	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	1.0 U	ug/L	1.0
Dichlorodifluoromethane	1.0 U	ug/L	1.0
1,1-Dichloroethane	1.0 U	ug/L	1.0
1,2-Dichloroethane	1.0 U	ug/L	1.0
1,1-Dichloroethene	1.0 U	ug/L	1.0
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0
1,2-Dichloropropane	1.0 U	ug/L	1.0
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0
Ethylbenzene	1.0 U	ug/L	1.0
Freon 113	1.0 U	ug/L	1.0
2-Hexanone	5.0 U	ug/L	5.0
Isopropylbenzene	1.0 U	ug/L	1.0
Methyl acetate	2.0 U	ug/L	2.0
Methyl cyclohexane	1.0 U	ug/L	1.0
Methyl t-Butyl Ether	1.0 U	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	5.0 U	ug/L	5.0

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Methylene Chloride	1.0 U	ug/L	1.0
Styrene	1.0 U	ug/L	1.0
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0
Tetrachloroethene	1.0 U	ug/L	1.0
Toluene	1.0 U	ug/L	1.0
Total Xylenes	3.0 U	ug/L	3.0
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0
1,2,4-Trichlorobenzene	2.0 U	ug/L	2.0
1,1,1-Trichloroethane	1.0 U	ug/L	1.0
1,1,2-Trichloroethane	1.0 U	ug/L	1.0
Trichloroethene	1.0 U	ug/L	1.0
Trichlorofluoromethane	1.0 U	ug/L	1.0
Vinyl Chloride	1.0 U	ug/L	1.0
o-Xylene	1.0 U	ug/L	1.0
mp-Xylene	2.0 U	ug/L	2.0
1,2-Dichloroethane-d4 (S)	92.7	%	62 - 133
4-Bromofluorobenzene (S)	90.8	%	79 - 114
Dibromofluoromethane (S)	95.2	%	78 - 116
Toluene-d8 (S)	94.4	%	76 - 127

LABORATORY CONTROL SAMPLE: 2502351

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	119	ug/L	100	119	40 - 151
Benzene	103	ug/L	20	20.6	80 - 124
Bromochloromethane	114	ug/L	20	22.8	73 - 117
Bromodichloromethane	103	ug/L	20	20.5	79 - 126
Bromoform	106	ug/L	20	21.2	70 - 123
Bromomethane	138	ug/L	20	27.7	45 - 148
2-Butanone	104	ug/L	100	104	50 - 152
Carbon Disulfide	106	ug/L	20	21.2	57 - 131
Carbon Tetrachloride	113	ug/L	20	22.5	62 - 132
Chlorobenzene	104	ug/L	20	20.7	85 - 117
Chlorodibromomethane	104	ug/L	20	20.7	77 - 122
Chloroethane	129	ug/L	20	25.8	51 - 142
Chloroform	112	ug/L	20	22.4	78 - 122
Chloromethane	139	ug/L	20	27.8	38 - 156
Cyclohexane	117	ug/L	20	23.3	66 - 130
1,2-Dibromo-3-chloropropane	98.6	ug/L	20	19.7	59 - 133
1,2-Dibromoethane	102	ug/L	20	20.5	80 - 124
1,2-Dichlorobenzene	106	ug/L	20	21.2	82 - 118
1,3-Dichlorobenzene	109	ug/L	20	21.8	81 - 118
1,4-Dichlorobenzene	107	ug/L	20	21.4	81 - 116
Dichlorodifluoromethane	122	ug/L	20	24.4	17 - 166

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

1,1-Dichloroethane	105	ug/L	20	21.1	78 - 124
1,2-Dichloroethane	102	ug/L	20	20.3	70 - 133
1,1-Dichloroethene	109	ug/L	20	21.9	63 - 128
cis-1,2-Dichloroethene	102	ug/L	20	20.4	78 - 125
trans-1,2-Dichloroethene	109	ug/L	20	21.8	71 - 122
1,2-Dichloropropane	105	ug/L	20	21.0	81 - 127
cis-1,3-Dichloropropene	105	ug/L	20	21.0	81 - 121
trans-1,3-Dichloropropene	110	ug/L	20	22.0	78 - 126
Ethylbenzene	117	ug/L	20	23.4	80 - 124
Freon 113	124	ug/L	20	24.7	50 - 130
2-Hexanone	94.1	ug/L	100	94.1	65 - 154
Isopropylbenzene	115	ug/L	20	22.9	73 - 129
Methyl acetate	124	ug/L	20	24.8	70 - 130
Methyl cyclohexane	127	ug/L	20	25.4	70 - 130
Methyl t-Butyl Ether	100	ug/L	20	20.1	69 - 115
4-Methyl-2-Pentanone(MIBK)	95.7	ug/L	100	95.7	71 - 146
Methylene Chloride	110	ug/L	20	22.0	76 - 121
Styrene	116	ug/L	20	23.3	79 - 123
1,1,2,2-Tetrachloroethane	103	ug/L	20	20.6	74 - 135
Tetrachloroethene	106	ug/L	20	21.2	72 - 124
Toluene	111	ug/L	20	22.1	80 - 125
Total Xylenes	111	ug/L	60	66.5	79 - 125
1,2,3-Trichlorobenzene	99.8	ug/L	20	20.0	61 - 126
1,2,4-Trichlorobenzene	105	ug/L	20	21.0	67 - 123
1,1,1-Trichloroethane	104	ug/L	20	20.8	66 - 130
1,1,2-Trichloroethane	96.3	ug/L	20	19.3	82 - 126
Trichloroethene	96.8	ug/L	20	19.4	77 - 124
Trichlorofluoromethane	128*	ug/L	20	25.6	38 - 123
Vinyl Chloride	119	ug/L	20	23.8	27 - 138
o-Xylene	107	ug/L	20	21.3	79 - 124
mp-Xylene	113	ug/L	40	45.2	79 - 125
1,2-Dichloroethane-d4 (S)	93.2	%			62 - 133
4-Bromofluorobenzene (S)	92.2	%			79 - 114
Dibromofluoromethane (S)	91.5	%			78 - 116
Toluene-d8 (S)	93.1	%			76 - 127

MATRIX SPIKE: 2502496 DUPLICATE: 2502497 ORIGINAL: 2214751001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Acetone	4.65434	ug/L	100	99.9657	118.066	95.3	113	40 - 151	16.6	40
Benzene	0	ug/L	20	21.9143	21.4501	110	107	80 - 124	2.14	26
Bromochloromethane	0	ug/L	20	23.5381	22.2359	118*	111	73 - 117	5.69	19

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Bromodichloromethane	0	ug/L	20	21.0913	20.9986	105	105	79 - 126	.44	16
Bromoform	0	ug/L	20	20.9485	20.4634	105	102	70 - 123	2.34	16
Bromomethane	0	ug/L	20	26.5773	26.8142	133	134	45 - 148	.89	26
2-Butanone	0	ug/L	100	108.973	113.148	109	113	50 - 152	3.76	16
Carbon Disulfide	0	ug/L	20	22.6394	23.1857	113	116	57 - 131	2.38	28
Carbon Tetrachloride	0	ug/L	20	24.5774	24.7684	123	124	62 - 132	.77	17
Chlorobenzene	0	ug/L	20	21.5175	21.5005	108	108	85 - 117	.08	15
Chlorodibromomethane	0	ug/L	20	21.0489	20.7261	105	104	77 - 122	1.55	15
Chloroethane	0	ug/L	20	26.0731	26.0042	130	130	51 - 142	.26	24
Chloroform	0	ug/L	20	23.9156	23.3068	120	117	78 - 122	2.58	16
Chloromethane	0	ug/L	20	30.0084	30.119	150	151	38 - 156	.37	27
Cyclohexane	0	ug/L	20	25.4115	26.0987	127	130	66 - 130	2.67	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	20.6176	19.9708	103	99.9	59 - 133	3.19	26
1,2-Dibromoethane	0	ug/L	20	21.3395	21.2487	107	106	80 - 124	.43	19
1,2-Dichlorobenzene	0	ug/L	20	21.191	20.8883	106	104	82 - 118	1.44	15
1,3-Dichlorobenzene	0	ug/L	20	22.2798	21.0791	111	105	81 - 118	5.54	16
1,4-Dichlorobenzene	0	ug/L	20	21.2673	20.9454	106	105	81 - 116	1.53	15
Dichlorodifluoromethane	0	ug/L	20	24.9369	25.261	125	126	17 - 166	1.29	24
1,1-Dichloroethane	0	ug/L	20	23.1928	22.4192	116	112	78 - 124	3.39	15
1,2-Dichloroethane	0	ug/L	20	21.6561	20.7409	108	104	70 - 133	4.32	19
1,1-Dichloroethene	0	ug/L	20	25.1621	24.528	126	123	63 - 128	2.55	21
cis-1,2-Dichloroethene	0	ug/L	20	21.7115	21.6275	109	108	78 - 125	.39	21
trans-1,2-Dichloroethene	0	ug/L	20	24.0693	23.1532	120	116	71 - 122	3.88	22
1,2-Dichloropropane	0	ug/L	20	22.7	21.2432	114	106	81 - 127	6.63	15
cis-1,3-Dichloropropene	0	ug/L	20	22.6468	21.9866	113	110	81 - 121	2.96	16
trans-1,3-Dichloropropene	0	ug/L	20	23.3421	23.3142	117	117	78 - 126	.12	18
Ethylbenzene	0	ug/L	20	23.3237	23.7049	117	119	80 - 124	1.62	19
Freon 113	0	ug/L	20	26.0926	26.0558	130	130	50 - 130	.14	26
2-Hexanone	0	ug/L	100	107.575	107.069	108	107	65 - 154	.47	17
Isopropylbenzene	0	ug/L	20	23.9656	23.1295	120	116	73 - 129	3.55	18
Methyl acetate	0	ug/L	20	23.5987	22.5745	118	113	70 - 130	4.44	18
Methyl cyclohexane	0	ug/L	20	27.3848	27.9628	137*	140*	70 - 130	2.09	18
Methyl t-Butyl Ether	0	ug/L	20	21.0636	20.6323	105	103	69 - 115	2.07	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	109.658	109.528	110	110	71 - 146	.12	16
Methylene Chloride	0	ug/L	20	23.2425	22.5363	116	113	76 - 121	3.09	17
Styrene	0	ug/L	20	23.8064	22.8678	119	114	79 - 123	4.02	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	22.057	21.1037	110	106	74 - 135	4.42	16
Tetrachloroethene	0	ug/L	20	22.2953	21.3711	111	107	72 - 124	4.23	38
Toluene	0	ug/L	20	23.6932	23.692	118	118	80 - 125	.005	20
Total Xylenes	0	ug/L	60	68.1251	68.9659	114	115	79 - 125	1.23	35
1,2,3-Trichlorobenzene	0	ug/L	20	19.1473	18.6595	95.7	93.3	61 - 126	2.58	36
1,2,4-Trichlorobenzene	0	ug/L	20	19.858	20.4697	99.3	102	67 - 123	3.03	22
1,1,1-Trichloroethane	0	ug/L	20	23.3706	23.6167	117	118	66 - 130	1.05	20
1,1,2-Trichloroethane	0	ug/L	20	21.1227	20.9942	106	105	82 - 126	.61	15
Trichloroethene	0	ug/L	20	21.5734	20.6666	108	103	77 - 124	4.29	18
Trichlorofluoromethane	0	ug/L	20	27.3692	27.0626	137*	135*	38 - 123	1.13	23

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Vinyl Chloride	0	ug/L	20	25.956	27.0456	130	135	27 - 138	4.11	40
o-Xylene	0	ug/L	20	21.8263	22.0679	109	110	79 - 124	1.1	19
mp-Xylene	0	ug/L	40	46.2988	46.898	116	117	79 - 125	1.29	21
1,2-Dichloroethane-d4 (S)	91.1	%				91.1	99.5	62 - 133		
4-Bromofluorobenzene (S)	91.7	%				91.7	88.2	79 - 114		
Dibromofluoromethane (S)	91.4	%				91.4	93.8	78 - 116		
Toluene-d8 (S)	92.7	%				92.7	95.5	76 - 127		

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: WETC/184332 **Analysis Method:** S2510B-97

QC Batch Method: S2510B-97

Associated Lab Samples: 2215051001

METHOD BLANK: 2501544

Parameter	Blank Result	Units	Reporting Limit
Specific Conductance	0.3J	umhos/c	1

LABORATORY CONTROL SAMPLE: 2501546

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	102	umhos/c	1410	1440	90 - 110

LABORATORY CONTROL SAMPLE: 2501547

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	100	umhos/c	10000	10000	90 - 110

LABORATORY CONTROL SAMPLE: 2501548

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	95.6	umhos/c	100000	95600	90 - 110

SAMPLE DUPLICATE: 2501700 ORIGINAL: 2215041007

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Specific Conductance	378	umhos/c	373	1.33	10

METHOD BLANK: 2501703

Parameter	Blank Result	Units	Reporting Limit

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Specific Conductance	0.3J	umhos/c	1

LABORATORY CONTROL SAMPLE: 2501704

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	102	umhos/c	1410	1440	90 - 110

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: WETC/184546 **Analysis Method:** SW846 9066

QC Batch Method: SW846 9066

Associated Lab Samples:

METHOD BLANK: 2503875

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.002J	mg/L	0.005

METHOD BLANK: 2503877

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503879

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.002J	mg/L	0.005

METHOD BLANK: 2503881

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.004J	mg/L	0.005

METHOD BLANK: 2503883

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.002J	mg/L	0.005

METHOD BLANK: 2503885

Parameter	Blank Result	Units	Reporting Limit

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503887

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503889

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503891

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503893

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: WETC/184606 **Analysis Method:** D6919-09

QC Batch Method: D6919-09

Associated Lab Samples: 2215051001

LABORATORY CONTROL SAMPLE: 2504620

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Ammonia-N	102	mg/L	2.5	2.56	90 - 110

METHOD BLANK: 2504621

Parameter	Blank Result	Units	Reporting Limit
Ammonia-N	0.010 U	mg/L	0.010

METHOD BLANK: 2504623

Parameter	Blank Result	Units	Reporting Limit
Ammonia-N	0.010 U	mg/L	0.010

MATRIX SPIKE: 2504624 DUPLICATE: 2504625 ORIGINAL: 2216084002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Ammonia-N	.119	mg/L	10	10.434	10.514	103	104	75 - 125	.76	25

QUALITY CONTROL DATA

Workorder: 2215051 Project Shuttle

QC Batch: WETC/184670 **Analysis Method:** SW846 9066

QC Batch Method: SW846 9066

Associated Lab Samples:

METHOD BLANK: 2505367

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2505369

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005J	mg/L	0.005

METHOD BLANK: 2505371

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2505475

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2505477

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA QUALIFIERS

Workorder: 2215051 Project Shuttle

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2502351	1	Lab Control Standard	SW846 8260B	Trichlorofluoromethane

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 128 and the control limits were 38 to 123.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215051 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215051001	W-JO-Labor Camp			S2510B-97	WETC/184332
2215051001	W-JO-Labor Camp	SW846 7470A	MDIG/63273	SW846 7470A	META/56481
2215051001	W-JO-Labor Camp	SW846 7470A	MDIG/63284	SW846 7470A	META/56499
2215051001	W-JO-Labor Camp	SW846 3015	MDIG/63288	SW846 6020A	META/56485
2215051001	W-JO-Labor Camp			SW846 8260B	VOMS/42747
2215051002	TB-2(031517)			SW846 8260B	VOMS/42747
2215051001	W-JO-Labor Camp	SW846 3510C	EXTR/47067	SW846 8081B	SVGC/44828
2215051001	W-JO-Labor Camp	SW846 8151A	EXTR/47077	SW846 8151A	SVGC/44823
2215051001	W-JO-Labor Camp	SW846 3015	MDIG/63359	SW846 6020A	META/56530
2215051001	W-JO-Labor Camp	SW846 3015	MDIG/63359	SW846 6020A	META/56540
2215051001	W-JO-Labor Camp	SW846 3510C	EXTR/47085	SW846 8015D	SVGC/44837
2215051001	W-JO-Labor Camp			SW846 8015D	VOGC/9425
2215051001	W-JO-Labor Camp	420.4/9066	WCPR/39443	SW846 9066	WETC/184670
2215051001	W-JO-Labor Camp	SW846 3510C	EXTR/47098	SW846 8270D	SVMS/27787
2215051001	W-JO-Labor Camp	SW846 3510C	EXTR/47099	8270 SIM	SVMS/27786
2215051001	W-JO-Labor Camp			D6919-09	WETC/184606

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215051 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215051001	W-JO-Labor Camp	SW846 3510C	EXTR/47189	8270 SIM	SVMS/27829

ALS Environmental

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Jefferson Orchard

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2

Courier:

Tracking #:

2215051

Co. Name: ERM

Contact (Report to): David Connelly — Phone: (304) 757-4777

Address: 204 Chase Drive, Hurricane, WV 25526

Bill to (if different than Report to): Same As Above — PO#: 0397010

Project Name/#: Project Shuttle — ALS Quote #:

TAT: [X] Normal-Standard TAT is 10-12 business days. [X] Rush-Subject to ALS approval and surcharges. 5-DAY — Date Required: 3/28/17 — Approved By: Paul Painter

Email? [X] Y David.Connelly@erm.com + Megan.Innis@erm.com

Fax? Y No.:

Container Type	CG	AG	AG	AG	AG	PL	PL	PL	CG	AG
Container Size	40	1L	1L	1L	1L	500	500	500	40	500
Preservative	HCL	H_2SO_4	—	—	—	HNO_3	—	—	HCL	H_2SO_4

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TPH-GRO	TPH-DRO/ORO	Pesticides	Herbicides	PAH	Total RCRA 8 Metals	Dissolved RCRA 8 Metals (LAB FILTER)	Specific Conductance	TCL VOCs	Phenol
1	W-Jo-Labor Camp		3/15/17	0900	G	GW	X2	X2	X2	X2	X1	X1	X1	X1	X2	X1
2	TB-2(031517) (2) SES 3/15/17		↓	0530	↓	↓	✓	TRIP BLANK ONLY								
3																
4																
5																
6																
7																
8																

(Lines 3–8 crossed out: 3/15/17 2230)

Receipt Information (completed by Sample Receiver)

Received by: SES

Cooler Temp: 1

Therm. ID: 318

No. of Coolers:

Notes:

Circle appropriate Y or N.

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
Y / N	Y / N	Y / N	Y / (N)

Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y / (N)	Y / (N)	Y / N	Y / N	Y / N

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	Megan Innis / ERM	3/15/17	1635	2	[signature]	3/15	1635
3	[signature]	3/15		4	[signature]		1830
5	[signature]		2140	6	[signature]	3/15	2140
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]

EDDs Required? [X] If yes, format type: Excel

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other: West Virginia

State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]

Enter PWSID #

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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Jefferson Orchard

ALS Environmental

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of 2

Courier:
Tracking #:

COC# 2218051

Co. Name: ERM
Contact (Report to): David Connelly
Phone: (304) 757-4777
Address: 204 Chase Drive Hurricane, WV 25526
Bill to (if different than Report to): Same As Above
PO#: 0397010
Project Name/#: Project Shuttle
ALS Quote #:
TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. 5-Day
Date Required: 3/28/17
Approved By: Paul Painter
Email? [X] Y David.Connelly@erm.com + Megan.Innis@erm.com
Fax? [ ] Y No.:

	***Container Type	PL	CG
	***Container Size	250	40
	***Preservative	H_2SO_4	HCL

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Ammonia	VOCs (TB)
1	W-JO-Labor Camp		3/15/17	0900	G	GW	X1	
2	TB-(2031517)		↓	0830	↓	↓		X
3								
4								
5								
6								
7								
8								

Receipt Information (completed by Sample Receiving)
Performed by: SES
Cooler Temp: 1
Therm. ID: 318
No. of Coolers:
Notes:

Circle appropriate Y or N.

Sample	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
	Y N	Y N	Y N	Y (N)

Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y (N)	Y (N)	(Y) N	Y N	Y N

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	Megan Innis / ERM	3/15/17	1635	2	[signature]	3/15	1635
3	[signature]	3/15		4			1830
5			2140	6	[signature]	3/15	2140
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]
EDDs Required? [X] If yes, format type: Excel
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ] Other West Virginia
DOD Criteria Required?

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 28, 2017

Mr. David Connelly
Environmental Resource Management (ERM)-WV
204 Chase Drive
Hurricane, WV 25526

Certificate of Analysis

Project Name:	**JEFFERSON COUNTY**	Workorder:	**2215052**
Purchase Order:	**0397010**	Workorder ID:	**Project Shuttle**

Dear Mr. Connelly:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, March 15, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Megan Innis , Mr. James Hemme

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2215052 Project Shuttle

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2215052001	W-JO-Packing Shed	Ground Water	3/15/2017 09:30	3/15/2017 21:40	Ms. Megan Innis
2215052002	TB-1(031517)	Water	3/15/2017 09:00	3/15/2017 21:40	Ms. Megan Innis
2215052003	W-JO-Dup 1	Ground Water	3/15/2017 09:50	3/15/2017 21:40	Ms. Megan Innis

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2215052 Project Shuttle

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052001** Date Collected: 3/15/2017 09:30 Matrix: Ground Water

Sample ID: **W-JO-Packing Shed** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	10.0 U	U	ug/L	10.0	3.1	SW846 8260B		3/17/17 09:10	SYB	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 09:10	SYB	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 09:10	SYB	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 09:10	SYB	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 09:10	SYB	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 09:10	SYB	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 09:10	SYB	A
Carbon Disulfide	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 09:10	SYB	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 09:10	SYB	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 09:10	SYB	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 09:10	SYB	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 09:10	SYB	A
Chloroform	1.3		ug/L	1.0	0.21	SW846 8260B		3/17/17 09:10	SYB	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 09:10	SYB	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 09:10	SYB	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 09:10	SYB	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 09:10	SYB	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 09:10	SYB	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 09:10	SYB	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 09:10	SYB	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 09:10	SYB	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 09:10	SYB	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 09:10	SYB	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 09:10	SYB	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 09:10	SYB	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 09:10	SYB	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 09:10	SYB	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 09:10	SYB	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 09:10	SYB	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 09:10	SYB	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 09:10	SYB	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 09:10	SYB	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 09:10	SYB	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 09:10	SYB	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 09:10	SYB	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 09:10	SYB	A

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ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052001** Date Collected: 3/15/2017 09:30 Matrix: Ground Water

Sample ID: **W-JO-Packing Shed** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 09:10	SYB	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 09:10	SYB	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 09:10	SYB	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 09:10	SYB	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 09:10	SYB	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 09:10	SYB	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 09:10	SYB	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 09:10	SYB	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 09:10	SYB	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 09:10	SYB	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 09:10	SYB	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 09:10	SYB	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 09:10	SYB	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 09:10	SYB	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 09:10	SYB	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 09:10	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	102		%	62 - 133		SW846 8260B			3/17/17 09:10	SYB	A
4-Bromofluorobenzene (S)	110		%	79 - 114		SW846 8260B			3/17/17 09:10	SYB	A
Dibromofluoromethane (S)	91.8		%	78 - 116		SW846 8260B			3/17/17 09:10	SYB	A
Toluene-d8 (S)	95.2		%	76 - 127		SW846 8260B			3/17/17 09:10	SYB	A
SEMIVOLATILES											
Acenaphthene	1.4 U	U	ug/L	1.4	0.14	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Acenaphthylene	1.4 U	U	ug/L	1.4	0.18	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Anthracene	1.4 U	U	ug/L	1.4	0.14	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Benzo(a)anthracene	1.4 U	U	ug/L	1.4	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Benzo(a)pyrene	1.4 U	U	ug/L	1.4	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Benzo(b)fluoranthene	1.4 U	U	ug/L	1.4	0.10	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Benzo(g,h,i)perylene	1.4 U	U	ug/L	1.4	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Benzo(k)fluoranthene	1.4 U	U	ug/L	1.4	0.18	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Chrysene	1.4 U	U	ug/L	1.4	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Dibenzo(a,h)anthracene	1.4 U	U	ug/L	1.4	0.20	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Fluoranthene	1.4 U	U	ug/L	1.4	0.16	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Fluorene	1.4 U	U	ug/L	1.4	0.19	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Indeno(1,2,3-cd)pyrene	1.4 U	U	ug/L	1.4	0.094	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Naphthalene	1.4 U	U	ug/L	1.4	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Phenanthrene	1.4 U	U	ug/L	1.4	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052001** Date Collected: 3/15/2017 09:30 Matrix: Ground Water

Sample ID: **W-JO-Packing Shed** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Pyrene	1.4 U	U	ug/L	1.4	0.15	SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	65		%	52 - 118		SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Nitrobenzene-d5 (S)	70.5		%	27 - 139		SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
Terphenyl-d14 (S)	70.2		%	46 - 133		SW846 8270D	3/21/17 07:50	JXD	3/21/17 16:25	GEC	I
SEMIVOLATILE SIM											
Acenaphthene	0.094 U	U	ug/L	0.094	0.010	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Acenaphthylene	0.094 U	U	ug/L	0.094	0.010	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Anthracene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Benzo(a)anthracene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Benzo(a)pyrene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Benzo(b)fluoranthene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Benzo(g,h,i)perylene	0.094 U	U	ug/L	0.094	0.036	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Benzo(k)fluoranthene	0.094 U	U	ug/L	0.094	0.024	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Chrysene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Dibenzo(a,h)anthracene	0.066 U	U	ug/L	0.066	0.022	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
1,4-Dioxane	0.041J	J	ug/L	0.094	0.018	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Fluoranthene	0.094 U	U	ug/L	0.094	0.017	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Fluorene	0.094 U	U	ug/L	0.094	0.014	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Indeno(1,2,3-cd)pyrene	0.094 U	U	ug/L	0.094	0.039	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Naphthalene	0.094 U	U	ug/L	0.094	0.035	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Phenanthrene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Pyrene	0.094 U	U	ug/L	0.094	0.014	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	78.3		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
2-Methylnapthalene-d10 (S)	78.3		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Fluoranthene-d10 (S)	90.5		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
Fluoranthene-d10 (S)	90.5		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:05	CGS	I
PESTICIDES											
Aldrin	0.019 U	U	ug/L	0.019	0.0047	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
alpha-BHC	0.019 U	U	ug/L	0.019	0.0019	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
beta-BHC	0.019 U	U	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
delta-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
gamma-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
alpha-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
gamma-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K

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ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052001** Date Collected: 3/15/2017 09:30 Matrix: Ground Water

Sample ID: **W-JO-Packing Shed** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4,4'-DDD	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
4,4'-DDE	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
4,4'-DDT	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Dieldrin	0.012J	J	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Endosulfan I	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Endosulfan II	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Endosulfan Sulfate	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Endrin	0.017J	J	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Endrin Aldehyde	0.019 U	U	ug/L	0.019	0.0094	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Endrin Ketone	0.013J	J	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Heptachlor	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Heptachlor Epoxide	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Methoxychlor	0.019 U	U	ug/L	0.019	0.0085	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Toxaphene	0.94 U	U	ug/L	0.94	0.18	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	21.4	2	%	30 - 140		SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
Tetrachloro-m-xylene (S)	56.1		%	30 - 123		SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:30	RWS	K
PETROLEUM HC's											
Diesel Range Organics C10-C28	0.16 U	U	mg/L	0.16	0.051	SW846 8015D	3/20/17 07:55	JTH	3/21/17 14:50	BS	E
Gasoline Range Organics	100 U	U	ug/L	100	13.9	SW846 8015D			3/20/17 12:19	DD	A
Oil Range Oranics C28-C35	0.20 U	U,1	mg/L	0.20	0.092	SW846 8015D	3/20/17 07:55	JTH	3/21/17 14:50	BS	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	123		%	90 - 129		SW846 8015D			3/20/17 12:19	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	73.9		%	26 - 139		SW846 8015D	3/20/17 07:55	JTH	3/21/17 14:50	BS	E
HERBICIDES											
2,4-D	0.19 U	U	ug/L	0.19	0.024	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
2,4-DB	0.28 U	U	ug/L	0.28	0.043	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
Dalapon	0.94 U	U	ug/L	0.94	0.034	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
Dicamba	0.19 U	U	ug/L	0.19	0.043	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
Dichloroprop	0.47 U	U	ug/L	0.47	0.052	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
Dinoseb	4.7 U	U	ug/L	4.7	0.13	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
MCPA	37.7 U	U	ug/L	37.7	7.3	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
MCPP	37.7 U	U	ug/L	37.7	6.9	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
Pentachlorophenol	0.19 U	U	ug/L	0.19	0.019	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052001** Date Collected: 3/15/2017 09:30 Matrix: Ground Water

Sample ID: **W-JO-Packing Shed** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
2,4,5-T	0.19 U	U	ug/L	0.19	0.037	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
2,4,5-TP	0.28 U	U	ug/L	0.28	0.022	SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	108		%	14 - 172		SW846 8151A	3/17/17 17:55	ACD	3/20/17 10:25	EGO	M
METALS											
Arsenic, Total	0.0033 U	U	mg/L	0.0033	0.0011	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Arsenic, Dissolved	0.0030 U	U	mg/L	0.0030	0.0010	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:35	MO	H2
Barium, Total	0.093		mg/L	0.0056	0.0019	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Barium, Dissolved	0.094		mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:35	MO	H2
Cadmium, Total	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Cadmium, Dissolved	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:35	MO	H2
Chromium, Total	0.0020J	J	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Chromium, Dissolved	0.0015J	J	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:35	MO	H2
Lead, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Lead, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:35	MO	H2
Mercury, Total	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/16/17 00:00	AXC	3/16/17 04:40	MNP	G1
Mercury, Dissolved	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/17/17 02:00	AXC	3/17/17 11:09	MNP	H1
Selenium, Total	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Selenium, Dissolved	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/21/17 06:03	ZMC	H2
Silver, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:28	ZMC	G2
Silver, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:35	MO	H2
WET CHEMISTRY											
Ammonia-N	0.100 U	U	mg/L	0.100	0.03	D6919-09			3/23/17 22:06	AK	P
Phenolics	0.005 U	U	mg/L	0.005	0.002	SW846 9066	3/20/17 00:00	JLG	3/22/17 10:37	JLG	O
Specific Conductance	851		umhos/cm	1	0.1	S2510B-97			3/16/17 06:47	MSA	Q

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052002** Date Collected: 3/15/2017 09:00 Matrix: Water

Sample ID: **TB-1(031517)** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	8.3J	J	ug/L	10.0	3.1	SW846 8260B		3/17/17 05:31	SYB	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 05:31	SYB	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 05:31	SYB	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 05:31	SYB	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 05:31	SYB	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 05:31	SYB	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 05:31	SYB	A
Carbon Disulfide	0.28J	J	ug/L	1.0	0.23	SW846 8260B		3/17/17 05:31	SYB	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 05:31	SYB	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 05:31	SYB	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 05:31	SYB	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 05:31	SYB	A
Chloroform	1.0 U	U	ug/L	1.0	0.21	SW846 8260B		3/17/17 05:31	SYB	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 05:31	SYB	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 05:31	SYB	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 05:31	SYB	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 05:31	SYB	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 05:31	SYB	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 05:31	SYB	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 05:31	SYB	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 05:31	SYB	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 05:31	SYB	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 05:31	SYB	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 05:31	SYB	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 05:31	SYB	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 05:31	SYB	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 05:31	SYB	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 05:31	SYB	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 05:31	SYB	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 05:31	SYB	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 05:31	SYB	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 05:31	SYB	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 05:31	SYB	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 05:31	SYB	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 05:31	SYB	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 05:31	SYB	A

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ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052002** Date Collected: 3/15/2017 09:00 Matrix: Water

Sample ID: **TB-1(031517)** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 05:31	SYB	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 05:31	SYB	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 05:31	SYB	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 05:31	SYB	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 05:31	SYB	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 05:31	SYB	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 05:31	SYB	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 05:31	SYB	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 05:31	SYB	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 05:31	SYB	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 05:31	SYB	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 05:31	SYB	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 05:31	SYB	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 05:31	SYB	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 05:31	SYB	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 05:31	SYB	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	93.7		%	62 - 133	SW846 8260B			3/17/17 05:31	SYB	A
4-Bromofluorobenzene (S)	90.6		%	79 - 114	SW846 8260B			3/17/17 05:31	SYB	A
Dibromofluoromethane (S)	94.5		%	78 - 116	SW846 8260B			3/17/17 05:31	SYB	A
Toluene-d8 (S)	98.7		%	76 - 127	SW846 8260B			3/17/17 05:31	SYB	A

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052003** Date Collected: 3/15/2017 09:50 Matrix: Ground Water

Sample ID: **W-JO-Dup 1** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	10.0 U	U	ug/L	10.0	3.1	SW846 8260B		3/17/17 08:48	SYB	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 08:48	SYB	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 08:48	SYB	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 08:48	SYB	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 08:48	SYB	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 08:48	SYB	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 08:48	SYB	A
Carbon Disulfide	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 08:48	SYB	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 08:48	SYB	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 08:48	SYB	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 08:48	SYB	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 08:48	SYB	A
Chloroform	1.2		ug/L	1.0	0.21	SW846 8260B		3/17/17 08:48	SYB	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 08:48	SYB	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 08:48	SYB	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 08:48	SYB	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 08:48	SYB	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 08:48	SYB	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 08:48	SYB	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 08:48	SYB	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 08:48	SYB	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 08:48	SYB	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 08:48	SYB	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 08:48	SYB	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 08:48	SYB	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 08:48	SYB	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 08:48	SYB	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 08:48	SYB	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 08:48	SYB	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 08:48	SYB	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 08:48	SYB	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 08:48	SYB	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 08:48	SYB	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 08:48	SYB	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 08:48	SYB	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 08:48	SYB	A

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052003** Date Collected: 3/15/2017 09:50 Matrix: Ground Water

Sample ID: **W-JO-Dup 1** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 08:48	SYB	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 08:48	SYB	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 08:48	SYB	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 08:48	SYB	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 08:48	SYB	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 08:48	SYB	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 08:48	SYB	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 08:48	SYB	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 08:48	SYB	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 08:48	SYB	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 08:48	SYB	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 08:48	SYB	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 08:48	SYB	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 08:48	SYB	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 08:48	SYB	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 08:48	SYB	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	101		%	62 - 133	SW846 8260B			3/17/17 08:48	SYB	A
4-Bromofluorobenzene (S)	107		%	79 - 114	SW846 8260B			3/17/17 08:48	SYB	A
Dibromofluoromethane (S)	92.5		%	78 - 116	SW846 8260B			3/17/17 08:48	SYB	A
Toluene-d8 (S)	95.5		%	76 - 127	SW846 8260B			3/17/17 08:48	SYB	A

SEMIVOLATILES

Acenaphthene	1.5 U	U	ug/L	1.5	0.15	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Acenaphthylene	1.5 U	U	ug/L	1.5	0.19	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Anthracene	1.5 U	U	ug/L	1.5	0.15	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Benzo(a)anthracene	1.5 U	U	ug/L	1.5	0.13	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Benzo(a)pyrene	1.5 U	U	ug/L	1.5	0.22	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Benzo(b)fluoranthene	1.5 U	U	ug/L	1.5	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Benzo(g,h,i)perylene	1.5 U	U	ug/L	1.5	0.22	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Benzo(k)fluoranthene	1.5 U	U	ug/L	1.5	0.19	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Chrysene	1.5 U	U	ug/L	1.5	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Dibenzo(a,h)anthracene	1.5 U	U	ug/L	1.5	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Fluoranthene	1.5 U	U	ug/L	1.5	0.17	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Fluorene	1.5 U	U	ug/L	1.5	0.20	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Indeno(1,2,3-cd)pyrene	1.5 U	U	ug/L	1.5	0.099	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Naphthalene	1.5 U	U	ug/L	1.5	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Phenanthrene	1.5 U	U	ug/L	1.5	0.13	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052003** Date Collected: 3/15/2017 09:50 Matrix: Ground Water

Sample ID: **W-JO-Dup 1** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Pyrene	1.5 U	U	ug/L	1.5	0.16	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	67.7		%	52 - 118		SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Nitrobenzene-d5 (S)	74.3		%	27 - 139		SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
Terphenyl-d14 (S)	74		%	46 - 133		SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:14	GEC	I
SEMIVOLATILE SIM											
Acenaphthene	0.099 U	U	ug/L	0.099	0.011	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Acenaphthylene	0.099 U	U	ug/L	0.099	0.011	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Anthracene	0.099 U	U	ug/L	0.099	0.017	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Benzo(a)anthracene	0.099 U	U	ug/L	0.099	0.017	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Benzo(a)pyrene	0.099 U	U	ug/L	0.099	0.020	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Benzo(b)fluoranthene	0.023J	J	ug/L	0.099	0.020	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Benzo(g,h,i)perylene	0.099 U	U	ug/L	0.099	0.038	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Benzo(k)fluoranthene	0.099 U	U	ug/L	0.099	0.025	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Chrysene	0.099 U	U	ug/L	0.099	0.017	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Dibenzo(a,h)anthracene	0.023J	J	ug/L	0.069	0.023	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
1,4-Dioxane	0.055J	J	ug/L	0.099	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Fluoranthene	0.099 U	U	ug/L	0.099	0.018	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Fluorene	0.099 U	U	ug/L	0.099	0.015	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Indeno(1,2,3-cd)pyrene	0.099 U	U	ug/L	0.099	0.041	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Naphthalene	0.099 U	U	ug/L	0.099	0.037	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Phenanthrene	0.099 U	U	ug/L	0.099	0.020	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Pyrene	0.099 U	U	ug/L	0.099	0.015	8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	76		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
2-Methylnapthalene-d10 (S)	76		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Fluoranthene-d10 (S)	84.3		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
Fluoranthene-d10 (S)	84.3		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 16:32	CGS	I
PESTICIDES											
Aldrin	0.019 U	U	ug/L	0.019	0.0047	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
alpha-BHC	0.019 U	U	ug/L	0.019	0.0019	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
beta-BHC	0.019 U	U	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
delta-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
gamma-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
alpha-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
gamma-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052003** Date Collected: 3/15/2017 09:50 Matrix: Ground Water

Sample ID: **W-JO-Dup 1** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4,4'-DDD	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
4,4'-DDE	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
4,4'-DDT	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Dieldrin	0.017J	J	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Endosulfan I	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Endosulfan II	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Endosulfan Sulfate	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Endrin	0.026		ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Endrin Aldehyde	0.019 U	U	ug/L	0.019	0.0094	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Endrin Ketone	0.016J	J	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Heptachlor	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Heptachlor Epoxide	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Methoxychlor	0.019 U	U	ug/L	0.019	0.0085	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Toxaphene	0.94 U	U	ug/L	0.94	0.18	SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	30.8		%	30 - 140		SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
Tetrachloro-m-xylene (S)	66.3		%	30 - 123		SW846 8081B	3/17/17 08:30	JXD	3/20/17 22:46	RWS	K
PETROLEUM HC's											
Diesel Range Organics C10-C28	0.16 U	U	mg/L	0.16	0.050	SW846 8015D	3/20/17 07:55	JTH	3/21/17 15:25	BS	E
Gasoline Range Organics	20.6J	J	ug/L	100	13.9	SW846 8015D			3/20/17 12:53	DD	A
Oil Range Oranics C28-C35	0.20 U	U,1	mg/L	0.20	0.090	SW846 8015D	3/20/17 07:55	JTH	3/21/17 15:25	BS	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	123		%	90 - 129		SW846 8015D			3/20/17 12:53	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	77.9		%	26 - 139		SW846 8015D	3/20/17 07:55	JTH	3/21/17 15:25	BS	E
HERBICIDES											
2,4-D	0.19 U	U	ug/L	0.19	0.024	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
2,4-DB	0.28 U	U	ug/L	0.28	0.043	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
Dalapon	0.94 U	U	ug/L	0.94	0.034	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
Dicamba	0.19 U	U	ug/L	0.19	0.043	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
Dichloroprop	0.47 U	U	ug/L	0.47	0.052	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
Dinoseb	4.7 U	U	ug/L	4.7	0.13	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
MCPA	37.7 U	U	ug/L	37.7	7.3	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
MCPP	37.7 U	U	ug/L	37.7	6.9	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
Pentachlorophenol	0.19 U	U	ug/L	0.19	0.019	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2215052 Project Shuttle

Lab ID: **2215052003** Date Collected: 3/15/2017 09:50 Matrix: Ground Water

Sample ID: **W-JO-Dup 1** Date Received: 3/15/2017 21:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
2,4,5-T	0.19 U	U	ug/L	0.19	0.037	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
2,4,5-TP	0.28 U	U	ug/L	0.28	0.022	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	111		%	14 - 172		SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:02	EGO	M
METALS											
Arsenic, Total	0.0033 U	U	mg/L	0.0033	0.0011	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Arsenic, Dissolved	0.0030 U	U	mg/L	0.0030	0.0010	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:39	MO	H2
Barium, Total	0.097		mg/L	0.0056	0.0019	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Barium, Dissolved	0.099		mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:39	MO	H2
Cadmium, Total	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Cadmium, Dissolved	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:39	MO	H2
Chromium, Total	0.0019J	J	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Chromium, Dissolved	0.0011J	J	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:39	MO	H2
Lead, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Lead, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:39	MO	H2
Mercury, Total	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/16/17 00:00	AXC	3/16/17 04:41	MNP	G1
Mercury, Dissolved	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/17/17 02:00	AXC	3/17/17 11:12	MNP	H1
Selenium, Total	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Selenium, Dissolved	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/21/17 06:07	ZMC	H2
Silver, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/16/17 02:30	ZMC	3/16/17 07:36	ZMC	G2
Silver, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:39	MO	H2
WET CHEMISTRY											
Ammonia-N	0.040J	J	mg/L	0.100	0.03	D6919-09			3/23/17 22:25	AK	P
Phenolics	0.005 U	U	mg/L	0.005	0.002	SW846 9066	3/20/17 00:00	JLG	3/22/17 10:37	JLG	O
Specific Conductance	855		umhos/cm	1	0.1	S2510B-97			3/16/17 06:54	MSA	Q

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2215052001	1	W-JO-Packing Shed	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				
2215052001	2	W-JO-Packing Shed	SW846 8081B	Decachlorobiphenyls
The surrogate Decachlorobiphenyls for method SW846 8081B was outside of control limits. The % Recovery was reported as 21.4 and the control limits were 30 to 140. This result was reported at a dilution of 1.				
2215052003	1	W-JO-Dup 1	SW846 8015D	Oil Range Oranics C28-C35
The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.				

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: EXTR/47067 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2502584

Parameter	Blank Result	Units	Reporting Limit
Aldrin	0.020 U	ug/L	0.020
alpha-BHC	0.020 U	ug/L	0.020
beta-BHC	0.020 U	ug/L	0.020
delta-BHC	0.020 U	ug/L	0.020
gamma-BHC	0.020 U	ug/L	0.020
alpha-Chlordane	0.020 U	ug/L	0.020
gamma-Chlordane	0.020 U	ug/L	0.020
4,4'-DDD	0.020 U	ug/L	0.020
4,4'-DDE	0.020 U	ug/L	0.020
4,4'-DDT	0.020 U	ug/L	0.020
Dieldrin	0.020 U	ug/L	0.020
Endosulfan I	0.020 U	ug/L	0.020
Endosulfan II	0.020 U	ug/L	0.020
Endosulfan Sulfate	0.020 U	ug/L	0.020
Endrin	0.020 U	ug/L	0.020
Endrin Aldehyde	0.020 U	ug/L	0.020
Endrin Ketone	0.020 U	ug/L	0.020
Heptachlor	0.020 U	ug/L	0.020
Heptachlor Epoxide	0.020 U	ug/L	0.020
Methoxychlor	0.020 U	ug/L	0.020
Toxaphene	1.0 U	ug/L	1.0
Decachlorobiphenyls (S)	74.3	%	30 - 140
Tetrachloro-m-xylene (S)	40.8	%	30 - 123

LABORATORY CONTROL SAMPLE: 2502585

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	72.2	ug/L	.5	0.36	45 - 121
alpha-BHC	80.5	ug/L	.5	0.40	60 - 137
beta-BHC	71.4	ug/L	.5	0.36	59 - 139
delta-BHC	84.9	ug/L	.5	0.42	59 - 141
gamma-BHC	81.3	ug/L	.5	0.41	58 - 138
alpha-Chlordane	79.3	ug/L	.5	0.40	62 - 131
gamma-Chlordane	81.5	ug/L	.5	0.41	60 - 129
4,4'-DDD	95.4	ug/L	.5	0.48	58 - 142

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

4,4'-DDE	88	ug/L	.5	0.44	61 - 132
4,4'-DDT	100	ug/L	.5	0.50	58 - 140
Dieldrin	84.3	ug/L	.5	0.42	61 - 138
Endosulfan I	79.3	ug/L	.5	0.40	53 - 128
Endosulfan II	93.7	ug/L	.5	0.47	57 - 142
Endosulfan Sulfate	86.8	ug/L	.5	0.43	36 - 148
Endrin	100	ug/L	.5	0.50	58 - 143
Endrin Aldehyde	69.3	ug/L	.5	0.35	23 - 139
Endrin Ketone	88.4	ug/L	.5	0.44	51 - 139
Heptachlor	78.6	ug/L	.5	0.39	51 - 124
Heptachlor Epoxide	81.3	ug/L	.5	0.41	62 - 131
Methoxychlor	119	ug/L	.5	0.60	56 - 140
Toxaphene		ug/L		1.0 U	
Decachlorobiphenyls (S)	70.7	%			30 - 140
Tetrachloro-m-xylene (S)	42.1	%			30 - 123

MATRIX SPIKE SAMPLE: 2502586 ORIGINAL: 2215051001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aldrin	0	ug/L	.5	.41273	83.4	45 - 121
alpha-BHC	0	ug/L	.5	.45478	91.9	60 - 137
beta-BHC	0	ug/L	.5	.47132	95.2	59 - 139
delta-BHC	0	ug/L	.5	.44844	90.6	59 - 141
gamma-BHC	0	ug/L	.5	.45592	92.1	58 - 138
alpha-Chlordane	0	ug/L	.5	.43538	87.9	62 - 131
gamma-Chlordane	0	ug/L	.5	.45288	91.5	60 - 129
4,4'-DDD	0	ug/L	.5	.53445	108	58 - 142
4,4'-DDE	0	ug/L	.5	.47929	96.8	61 - 132
4,4'-DDT	0	ug/L	.5	.47511	96	58 - 140
Dieldrin	0	ug/L	.5	.46588	94.1	61 - 138
Endosulfan I	0	ug/L	.5	.44119	89.1	53 - 128
Endosulfan II	0	ug/L	.5	.49543	100	57 - 142
Endosulfan Sulfate	0	ug/L	.5	.45748	92.4	36 - 148
Endrin	0	ug/L	.5	.56171	113	58 - 143
Endrin Aldehyde	0	ug/L	.5	.43968	88.8	23 - 139
Endrin Ketone	0	ug/L	.5	.49189	99.4	51 - 139
Heptachlor	0	ug/L	.5	.47265	95.5	51 - 124
Heptachlor Epoxide	0	ug/L	.5	.44744	90.4	62 - 131
Methoxychlor	0	ug/L	.5	.58409	118	56 - 140
Decachlorobiphenyls (S)	21.7	%				30 - 140
Tetrachloro-m-xylene (S)	64.1	%				30 - 123

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: EXTR/47077 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2502867

Parameter	Blank Result	Units	Reporting Limit
2,4-D	0.20 U	ug/L	0.20
2,4-DB	0.30 U	ug/L	0.30
Dalapon	1.0 U	ug/L	1.0
Dicamba	0.20 U	ug/L	0.20
Dichloroprop	0.50 U	ug/L	0.50
Dinoseb	5.0 U	ug/L	5.0
MCPA	40.0 U	ug/L	40.0
MCPP	40.0 U	ug/L	40.0
Pentachlorophenol	0.20 U	ug/L	0.20
2,4,5-T	0.20 U	ug/L	0.20
2,4,5-TP	0.30 U	ug/L	0.30
2,4-Dichlorophenylacetic acid (S)	100	%	14 - 172

LABORATORY CONTROL SAMPLE: 2502868

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	125	ug/L	2	2.5	56 - 156
2,4-DB	96.3	ug/L	2	1.9	23 - 174
Dalapon	93.3	ug/L	2	1.9	35 - 171
Dicamba	95.7	ug/L	2	1.9	64 - 115
Dichloroprop	84.8	ug/L	2	1.7	61 - 125
Dinoseb	10.3	ug/L	2	0.21J	1 - 98
MCPA	109	ug/L	200	218	11 - 194
MCPP	122	ug/L	200	243	14 - 205
Pentachlorophenol	70.1	ug/L	2	1.4	63 - 109
2,4,5-T	96.9	ug/L	2	1.9	57 - 127
2,4,5-TP	95.2	ug/L	2	1.9	58 - 123
2,4-Dichlorophenylacetic acid (S)	102	%			14 - 172

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

MATRIX SPIKE: 2502869 DUPLICATE: 2502870 ORIGINAL: 2214966009

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4-D	0	ug/L	40	46.8092	48.6555	117	122	56 - 156	3.87	40
2,4,5-TP	0	ug/L	40	39.8992	39.6631	99.7	99.2	58 - 123	.59	40
2,4-Dichlorophenylacetic acid (S)	109	%				109	106	14 - 172		

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: EXTR/47085 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2503540

Parameter	Blank Result	Units	Reporting Limit
Diesel Range Organics C10-C28	0.16 U	mg/L	0.16
Oil Range Oranics C28-C35	0.20 U	mg/L	0.20
o-Terphenyl (S)	97.8	%	26 - 139

LABORATORY CONTROL SAMPLE: 2503541

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	56.8	mg/L	.5	0.28	34 - 137
Oil Range Oranics C28-C35	0*	mg/L	.21	0.20 U	34 - 137
o-Terphenyl (S)	90.1	%			26 - 139

LABORATORY CONTROL SAMPLE: 2503542

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	48.8	mg/L	.5	0.24	34 - 137
Oil Range Oranics C28-C35	86.7	mg/L	.21	0.18J	34 - 137
o-Terphenyl (S)	100	%			26 - 139

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: EXTR/47098 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2504214

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	1.5 U	ug/L	1.5
Acenaphthylene	1.5 U	ug/L	1.5
Anthracene	1.5 U	ug/L	1.5
Benzo(a)anthracene	1.5 U	ug/L	1.5
Benzo(a)pyrene	1.5 U	ug/L	1.5
Benzo(b)fluoranthene	1.5 U	ug/L	1.5
Benzo(g,h,i)perylene	1.5 U	ug/L	1.5
Benzo(k)fluoranthene	1.5 U	ug/L	1.5
Chrysene	1.5 U	ug/L	1.5
Dibenzo(a,h)anthracene	1.5 U	ug/L	1.5
Fluoranthene	1.5 U	ug/L	1.5
Fluorene	1.5 U	ug/L	1.5
Indeno(1,2,3-cd)pyrene	1.5 U	ug/L	1.5
Naphthalene	1.5 U	ug/L	1.5
Phenanthrene	1.5 U	ug/L	1.5
Pyrene	1.5 U	ug/L	1.5
2-Fluorobiphenyl (S)	58.3	%	52 - 118
Nitrobenzene-d5 (S)	67	%	27 - 139
Terphenyl-d14 (S)	64.9	%	46 - 133

LABORATORY CONTROL SAMPLE: 2504215

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	57.2	ug/L	50	28.6	36 - 130
Acenaphthylene	62.5	ug/L	50	31.2	39 - 130
Anthracene	71.8	ug/L	50	35.9	48 - 133
Benzo(a)anthracene	73	ug/L	50	36.5	51 - 127
Benzo(a)pyrene	74.8	ug/L	50	37.4	53 - 127
Benzo(b)fluoranthene	75.7	ug/L	50	37.8	53 - 131
Benzo(g,h,i)perylene	70.8	ug/L	50	35.4	54 - 131
Benzo(k)fluoranthene	75.3	ug/L	50	37.7	52 - 130
Chrysene	74.3	ug/L	50	37.1	50 - 131
Dibenzo(a,h)anthracene	80	ug/L	50	40.0	56 - 130
Fluoranthene	79.5	ug/L	50	39.8	49 - 132
Fluorene	65.7	ug/L	50	32.9	42 - 131

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Indeno(1,2,3-cd)pyrene	78.7	ug/L	50	39.3	55 - 126
Naphthalene	48.9	ug/L	50	24.5	21 - 123
Phenanthrene	69.1	ug/L	50	34.6	46 - 131
Pyrene	67.7	ug/L	50	33.8	48 - 134
2-Fluorobiphenyl (S)	67	%			52 - 118
Nitrobenzene-d5 (S)	74.4	%			27 - 139
Terphenyl-d14 (S)	72	%			46 - 133

MATRIX SPIKE SAMPLE: 2504216 ORIGINAL: 2215052001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/L	49.5	29.991	60.6	36 - 130
Acenaphthylene	0	ug/L	49.5	32.5052	65.7	39 - 130
Anthracene	0	ug/L	49.5	34.1293	68.9	48 - 133
Benzo(a)anthracene	0	ug/L	49.5	34.8273	70.4	51 - 127
Benzo(a)pyrene	0	ug/L	49.5	35.82	72.4	53 - 127
Benzo(b)fluoranthene	0	ug/L	49.5	36.6311	74	53 - 131
Benzo(g,h,i)perylene	0	ug/L	49.5	34.7722	70.2	54 - 131
Benzo(k)fluoranthene	0	ug/L	49.5	36.0957	72.9	52 - 130
Chrysene	0	ug/L	49.5	36.4506	73.6	50 - 131
Dibenzo(a,h)anthracene	0	ug/L	49.5	38.5109	77.8	56 - 130
Fluoranthene	0	ug/L	49.5	36.0715	72.9	49 - 132
Fluorene	0	ug/L	49.5	32.8424	66.3	42 - 131
Indeno(1,2,3-cd)pyrene	0	ug/L	49.5	38.3228	77.4	55 - 126
Naphthalene	0	ug/L	49.5	27.277	55.1	21 - 123
Phenanthrene	0	ug/L	49.5	33.8921	68.5	46 - 131
Pyrene	0	ug/L	49.5	34.1772	69	48 - 134
2-Fluorobiphenyl (S)	64.8	%				52 - 118
Nitrobenzene-d5 (S)	69.7	%				27 - 139
Terphenyl-d14 (S)	65.6	%				46 - 133

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: EXTR/47099 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2504217

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	0.10 U	ug/L	0.10
Acenaphthylene	0.10 U	ug/L	0.10
Anthracene	0.10 U	ug/L	0.10
Benzo(a)anthracene	0.10 U	ug/L	0.10
Benzo(a)pyrene	0.10 U	ug/L	0.10
Benzo(b)fluoranthene	0.10 U	ug/L	0.10
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10
Benzo(k)fluoranthene	0.10 U	ug/L	0.10
Chrysene	0.10 U	ug/L	0.10
Dibenzo(a,h)anthracene	0.070 U	ug/L	0.070
Fluoranthene	0.10 U	ug/L	0.10
Fluorene	0.10 U	ug/L	0.10
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10
Naphthalene	0.10 U	ug/L	0.10
Phenanthrene	0.10 U	ug/L	0.10
Pyrene	0.10 U	ug/L	0.10
2-Methylnapthalene-d10 (S)	59.4	%	29 - 112
Fluoranthene-d10 (S)	70.5	%	45 - 130

LABORATORY CONTROL SAMPLE: 2504218

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	73.2	ug/L	1	0.73	46 - 121
Acenaphthylene	76	ug/L	1	0.76	49 - 122
Anthracene	75.3	ug/L	1	0.75	47 - 134
Benzo(a)anthracene	72.3	ug/L	1	0.72	51 - 141
Benzo(a)pyrene	67.4	ug/L	1	0.67	45 - 139
Benzo(b)fluoranthene	75.6	ug/L	1	0.76	48 - 147
Benzo(g,h,i)perylene	68.2	ug/L	1	0.68	43 - 153
Benzo(k)fluoranthene	74.8	ug/L	1	0.75	52 - 148
Chrysene	75.8	ug/L	1	0.76	52 - 144
Dibenzo(a,h)anthracene	68.6	ug/L	1	0.69	45 - 150
Fluoranthene	78	ug/L	1	0.78	51 - 149
Fluorene	74.4	ug/L	1	0.74	52 - 123
Indeno(1,2,3-cd)pyrene	67.6	ug/L	1	0.68	49 - 143

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Naphthalene	67	ug/L	1	0.67	44 - 113
Phenanthrene	73.7	ug/L	1	0.74	50 - 128
Pyrene	77.7	ug/L	1	0.78	48 - 143
2-Methylnapthalene-d10 (S)	63	%			29 - 112
Fluoranthene-d10 (S)	74.8	%			45 - 130

MATRIX SPIKE SAMPLE: 2504219 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/L	.94	.66757	70.8	46 - 121
Acenaphthylene	0	ug/L	.94	.69292	73.4	49 - 122
Anthracene	0	ug/L	.94	.68088	72.2	47 - 134
Benzo(a)anthracene	0	ug/L	.94	.63719	67.5	51 - 141
Benzo(a)pyrene	0	ug/L	.94	.61592	65.3	45 - 139
Benzo(b)fluoranthene	.02283	ug/L	.94	.67428	69.1	48 - 147
Benzo(g,h,i)perylene	0	ug/L	.94	.59841	63.4	43 - 153
Benzo(k)fluoranthene	0	ug/L	.94	.67651	71.7	52 - 148
Chrysene	0	ug/L	.94	.67813	71.9	52 - 144
Dibenzo(a,h)anthracene	.02326	ug/L	.94	.59438	60.5	45 - 150
Fluoranthene	0	ug/L	.94	.69252	73.4	51 - 149
Fluorene	0	ug/L	.94	.67243	71.3	52 - 123
Indeno(1,2,3-cd)pyrene	0	ug/L	.94	.59264	62.8	49 - 143
Naphthalene	0	ug/L	.94	.61862	65.6	44 - 113
Phenanthrene	0	ug/L	.94	.66216	70.2	50 - 128
Pyrene	0	ug/L	.94	.68561	72.7	48 - 143
2-Methylnapthalene-d10 (S)	63	%				29 - 112
Fluoranthene-d10 (S)	71.6	%				45 - 130

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: EXTR/47189 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2508481

Parameter	Blank Result	Units	Reporting Limit
2-Methylnapthalene-d10 (S)	59.4	%	29 - 112
Fluoranthene-d10 (S)	70.5	%	45 - 130

LABORATORY CONTROL SAMPLE: 2508482

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2-Methylnapthalene-d10 (S)	63	%			29 - 112
Fluoranthene-d10 (S)	74.8	%			45 - 130

MATRIX SPIKE SAMPLE: 2508483 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
2-Methylnapthalene-d10 (S)	63	%				29 - 112
Fluoranthene-d10 (S)	71.6	%				45 - 130

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: MDIG/63273 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2501601

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.00050 U	mg/L	0.00050

LABORATORY CONTROL SAMPLE: 2501602

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	95	mg/L	.002	0.0019	85 - 115

MATRIX SPIKE: 2501603 DUPLICATE: 2501604 ORIGINAL: 2214320001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.00485	.00491	97	98.2	70 - 130	1.23	20

MATRIX SPIKE: 2501605 DUPLICATE: 2501606 ORIGINAL: 2215041002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.0046	.00453	92	90.6	70 - 130	1.53	20

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: MDIG/63284 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2501681

Parameter	Blank Result	Units	Reporting Limit
Mercury, Dissolved	0.00050 U	mg/L	0.00050

LABORATORY CONTROL SAMPLE: 2501682

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Dissolved	93.5	mg/L	.002	0.0019	85 - 115

MATRIX SPIKE: 2501683 DUPLICATE: 2501684 ORIGINAL: 2213803001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Dissolved	0	mg/L	.005	.00439	.00439	87.8	87.8	70 - 130	0	20

MATRIX SPIKE: 2501685 DUPLICATE: 2501686 ORIGINAL: 2214333002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Dissolved	0	mg/L	.005	.00532	.00526	106	105	70 - 130	1.13	20

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: MDIG/63288 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3015

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2501737

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	0.0033 U	mg/L	0.0033
Barium, Total	0.0056 U	mg/L	0.0056
Cadmium, Total	0.0011 U	mg/L	0.0011
Chromium, Total	0.0022 U	mg/L	0.0022
Lead, Total	0.0022 U	mg/L	0.0022
Selenium, Total	0.0056 U	mg/L	0.0056
Silver, Total	0.0022 U	mg/L	0.0022

LABORATORY CONTROL SAMPLE: 2501738

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	97.4	mg/L	.22	0.22	80 - 120
Barium, Total	105	mg/L	2.2	2.3	80 - 120
Cadmium, Total	104	mg/L	.22	0.23	80 - 120
Chromium, Total	107	mg/L	.22	0.24	80 - 120
Lead, Total	102	mg/L	.22	0.23	80 - 120
Selenium, Total	92.4	mg/L	.22	0.21	80 - 120
Silver, Total	116	mg/L	.11	0.13	80 - 120

MATRIX SPIKE: 2501739 DUPLICATE: 2501740 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	.00003	mg/L	.22	.19784	.19463	89	87.6	75 - 125	1.64	20
Barium, Total	.09735	mg/L	2.2	2.28586	2.29183	98.5	98.8	75 - 125	.26	20
Cadmium, Total	.00001	mg/L	.22	.2066	.20748	93	93.4	75 - 125	.42	20
Chromium, Total	.0019	mg/L	.22	.22159	.22172	98.9	98.9	75 - 125	.06	20
Lead, Total	.00014	mg/L	.22	.22156	.22655	99.6	102	75 - 125	2.22	20
Selenium, Total	.00035	mg/L	.22	.18407	.17818	82.7	80	75 - 125	3.25	20
Silver, Total	0	mg/L	.11	.1082	.108	97.4	97.2	75 - 125	.18	20

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: MDIG/63359 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3015

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2503417

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Dissolved	0.0030 U	mg/L	0.0030
Barium, Dissolved	0.0056 U	mg/L	0.0056
Cadmium, Dissolved	0.0011 U	mg/L	0.0011
Chromium, Dissolved	0.0022 U	mg/L	0.0022
Lead, Dissolved	0.0022 U	mg/L	0.0022
Selenium, Dissolved	0.0056 U	mg/L	0.0056
Silver, Dissolved	0.0022 U	mg/L	0.0022

LABORATORY CONTROL SAMPLE: 2503418

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Dissolved	89.8	mg/L	.22	0.20	80 - 120
Barium, Dissolved	101	mg/L	2.2	2.2	80 - 120
Cadmium, Dissolved	93.6	mg/L	.22	0.21	80 - 120
Chromium, Dissolved	98.6	mg/L	.22	0.22	80 - 120
Lead, Dissolved	100	mg/L	.22	0.22	80 - 120
Selenium, Dissolved	84.6	mg/L	.22	0.19	80 - 120
Silver, Dissolved	102	mg/L	.11	0.11	80 - 120

MATRIX SPIKE: 2503419 DUPLICATE: 2503420 ORIGINAL: 2214606006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Dissolved	.00185	mg/L	.22	.20253	.20737	90.3	92.5	75 - 125	2.36	20
Barium, Dissolved	.07079	mg/L	2.2	2.32128	2.31765	101	101	75 - 125	.16	20
Cadmium, Dissolved	0	mg/L	.22	.21041	.21252	94.7	95.6	75 - 125	1	20
Chromium, Dissolved	.00082	mg/L	.22	.22109	.22187	99.1	99.5	75 - 125	.35	20
Lead, Dissolved	.00002	mg/L	.22	.22996	.22883	103	103	75 - 125	.49	20
Selenium, Dissolved	.00004	mg/L	.22	.18997	.18506	85.5	83.3	75 - 125	2.62	20
Silver, Dissolved	0	mg/L	.11	.11226	.11297	101	102	75 - 125	.63	20

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: VOGC/9425 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 8015D

Associated Lab Samples: 2215052001, 2215052003

LABORATORY CONTROL SAMPLE: 2503549

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Gasoline Range Organics	81	ug/L	1000	810	77 - 125
a,a,a-Trifluorotoluene (S)	94.8	%			90 - 129

METHOD BLANK: 2503548

Parameter	Blank Result	Units	Reporting Limit
Gasoline Range Organics	47.1J	ug/L	100
a,a,a-Trifluorotoluene (S)	121	%	90 - 129

MATRIX SPIKE: 2503662 DUPLICATE: 2503663 ORIGINAL: 2215047001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Gasoline Range Organics	32.5368	ug/L	1000	924.167	925.786	89.2	89.3	77 - 125	.18	10
a,a,a-Trifluorotoluene (S)	114	%				114	108	90 - 129		

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: VOMS/42747 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 2215052002

METHOD BLANK: 2502350

Parameter	Blank Result	Units	Reporting Limit
Acetone	3.5J	ug/L	10.0
Benzene	1.0 U	ug/L	1.0
Bromochloromethane	1.0 U	ug/L	1.0
Bromodichloromethane	1.0 U	ug/L	1.0
Bromoform	1.0 U	ug/L	1.0
Bromomethane	1.0 U	ug/L	1.0
2-Butanone	10.0 U	ug/L	10.0
Carbon Disulfide	0.27J	ug/L	1.0
Carbon Tetrachloride	1.0 U	ug/L	1.0
Chlorobenzene	1.0 U	ug/L	1.0
Chlorodibromomethane	1.0 U	ug/L	1.0
Chloroethane	1.0 U	ug/L	1.0
Chloroform	0.78J	ug/L	1.0
Chloromethane	1.0 U	ug/L	1.0
Cyclohexane	1.0 U	ug/L	1.0
1,2-Dibromo-3-chloropropane	7.0 U	ug/L	7.0
1,2-Dibromoethane	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	1.0 U	ug/L	1.0
Dichlorodifluoromethane	1.0 U	ug/L	1.0
1,1-Dichloroethane	1.0 U	ug/L	1.0
1,2-Dichloroethane	1.0 U	ug/L	1.0
1,1-Dichloroethene	1.0 U	ug/L	1.0
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0
1,2-Dichloropropane	1.0 U	ug/L	1.0
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0
Ethylbenzene	1.0 U	ug/L	1.0
Freon 113	1.0 U	ug/L	1.0
2-Hexanone	5.0 U	ug/L	5.0
Isopropylbenzene	1.0 U	ug/L	1.0
Methyl acetate	2.0 U	ug/L	2.0
Methyl cyclohexane	1.0 U	ug/L	1.0
Methyl t-Butyl Ether	1.0 U	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	5.0 U	ug/L	5.0

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Methylene Chloride	1.0 U	ug/L	1.0
Styrene	1.0 U	ug/L	1.0
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0
Tetrachloroethene	1.0 U	ug/L	1.0
Toluene	1.0 U	ug/L	1.0
Total Xylenes	3.0 U	ug/L	3.0
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0
1,2,4-Trichlorobenzene	2.0 U	ug/L	2.0
1,1,1-Trichloroethane	1.0 U	ug/L	1.0
1,1,2-Trichloroethane	1.0 U	ug/L	1.0
Trichloroethene	1.0 U	ug/L	1.0
Trichlorofluoromethane	1.0 U	ug/L	1.0
Vinyl Chloride	1.0 U	ug/L	1.0
o-Xylene	1.0 U	ug/L	1.0
mp-Xylene	2.0 U	ug/L	2.0
1,2-Dichloroethane-d4 (S)	92.7	%	62 - 133
4-Bromofluorobenzene (S)	90.8	%	79 - 114
Dibromofluoromethane (S)	95.2	%	78 - 116
Toluene-d8 (S)	94.4	%	76 - 127

LABORATORY CONTROL SAMPLE: 2502351

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	119	ug/L	100	119	40 - 151
Benzene	103	ug/L	20	20.6	80 - 124
Bromochloromethane	114	ug/L	20	22.8	73 - 117
Bromodichloromethane	103	ug/L	20	20.5	79 - 126
Bromoform	106	ug/L	20	21.2	70 - 123
Bromomethane	138	ug/L	20	27.7	45 - 148
2-Butanone	104	ug/L	100	104	50 - 152
Carbon Disulfide	106	ug/L	20	21.2	57 - 131
Carbon Tetrachloride	113	ug/L	20	22.5	62 - 132
Chlorobenzene	104	ug/L	20	20.7	85 - 117
Chlorodibromomethane	104	ug/L	20	20.7	77 - 122
Chloroethane	129	ug/L	20	25.8	51 - 142
Chloroform	112	ug/L	20	22.4	78 - 122
Chloromethane	139	ug/L	20	27.8	38 - 156
Cyclohexane	117	ug/L	20	23.3	66 - 130
1,2-Dibromo-3-chloropropane	98.6	ug/L	20	19.7	59 - 133
1,2-Dibromoethane	102	ug/L	20	20.5	80 - 124
1,2-Dichlorobenzene	106	ug/L	20	21.2	82 - 118
1,3-Dichlorobenzene	109	ug/L	20	21.8	81 - 118
1,4-Dichlorobenzene	107	ug/L	20	21.4	81 - 116
Dichlorodifluoromethane	122	ug/L	20	24.4	17 - 166

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

1,1-Dichloroethane	105	ug/L	20	21.1	78 - 124
1,2-Dichloroethane	102	ug/L	20	20.3	70 - 133
1,1-Dichloroethene	109	ug/L	20	21.9	63 - 128
cis-1,2-Dichloroethene	102	ug/L	20	20.4	78 - 125
trans-1,2-Dichloroethene	109	ug/L	20	21.8	71 - 122
1,2-Dichloropropane	105	ug/L	20	21.0	81 - 127
cis-1,3-Dichloropropene	105	ug/L	20	21.0	81 - 121
trans-1,3-Dichloropropene	110	ug/L	20	22.0	78 - 126
Ethylbenzene	117	ug/L	20	23.4	80 - 124
Freon 113	124	ug/L	20	24.7	50 - 130
2-Hexanone	94.1	ug/L	100	94.1	65 - 154
Isopropylbenzene	115	ug/L	20	22.9	73 - 129
Methyl acetate	124	ug/L	20	24.8	70 - 130
Methyl cyclohexane	127	ug/L	20	25.4	70 - 130
Methyl t-Butyl Ether	100	ug/L	20	20.1	69 - 115
4-Methyl-2-Pentanone(MIBK)	95.7	ug/L	100	95.7	71 - 146
Methylene Chloride	110	ug/L	20	22.0	76 - 121
Styrene	116	ug/L	20	23.3	79 - 123
1,1,2,2-Tetrachloroethane	103	ug/L	20	20.6	74 - 135
Tetrachloroethene	106	ug/L	20	21.2	72 - 124
Toluene	111	ug/L	20	22.1	80 - 125
Total Xylenes	111	ug/L	60	66.5	79 - 125
1,2,3-Trichlorobenzene	99.8	ug/L	20	20.0	61 - 126
1,2,4-Trichlorobenzene	105	ug/L	20	21.0	67 - 123
1,1,1-Trichloroethane	104	ug/L	20	20.8	66 - 130
1,1,2-Trichloroethane	96.3	ug/L	20	19.3	82 - 126
Trichloroethene	96.8	ug/L	20	19.4	77 - 124
Trichlorofluoromethane	128*	ug/L	20	25.6	38 - 123
Vinyl Chloride	119	ug/L	20	23.8	27 - 138
o-Xylene	107	ug/L	20	21.3	79 - 124
mp-Xylene	113	ug/L	40	45.2	79 - 125
1,2-Dichloroethane-d4 (S)	93.2	%			62 - 133
4-Bromofluorobenzene (S)	92.2	%			79 - 114
Dibromofluoromethane (S)	91.5	%			78 - 116
Toluene-d8 (S)	93.1	%			76 - 127

MATRIX SPIKE: 2502496 DUPLICATE: 2502497 ORIGINAL: 2214751001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Acetone	4.65434	ug/L	100	99.9657	118.066	95.3	113	40 - 151	16.6	40
Benzene	0	ug/L	20	21.9143	21.4501	110	107	80 - 124	2.14	26
Bromochloromethane	0	ug/L	20	23.5381	22.2359	118*	111	73 - 117	5.69	19

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Bromodichloromethane	0	ug/L	20	21.0913	20.9986	105	105	79 - 126	.44	16
Bromoform	0	ug/L	20	20.9485	20.4634	105	102	70 - 123	2.34	16
Bromomethane	0	ug/L	20	26.5773	26.8142	133	134	45 - 148	.89	26
2-Butanone	0	ug/L	100	108.973	113.148	109	113	50 - 152	3.76	16
Carbon Disulfide	0	ug/L	20	22.6394	23.1857	113	116	57 - 131	2.38	28
Carbon Tetrachloride	0	ug/L	20	24.5774	24.7684	123	124	62 - 132	.77	17
Chlorobenzene	0	ug/L	20	21.5175	21.5005	108	108	85 - 117	.08	15
Chlorodibromomethane	0	ug/L	20	21.0489	20.7261	105	104	77 - 122	1.55	15
Chloroethane	0	ug/L	20	26.0731	26.0042	130	130	51 - 142	.26	24
Chloroform	0	ug/L	20	23.9156	23.3068	120	117	78 - 122	2.58	16
Chloromethane	0	ug/L	20	30.0084	30.119	150	151	38 - 156	.37	27
Cyclohexane	0	ug/L	20	25.4115	26.0987	127	130	66 - 130	2.67	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	20.6176	19.9708	103	99.9	59 - 133	3.19	26
1,2-Dibromoethane	0	ug/L	20	21.3395	21.2487	107	106	80 - 124	.43	19
1,2-Dichlorobenzene	0	ug/L	20	21.191	20.8883	106	104	82 - 118	1.44	15
1,3-Dichlorobenzene	0	ug/L	20	22.2798	21.0791	111	105	81 - 118	5.54	16
1,4-Dichlorobenzene	0	ug/L	20	21.2673	20.9454	106	105	81 - 116	1.53	15
Dichlorodifluoromethane	0	ug/L	20	24.9369	25.261	125	126	17 - 166	1.29	24
1,1-Dichloroethane	0	ug/L	20	23.1928	22.4192	116	112	78 - 124	3.39	15
1,2-Dichloroethane	0	ug/L	20	21.6561	20.7409	108	104	70 - 133	4.32	19
1,1-Dichloroethene	0	ug/L	20	25.1621	24.528	126	123	63 - 128	2.55	21
cis-1,2-Dichloroethene	0	ug/L	20	21.7115	21.6275	109	108	78 - 125	.39	21
trans-1,2-Dichloroethene	0	ug/L	20	24.0693	23.1532	120	116	71 - 122	3.88	22
1,2-Dichloropropane	0	ug/L	20	22.7	21.2432	114	106	81 - 127	6.63	15
cis-1,3-Dichloropropene	0	ug/L	20	22.6468	21.9866	113	110	81 - 121	2.96	16
trans-1,3-Dichloropropene	0	ug/L	20	23.3421	23.3142	117	117	78 - 126	.12	18
Ethylbenzene	0	ug/L	20	23.3237	23.7049	117	119	80 - 124	1.62	19
Freon 113	0	ug/L	20	26.0926	26.0558	130	130	50 - 130	.14	26
2-Hexanone	0	ug/L	100	107.575	107.069	108	107	65 - 154	.47	17
Isopropylbenzene	0	ug/L	20	23.9656	23.1295	120	116	73 - 129	3.55	18
Methyl acetate	0	ug/L	20	23.5987	22.5745	118	113	70 - 130	4.44	18
Methyl cyclohexane	0	ug/L	20	27.3848	27.9628	137*	140*	70 - 130	2.09	18
Methyl t-Butyl Ether	0	ug/L	20	21.0636	20.6323	105	103	69 - 115	2.07	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	109.658	109.528	110	110	71 - 146	.12	16
Methylene Chloride	0	ug/L	20	23.2425	22.5363	116	113	76 - 121	3.09	17
Styrene	0	ug/L	20	23.8064	22.8678	119	114	79 - 123	4.02	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	22.057	21.1037	110	106	74 - 135	4.42	16
Tetrachloroethene	0	ug/L	20	22.2953	21.3711	111	107	72 - 124	4.23	38
Toluene	0	ug/L	20	23.6932	23.692	118	118	80 - 125	.005	20
Total Xylenes	0	ug/L	60	68.1251	68.9659	114	115	79 - 125	1.23	35
1,2,3-Trichlorobenzene	0	ug/L	20	19.1473	18.6595	95.7	93.3	61 - 126	2.58	36
1,2,4-Trichlorobenzene	0	ug/L	20	19.858	20.4697	99.3	102	67 - 123	3.03	22
1,1,1-Trichloroethane	0	ug/L	20	23.3706	23.6167	117	118	66 - 130	1.05	20
1,1,2-Trichloroethane	0	ug/L	20	21.1227	20.9942	106	105	82 - 126	.61	15
Trichloroethene	0	ug/L	20	21.5734	20.6666	108	103	77 - 124	4.29	18
Trichlorofluoromethane	0	ug/L	20	27.3692	27.0626	137*	135*	38 - 123	1.13	23

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Vinyl Chloride	0	ug/L	20	25.956	27.0456	130	135	27 - 138	4.11	40
o-Xylene	0	ug/L	20	21.8263	22.0679	109	110	79 - 124	1.1	19
mp-Xylene	0	ug/L	40	46.2988	46.898	116	117	79 - 125	1.29	21
1,2-Dichloroethane-d4 (S)	91.1	%				91.1	99.5	62 - 133		
4-Bromofluorobenzene (S)	91.7	%				91.7	88.2	79 - 114		
Dibromofluoromethane (S)	91.4	%				91.4	93.8	78 - 116		
Toluene-d8 (S)	92.7	%				92.7	95.5	76 - 127		

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: VOMS/42748 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2502352

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/L	10.0
Benzene	1.0 U	ug/L	1.0
Bromochloromethane	1.0 U	ug/L	1.0
Bromodichloromethane	1.0 U	ug/L	1.0
Bromoform	1.0 U	ug/L	1.0
Bromomethane	1.0 U	ug/L	1.0
2-Butanone	10.0 U	ug/L	10.0
Carbon Disulfide	1.0 U	ug/L	1.0
Carbon Tetrachloride	1.0 U	ug/L	1.0
Chlorobenzene	1.0 U	ug/L	1.0
Chlorodibromomethane	1.0 U	ug/L	1.0
Chloroethane	1.0 U	ug/L	1.0
Chloroform	0.54J	ug/L	1.0
Chloromethane	1.0 U	ug/L	1.0
Cyclohexane	1.0 U	ug/L	1.0
1,2-Dibromo-3-chloropropane	7.0 U	ug/L	7.0
1,2-Dibromoethane	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	1.0 U	ug/L	1.0
Dichlorodifluoromethane	1.0 U	ug/L	1.0
1,1-Dichloroethane	1.0 U	ug/L	1.0
1,2-Dichloroethane	1.0 U	ug/L	1.0
1,1-Dichloroethene	1.0 U	ug/L	1.0
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0
1,2-Dichloropropane	1.0 U	ug/L	1.0
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0
Ethylbenzene	1.0 U	ug/L	1.0
Freon 113	1.0 U	ug/L	1.0
2-Hexanone	5.0 U	ug/L	5.0
Isopropylbenzene	1.0 U	ug/L	1.0
Methyl acetate	2.0 U	ug/L	2.0
Methyl cyclohexane	1.0 U	ug/L	1.0
Methyl t-Butyl Ether	1.0 U	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	5.0 U	ug/L	5.0

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Methylene Chloride	1.0 U	ug/L	1.0
Styrene	1.0 U	ug/L	1.0
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0
Tetrachloroethene	1.0 U	ug/L	1.0
Toluene	1.0 U	ug/L	1.0
Total Xylenes	3.0 U	ug/L	3.0
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0
1,2,4-Trichlorobenzene	2.0 U	ug/L	2.0
1,1,1-Trichloroethane	1.0 U	ug/L	1.0
1,1,2-Trichloroethane	1.0 U	ug/L	1.0
Trichloroethene	1.0 U	ug/L	1.0
Trichlorofluoromethane	1.0 U	ug/L	1.0
Vinyl Chloride	1.0 U	ug/L	1.0
o-Xylene	1.0 U	ug/L	1.0
mp-Xylene	2.0 U	ug/L	2.0
1,2-Dichloroethane-d4 (S)	96.8	%	62 - 133
4-Bromofluorobenzene (S)	107	%	79 - 114
Dibromofluoromethane (S)	91.7	%	78 - 116
Toluene-d8 (S)	97.7	%	76 - 127

LABORATORY CONTROL SAMPLE: 2502353

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	139	ug/L	100	139	40 - 151
Benzene	104	ug/L	20	20.7	80 - 124
Bromochloromethane	103	ug/L	20	20.6	73 - 117
Bromodichloromethane	85.5	ug/L	20	17.1	79 - 126
Bromoform	79.3	ug/L	20	15.9	70 - 123
Bromomethane	77.5	ug/L	20	15.5	45 - 148
2-Butanone	106	ug/L	100	106	50 - 152
Carbon Disulfide	98.9	ug/L	20	19.8	57 - 131
Carbon Tetrachloride	87.4	ug/L	20	17.5	62 - 132
Chlorobenzene	104	ug/L	20	20.7	85 - 117
Chlorodibromomethane	83.5	ug/L	20	16.7	77 - 122
Chloroethane	86.4	ug/L	20	17.3	51 - 142
Chloroform	96.7	ug/L	20	19.3	78 - 122
Chloromethane	107	ug/L	20	21.5	38 - 156
Cyclohexane	97.6	ug/L	20	19.5	66 - 130
1,2-Dibromo-3-chloropropane	86.6	ug/L	20	17.3	59 - 133
1,2-Dibromoethane	106	ug/L	20	21.1	80 - 124
1,2-Dichlorobenzene	100	ug/L	20	20.1	82 - 118
1,3-Dichlorobenzene	103	ug/L	20	20.5	81 - 118
1,4-Dichlorobenzene	99.5	ug/L	20	19.9	81 - 116
Dichlorodifluoromethane	88.3	ug/L	20	17.7	17 - 166

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

1,1-Dichloroethane	101	ug/L	20	20.2	78 - 124
1,2-Dichloroethane	102	ug/L	20	20.3	70 - 133
1,1-Dichloroethene	100	ug/L	20	20.1	63 - 128
cis-1,2-Dichloroethene	101	ug/L	20	20.3	78 - 125
trans-1,2-Dichloroethene	107	ug/L	20	21.4	71 - 122
1,2-Dichloropropane	104	ug/L	20	20.9	81 - 127
cis-1,3-Dichloropropene	91.7	ug/L	20	18.3	81 - 121
trans-1,3-Dichloropropene	96.9	ug/L	20	19.4	78 - 126
Ethylbenzene	106	ug/L	20	21.3	80 - 124
Freon 113	102	ug/L	20	20.4	50 - 130
2-Hexanone	119	ug/L	100	119	65 - 154
Isopropylbenzene	102	ug/L	20	20.4	73 - 129
Methyl acetate	111	ug/L	20	22.2	70 - 130
Methyl cyclohexane	102	ug/L	20	20.4	70 - 130
Methyl t-Butyl Ether	97.5	ug/L	20	19.5	69 - 115
4-Methyl-2-Pentanone(MIBK)	108	ug/L	100	108	71 - 146
Methylene Chloride	93	ug/L	20	18.6	76 - 121
Styrene	89.5	ug/L	20	17.9	79 - 123
1,1,2,2-Tetrachloroethane	103	ug/L	20	20.7	74 - 135
Tetrachloroethene	114	ug/L	20	22.8	72 - 124
Toluene	109	ug/L	20	21.7	80 - 125
Total Xylenes	110	ug/L	60	66.0	79 - 125
1,2,3-Trichlorobenzene	74.4	ug/L	20	14.9	61 - 126
1,2,4-Trichlorobenzene	98.7	ug/L	20	19.7	67 - 123
1,1,1-Trichloroethane	98.6	ug/L	20	19.7	66 - 130
1,1,2-Trichloroethane	111	ug/L	20	22.2	82 - 126
Trichloroethene	99.9	ug/L	20	20.0	77 - 124
Trichlorofluoromethane	83.4	ug/L	20	16.7	38 - 123
Vinyl Chloride	85.4	ug/L	20	17.1	27 - 138
o-Xylene	108	ug/L	20	21.6	79 - 124
mp-Xylene	111	ug/L	40	44.5	79 - 125
1,2-Dichloroethane-d4 (S)	97.1	%			62 - 133
4-Bromofluorobenzene (S)	110	%			79 - 114
Dibromofluoromethane (S)	96.6	%			78 - 116
Toluene-d8 (S)	95.5	%			76 - 127

MATRIX SPIKE: 2502605 DUPLICATE: 2502606 ORIGINAL: 2215370002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	0	ug/L	20	21.3924	20.8221	107	104	80 - 124	2.7	26
Bromoform	0	ug/L	20	15.8082	14.7615	79	73.8	70 - 123	6.85	16
Bromomethane	0	ug/L	20	17.3589	18.7418	86.8	93.7	45 - 148	7.66	26

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

2-Butanone	0	ug/L	100	92.13	92.8191	92.1	92.8	50 - 152	.75	16
Carbon Tetrachloride	0	ug/L	20	16.0913	18.954	80.5	94.8	62 - 132	16.3	17
Chlorobenzene	0	ug/L	20	20.7214	20.6062	104	103	85 - 117	.56	15
Chlorodibromomethane	0	ug/L	20	15.9443	16.0658	79.7	80.3	77 - 122	.76	15
Chloroethane	0	ug/L	20	20.5408	19.9757	103	99.9	51 - 142	2.79	24
Chloromethane	0	ug/L	20	28.3828	26.7803	142	134	38 - 156	5.81	27
1,2-Dibromoethane	0	ug/L	20	19.3341	19.3631	96.7	96.8	80 - 124	.15	19
1,2-Dichlorobenzene	0	ug/L	20	20.9216	20.3408	105	102	82 - 118	2.82	15
1,3-Dichlorobenzene	0	ug/L	20	22.1059	20.7226	111	104	81 - 118	6.46	16
1,4-Dichlorobenzene	0	ug/L	20	20.7588	20.0198	104	100	81 - 116	3.62	15
Dichlorodifluoromethane	0	ug/L	20	22.3763	21.9497	112	110	17 - 166	1.92	24
1,1-Dichloroethane	0	ug/L	20	21.3946	21.0388	107	105	78 - 124	1.68	15
1,2-Dichloroethane	0	ug/L	20	21.3838	20.8431	107	104	70 - 133	2.56	19
1,1-Dichloroethene	0	ug/L	20	22.1502	23.5702	111	118	63 - 128	6.21	21
cis-1,2-Dichloroethene	0	ug/L	20	21.71	21.0748	109	105	78 - 125	2.97	21
trans-1,2-Dichloroethene	0	ug/L	20	23.1125	22.3171	116	112	71 - 122	3.5	22
1,2-Dichloropropane	0	ug/L	20	21.7022	21.1482	109	106	81 - 127	2.59	15
cis-1,3-Dichloropropene	0	ug/L	20	17.8409	17.8718	89.2	89.4	81 - 121	.17	16
trans-1,3-Dichloropropene	0	ug/L	20	17.9945	18.4367	90	92.2	78 - 126	2.43	18
Ethylbenzene	0	ug/L	20	21.3956	21.6379	107	108	80 - 124	1.13	19
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	107.82	112.238	108	112	71 - 146	4.02	16
Methylene Chloride	0	ug/L	20	19.5475	19.1192	97.7	95.6	76 - 121	2.22	17
1,1,2,2-Tetrachloroethane	0	ug/L	20	22.0846	20.5827	110	103	74 - 135	7.04	16
Tetrachloroethene	0	ug/L	20	22.4994	22.1893	112	111	72 - 124	1.39	38
Toluene	0	ug/L	20	21.5726	21.2732	108	106	80 - 125	1.4	20
Total Xylenes	0	ug/L	60	65.2586	65.8696	109	110	79 - 125	.93	35
1,1,1-Trichloroethane	0	ug/L	20	21.1245	21.2001	106	106	66 - 130	.36	20
1,1,2-Trichloroethane	0	ug/L	20	21.5502	21.5019	108	108	82 - 126	.22	15
Trichloroethene	0	ug/L	20	21.3427	21.0111	107	105	77 - 124	1.57	18
Trichlorofluoromethane	0	ug/L	20	20.9457	21.1337	105	106	38 - 123	.89	23
Vinyl Chloride	0	ug/L	20	21.3134	21.6001	107	108	27 - 138	1.34	40
1,2-Dichloroethane-d4 (S)	102	%				102	103	62 - 133		
4-Bromofluorobenzene (S)	111	%				111	108	79 - 114		
Dibromofluoromethane (S)	99.2	%				99.2	99.8	78 - 116		
Toluene-d8 (S)	91.6	%				91.6	94	76 - 127		

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: WETC/184332 **Analysis Method:** S2510B-97

QC Batch Method: S2510B-97

Associated Lab Samples: 2215052001, 2215052003

METHOD BLANK: 2501544

Parameter	Blank Result	Units	Reporting Limit
Specific Conductance	0.3J	umhos/c	1

LABORATORY CONTROL SAMPLE: 2501546

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	102	umhos/c	1410	1440	90 - 110

LABORATORY CONTROL SAMPLE: 2501547

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	100	umhos/c	10000	10000	90 - 110

LABORATORY CONTROL SAMPLE: 2501548

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	95.6	umhos/c	100000	95600	90 - 110

SAMPLE DUPLICATE: 2501700 ORIGINAL: 2215041007

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Specific Conductance	378	umhos/c	373	1.33	10

METHOD BLANK: 2501703

Parameter	Blank Result	Units	Reporting Limit

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Specific Conductance	0.3J	umhos/c	1

LABORATORY CONTROL SAMPLE: 2501704

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	102	umhos/c	1410	1440	90 - 110

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: WETC/184546 **Analysis Method:** SW846 9066

QC Batch Method: SW846 9066

Associated Lab Samples:

METHOD BLANK: 2503875

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.002J	mg/L	0.005

METHOD BLANK: 2503877

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503879

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.002J	mg/L	0.005

METHOD BLANK: 2503881

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.004J	mg/L	0.005

METHOD BLANK: 2503883

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.002J	mg/L	0.005

METHOD BLANK: 2503885

Parameter	Blank Result	Units	Reporting Limit

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503887

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503889

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503891

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2503893

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: WETC/184606 **Analysis Method:** D6919-09

QC Batch Method: D6919-09

Associated Lab Samples: 2215052001, 2215052003

LABORATORY CONTROL SAMPLE: 2504620

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Ammonia-N	102	mg/L	2.5	2.56	90 - 110

METHOD BLANK: 2504621

Parameter	Blank Result	Units	Reporting Limit
Ammonia-N	0.010 U	mg/L	0.010

METHOD BLANK: 2504623

Parameter	Blank Result	Units	Reporting Limit
Ammonia-N	0.010 U	mg/L	0.010

MATRIX SPIKE: 2504624 DUPLICATE: 2504625 ORIGINAL: 2216084002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Ammonia-N	.119	mg/L	10	10.434	10.514	103	104	75 - 125	.76	25

QUALITY CONTROL DATA

Workorder: 2215052 Project Shuttle

QC Batch: WETC/184670 **Analysis Method:** SW846 9066

QC Batch Method: SW846 9066

Associated Lab Samples:

METHOD BLANK: 2505367

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2505369

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005J	mg/L	0.005

METHOD BLANK: 2505371

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2505475

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2505477

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA QUALIFIERS

Workorder: 2215052 Project Shuttle

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2502351	1	Lab Control Standard	SW846 8260B	Trichlorofluoromethane

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 128 and the control limits were 38 to 123.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215052 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215052001	W-JO-Packing Shed			S2510B-97	WETC/184332
2215052003	W-JO-Dup 1			S2510B-97	WETC/184332
2215052001	W-JO-Packing Shed	SW846 7470A	MDIG/63273	SW846 7470A	META/56481
2215052003	W-JO-Dup 1	SW846 7470A	MDIG/63273	SW846 7470A	META/56481
2215052001	W-JO-Packing Shed	SW846 7470A	MDIG/63284	SW846 7470A	META/56499
2215052003	W-JO-Dup 1	SW846 7470A	MDIG/63284	SW846 7470A	META/56499
2215052001	W-JO-Packing Shed	SW846 3015	MDIG/63288	SW846 6020A	META/56485
2215052003	W-JO-Dup 1	SW846 3015	MDIG/63288	SW846 6020A	META/56485
2215052002	TB-1(031517)			SW846 8260B	VOMS/42747
2215052001	W-JO-Packing Shed			SW846 8260B	VOMS/42748
2215052003	W-JO-Dup 1			SW846 8260B	VOMS/42748
2215052001	W-JO-Packing Shed	SW846 3510C	EXTR/47067	SW846 8081B	SVGC/44828
2215052003	W-JO-Dup 1	SW846 3510C	EXTR/47067	SW846 8081B	SVGC/44828
2215052001	W-JO-Packing Shed	SW846 8151A	EXTR/47077	SW846 8151A	SVGC/44823
2215052003	W-JO-Dup 1	SW846 8151A	EXTR/47077	SW846 8151A	SVGC/44823
2215052001	W-JO-Packing Shed	SW846 3015	MDIG/63359	SW846 6020A	META/56530
2215052003	W-JO-Dup 1	SW846 3015	MDIG/63359	SW846 6020A	META/56530
2215052001	W-JO-Packing Shed	SW846 3015	MDIG/63359	SW846 6020A	META/56540
2215052003	W-JO-Dup 1	SW846 3015	MDIG/63359	SW846 6020A	META/56540
2215052001	W-JO-Packing Shed	SW846 3510C	EXTR/47085	SW846 8015D	SVGC/44837
2215052003	W-JO-Dup 1	SW846 3510C	EXTR/47085	SW846 8015D	SVGC/44837

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215052 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215052001	W-JO-Packing Shed			SW846 8015D	VOGC/9425
2215052003	W-JO-Dup 1			SW846 8015D	VOGC/9425
2215052001	W-JO-Packing Shed	420.4/9066	WCPR/39443	SW846 9066	WETC/184670
2215052003	W-JO-Dup 1	420.4/9066	WCPR/39443	SW846 9066	WETC/184670
2215052001	W-JO-Packing Shed	SW846 3510C	EXTR/47098	SW846 8270D	SVMS/27787
2215052003	W-JO-Dup 1	SW846 3510C	EXTR/47098	SW846 8270D	SVMS/27787
2215052001	W-JO-Packing Shed	SW846 3510C	EXTR/47099	8270 SIM	SVMS/27786
2215052003	W-JO-Dup 1	SW846 3510C	EXTR/47099	8270 SIM	SVMS/27786
2215052001	W-JO-Packing Shed			D6919-09	WETC/184606
2215052003	W-JO-Dup 1			D6919-09	WETC/184606
2215052001	W-JO-Packing Shed	SW846 3510C	EXTR/47189	8270 SIM	SVMS/27829
2215052003	W-JO-Dup 1	SW846 3510C	EXTR/47189	8270 SIM	SVMS/27829

ALS Environmental
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Middletown, PA 17057
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F. 717-944-1430

Jefferson Orchard

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Courier:

Tracking #:

22150052

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: ERM

Contact (Report to): David Connelly

Phone: (304) 757-4777

Address: 204 Chase Drive
Hurricane, WV 25526

Bill to (if different than Report to): Same as Above

PO#: 0397010

Project Name/#: Project Shuttle

ALS Quote #:

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. 5-DAY

Date Required: 3/28/17

Approved By: Paul Painter

Email? X Y David.Connelly@erm.com &

Fax? ☐ Y No.: Megan.Innis@erm.com

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix
1	W-JO-Packing Shed		3/15/17	0930	G	GW
2	TB-1 (031517)		↓	0900	↓	↓
3	W-JO-DUP1		↓	0950	↓	↓
4						
5						
6						
7						
8						

***Container Type	CG	AG	AG	AG	AG	PL	PL	PL	CG	AG
***Container Size	40mL	1L	1L	1L	1L	500mL	500mL	500mL	40mL	500mL
*** Preservative	HCL	H_2SO_4	—	—	—	HNO_3	—	—	HCL	H_2SO_4

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

	TPH-GRO	TPH-DRO/ORO	Pesticides	Herbicides	PAH	Total RCRA 8 Metals	Dissolved RCRA 8 Metals (LAB FILTER)	Specific Conductance	TCL VOCs	Phenol
1	X	X	X	X	X	X	X	X	X	X
2			TRIP	BLANK	ONLY					
3	X	X	X	X	X	X	X	X	X	X

Receipt Information (completed by Sample Receiving)

Performed by: SES

Cooler Temp: 1

Therm. ID: 3/16

No. of Cooliers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	
3	Y	Y	Y	Y	

	Custody seals Present?	(if present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
1					
2					
3					

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Megan Innis	3/15/17	1635	2 [illegible] CH	3/15	1635
3 [illegible] CH	3/15		4		(KW)
5		2140	6 [illegible]	3/15	2140
7			8		
9			10		

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ other

EDDs Required? ☒ If yes, format type: Excel

DQO Criteria Required?

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY ☐ PA ☐ Other West Virginia

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

Jefferson Orchard

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

ALS Quote #: 221502

Co. Name: ERM
Contact (Report to): David Connelly Phone: (304) 757-4477
Address: 204 Chase Drive
Hurricane, WV 25526

Bill to (if different than Report to): Same As Above PO#: 0397010

Project Name/#: Project Shuttle

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. 5-DAY
Date Required: 3/28/17
Approved By: Paul Painter

Email? [X] Y David.Connelly@erm.com +
Fax? [ ] Y No.: Megan.Innis@erm.com

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Ammonia	VOCs (TB)							
***Container Type						PL	CG							
***Container Size						250ml	40mL							
Preservative						H_2SO_4	HCl							
1 W-JO-Packing Shed		3/15/17	0930	G	GW	X								
2 TB-1 (031517)		↓	0900	↓	↓		X							
3 W-JO-Dup1		↓	0950	↓	↓	X								
4														
5														
6														
7														
8														

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Received by: SES (SIGN HERE)
Cooler Temp: 1
Therm. ID: 3P
No. of Coolers:
Notes:

Circle appropriate Y or N.	Container in good condition?	COC/Labels complete/accurate?	Received on Ice?	(if present) Seals intact?	Custody seals Present?
N Y	N	N	N	N	N
N Y	N	N	N	N	N
N Y	N	N	N	N	N

Correct containers? N Y
Correct sample volume? N Y
Correct preservation? N Y
Headspace/Volatiles? N Y

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Megan Innis	3/15/17	1635	2	3/15	1635
3	3/15		4		1950
5			6	3/16	2140
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
EDDs Required? [X] If yes, format type: Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]
Other West Virginia
Enter PWSID No.

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 28, 2017

Mr. David Connelly
Environmental Resource Management (ERM)-WV
204 Chase Drive
Hurricane, WV 25526

Certificate of Analysis

Project Name:	**JEFFERSON COUNTY**	Workorder:	**2215399**
Purchase Order:	**0397010**	Workorder ID:	**Project Shuttle**

Dear Mr. Connelly:

Enclosed are the analytical results for samples received by the laboratory on Thursday, March 16, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Megan Innis , Mr. James Hemme

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2215399 Project Shuttle

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2215399001	W-JO-Res House	Ground Water	3/16/2017 08:50	3/16/2017 21:20	Ms. Megan Innis
2215399002	TB-1(031617)	Water	3/16/2017 07:00	3/16/2017 21:20	Ms. Megan Innis

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SAMPLE SUMMARY

Workorder: 2215399 Project Shuttle

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399001** Date Collected: 3/16/2017 08:50 Matrix: Ground Water

Sample ID: **W-JO-Res House** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	10.0 U	U	ug/L	10.0	3.1	SW846 8260B		3/17/17 15:54	TMP	C
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 15:54	TMP	C
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 15:54	TMP	C
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 15:54	TMP	C
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 15:54	TMP	C
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 15:54	TMP	C
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 15:54	TMP	C
Carbon Disulfide	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 15:54	TMP	C
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 15:54	TMP	C
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 15:54	TMP	C
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 15:54	TMP	C
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 15:54	TMP	C
Chloroform	1.4		ug/L	1.0	0.21	SW846 8260B		3/17/17 15:54	TMP	C
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 15:54	TMP	C
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 15:54	TMP	C
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 15:54	TMP	C
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 15:54	TMP	C
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 15:54	TMP	C
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 15:54	TMP	C
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 15:54	TMP	C
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 15:54	TMP	C
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 15:54	TMP	C
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 15:54	TMP	C
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 15:54	TMP	C
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 15:54	TMP	C
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 15:54	TMP	C
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 15:54	TMP	C
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 15:54	TMP	C
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 15:54	TMP	C
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 15:54	TMP	C
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 15:54	TMP	C
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 15:54	TMP	C
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 15:54	TMP	C
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 15:54	TMP	C
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 15:54	TMP	C
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 15:54	TMP	C

ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399001** Date Collected: 3/16/2017 08:50 Matrix: Ground Water

Sample ID: **W-JO-Res House** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 15:54	TMP	C
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 15:54	TMP	C
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 15:54	TMP	C
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 15:54	TMP	C
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 15:54	TMP	C
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 15:54	TMP	C
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 15:54	TMP	C
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 15:54	TMP	C
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 15:54	TMP	C
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 15:54	TMP	C
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 15:54	TMP	C
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 15:54	TMP	C
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 15:54	TMP	C
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 15:54	TMP	C
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 15:54	TMP	C
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 15:54	TMP	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.7		%	62 - 133		SW846 8260B			3/17/17 15:54	TMP	C
4-Bromofluorobenzene (S)	87.8		%	79 - 114		SW846 8260B			3/17/17 15:54	TMP	C
Dibromofluoromethane (S)	95.4		%	78 - 116		SW846 8260B			3/17/17 15:54	TMP	C
Toluene-d8 (S)	96		%	76 - 127		SW846 8260B			3/17/17 15:54	TMP	C
SEMIVOLATILES											
Acenaphthene	1.4 U	U	ug/L	1.4	0.14	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Acenaphthylene	1.4 U	U	ug/L	1.4	0.18	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Anthracene	1.4 U	U	ug/L	1.4	0.14	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Benzo(a)anthracene	1.4 U	U	ug/L	1.4	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Benzo(a)pyrene	1.4 U	U	ug/L	1.4	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Benzo(b)fluoranthene	1.4 U	U	ug/L	1.4	0.10	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Benzo(g,h,i)perylene	1.4 U	U	ug/L	1.4	0.21	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Benzo(k)fluoranthene	1.4 U	U	ug/L	1.4	0.18	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Chrysene	1.4 U	U	ug/L	1.4	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Dibenzo(a,h)anthracene	1.4 U	U	ug/L	1.4	0.20	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Fluoranthene	1.4 U	U	ug/L	1.4	0.16	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Fluorene	1.4 U	U	ug/L	1.4	0.19	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Indeno(1,2,3-cd)pyrene	1.4 U	U	ug/L	1.4	0.094	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Naphthalene	1.4 U	U	ug/L	1.4	0.11	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Phenanthrene	1.4 U	U	ug/L	1.4	0.12	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I

ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399001** Date Collected: 3/16/2017 08:50 Matrix: Ground Water

Sample ID: **W-JO-Res House** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Pyrene	1.4 U	U	ug/L	1.4	0.15	SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Fluorobiphenyl (S)	73.1		%	52 - 118		SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Nitrobenzene-d5 (S)	77.5		%	27 - 139		SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
Terphenyl-d14 (S)	78.4		%	46 - 133		SW846 8270D	3/21/17 07:50	JXD	3/21/17 17:39	GEC	I
SEMIVOLATILE SIM											
Acenaphthene	0.094 U	U	ug/L	0.094	0.010	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Acenaphthylene	0.094 U	U	ug/L	0.094	0.010	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Anthracene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Benzo(a)anthracene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Benzo(a)pyrene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Benzo(b)fluoranthene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Benzo(g,h,i)perylene	0.094 U	U	ug/L	0.094	0.036	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Benzo(k)fluoranthene	0.094 U	U	ug/L	0.094	0.024	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Chrysene	0.094 U	U	ug/L	0.094	0.016	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Dibenzo(a,h)anthracene	0.066 U	U	ug/L	0.066	0.022	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
1,4-Dioxane	0.030J	J	ug/L	0.094	0.018	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Fluoranthene	0.094 U	U	ug/L	0.094	0.017	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Fluorene	0.094 U	U	ug/L	0.094	0.014	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Indeno(1,2,3-cd)pyrene	0.094 U	U	ug/L	0.094	0.039	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Naphthalene	0.094 U	U	ug/L	0.094	0.035	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Phenanthrene	0.094 U	U	ug/L	0.094	0.019	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Pyrene	0.094 U	U	ug/L	0.094	0.014	8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	76.3		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
2-Methylnapthalene-d10 (S)	76.3		%	29 - 112		8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Fluoranthene-d10 (S)	85.1		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
Fluoranthene-d10 (S)	85.1		%	45 - 130		8270 SIM	3/21/17 07:50	JXD	3/21/17 17:24	CGS	I
PESTICIDES											
Aldrin	0.019 U	U	ug/L	0.019	0.0047	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
alpha-BHC	0.019 U	U	ug/L	0.019	0.0019	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
beta-BHC	0.019 U	U	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
delta-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
gamma-BHC	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
alpha-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
gamma-Chlordane	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K

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ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399001** Date Collected: 3/16/2017 08:50 Matrix: Ground Water

Sample ID: **W-JO-Res House** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4,4'-DDD	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
4,4'-DDE	0.019 U	U	ug/L	0.019	0.0066	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
4,4'-DDT	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Dieldrin	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Endosulfan I	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Endosulfan II	0.019 U	U	ug/L	0.019	0.0057	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Endosulfan Sulfate	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Endrin	0.019 U	U	ug/L	0.019	0.0075	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Endrin Aldehyde	0.019 U	U	ug/L	0.019	0.0094	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Endrin Ketone	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Heptachlor	0.019 U	U	ug/L	0.019	0.0028	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Heptachlor Epoxide	0.019 U	U	ug/L	0.019	0.0038	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Methoxychlor	0.019 U	U	ug/L	0.019	0.0085	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Toxaphene	0.94 U	U	ug/L	0.94	0.18	SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	56.7		%	30 - 140		SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
Tetrachloro-m-xylene (S)	68.9		%	30 - 123		SW846 8081B	3/17/17 08:30	JXD	3/20/17 23:01	RWS	K
PETROLEUM HC's											
Diesel Range Organics C10-C28	0.16 U	U	mg/L	0.16	0.051	SW846 8015D	3/20/17 07:55	JTH	3/21/17 14:15	BS	E
Gasoline Range Organics	15.8J	J	ug/L	100	13.9	SW846 8015D			3/20/17 13:27	DD	A
Oil Range Oranics C28-C35	0.20 U	U,1	mg/L	0.20	0.092	SW846 8015D	3/20/17 07:55	JTH	3/21/17 14:15	BS	E
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	122		%	90 - 129		SW846 8015D			3/20/17 13:27	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
o-Terphenyl (S)	78.3		%	26 - 139		SW846 8015D	3/20/17 07:55	JTH	3/21/17 14:15	BS	E
HERBICIDES											
2,4-D	0.19 U	U	ug/L	0.19	0.024	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
2,4-DB	0.28 U	U	ug/L	0.28	0.043	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
Dalapon	0.94 U	U	ug/L	0.94	0.034	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
Dicamba	0.19 U	U	ug/L	0.19	0.043	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
Dichloroprop	0.47 U	U	ug/L	0.47	0.052	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
Dinoseb	4.7 U	U	ug/L	4.7	0.13	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
MCPA	37.7 U	U	ug/L	37.7	7.3	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
MCPP	37.7 U	U	ug/L	37.7	6.9	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
Pentachlorophenol	0.19 U	U	ug/L	0.19	0.019	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M

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ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399001** Date Collected: 3/16/2017 08:50 Matrix: Ground Water

Sample ID: **W-JO-Res House** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
2,4,5-T	0.19 U	U	ug/L	0.19	0.037	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
2,4,5-TP	0.28 U	U	ug/L	0.28	0.022	SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	114		%	14 - 172		SW846 8151A	3/17/17 17:55	ACD	3/20/17 11:40	EGO	M
METALS											
Arsenic, Total	0.0033 U	U	mg/L	0.0033	0.0011	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Arsenic, Dissolved	0.0030 U	U	mg/L	0.0030	0.0010	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:43	MO	H1
Barium, Total	0.12		mg/L	0.0056	0.0019	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Barium, Dissolved	0.12		mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:43	MO	H1
Cadmium, Total	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Cadmium, Dissolved	0.0011 U	U	mg/L	0.0011	0.00037	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:43	MO	H1
Chromium, Total	0.0019J	J	mg/L	0.0022	0.00074	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Chromium, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:43	MO	H1
Lead, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Lead, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:43	MO	H1
Mercury, Total	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/17/17 02:00	AXC	3/17/17 12:22	MNP	G2
Mercury, Dissolved	0.00050 U	U	mg/L	0.00050	0.00017	SW846 7470A	3/21/17 04:15	AXC	3/22/17 06:18	AXC	H2
Selenium, Total	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Selenium, Dissolved	0.0056 U	U	mg/L	0.0056	0.0019	SW846 6020A	3/20/17 04:20	ZMC	3/21/17 06:11	ZMC	H1
Silver, Total	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/17/17 02:40	ZMC	3/17/17 14:54	MO	G1
Silver, Dissolved	0.0022 U	U	mg/L	0.0022	0.00074	SW846 6020A	3/20/17 04:20	ZMC	3/20/17 19:43	MO	H1
WET CHEMISTRY											
Ammonia-N	0.100 U	U	mg/L	0.100	0.03	D6919-09			3/22/17 08:14	NJA	P
Phenolics	0.005 U	U	mg/L	0.005	0.002	SW846 9066	3/21/17 00:00	JLG	3/22/17 10:37	JLG	O
Specific Conductance	833		umhos/cm	1	0.1	S2510B-97			3/17/17 06:05	MSA	Q

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399002** Date Collected: 3/16/2017 07:00 Matrix: Water

Sample ID: **TB-1(031617)** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.9J	J	ug/L	10.0	3.1	SW846 8260B		3/17/17 14:41	TMP	A
Benzene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 14:41	TMP	A
Bromochloromethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 14:41	TMP	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 14:41	TMP	A
Bromoform	1.0 U	U	ug/L	1.0	0.40	SW846 8260B		3/17/17 14:41	TMP	A
Bromomethane	1.0 U	U	ug/L	1.0	0.39	SW846 8260B		3/17/17 14:41	TMP	A
2-Butanone	10.0 U	U	ug/L	10.0	1.8	SW846 8260B		3/17/17 14:41	TMP	A
Carbon Disulfide	1.0 U	U	ug/L	1.0	0.23	SW846 8260B		3/17/17 14:41	TMP	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 14:41	TMP	A
Chlorobenzene	1.0 U	U	ug/L	1.0	0.19	SW846 8260B		3/17/17 14:41	TMP	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	0.45	SW846 8260B		3/17/17 14:41	TMP	A
Chloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 14:41	TMP	A
Chloroform	1.0 U	U	ug/L	1.0	0.21	SW846 8260B		3/17/17 14:41	TMP	A
Chloromethane	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 14:41	TMP	A
Cyclohexane	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 14:41	TMP	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	1.5	SW846 8260B		3/17/17 14:41	TMP	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 14:41	TMP	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.38	SW846 8260B		3/17/17 14:41	TMP	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.25	SW846 8260B		3/17/17 14:41	TMP	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	0.27	SW846 8260B		3/17/17 14:41	TMP	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 14:41	TMP	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	0.28	SW846 8260B		3/17/17 14:41	TMP	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 14:41	TMP	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 14:41	TMP	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.32	SW846 8260B		3/17/17 14:41	TMP	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 14:41	TMP	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B		3/17/17 14:41	TMP	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.31	SW846 8260B		3/17/17 14:41	TMP	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	0.29	SW846 8260B		3/17/17 14:41	TMP	A
Ethylbenzene	1.0 U	U	ug/L	1.0	0.34	SW846 8260B		3/17/17 14:41	TMP	A
Freon 113	1.0 U	U	ug/L	1.0	0.26	SW846 8260B		3/17/17 14:41	TMP	A
2-Hexanone	5.0 U	U	ug/L	5.0	1.3	SW846 8260B		3/17/17 14:41	TMP	A
Isopropylbenzene	1.0 U	U	ug/L	1.0	0.22	SW846 8260B		3/17/17 14:41	TMP	A
Methyl acetate	2.0 U	U	ug/L	2.0	0.32	SW846 8260B		3/17/17 14:41	TMP	A
Methyl cyclohexane	1.0 U	U	ug/L	1.0	0.30	SW846 8260B		3/17/17 14:41	TMP	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	0.33	SW846 8260B		3/17/17 14:41	TMP	A

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ANALYTICAL RESULTS

Workorder: 2215399 Project Shuttle

Lab ID: **2215399002** Date Collected: 3/16/2017 07:00 Matrix: Water

Sample ID: **TB-1(031617)** Date Received: 3/16/2017 21:20

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	1.5	SW846 8260B			3/17/17 14:41	TMP	A
Methylene Chloride	1.0 U	U	ug/L	1.0	0.45	SW846 8260B			3/17/17 14:41	TMP	A
Styrene	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 14:41	TMP	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	0.34	SW846 8260B			3/17/17 14:41	TMP	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	0.35	SW846 8260B			3/17/17 14:41	TMP	A
Toluene	1.0 U	U	ug/L	1.0	0.23	SW846 8260B			3/17/17 14:41	TMP	A
Total Xylenes	3.0 U	U	ug/L	3.0	0.66	SW846 8260B			3/17/17 14:41	TMP	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.93	SW846 8260B			3/17/17 14:41	TMP	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	0.82	SW846 8260B			3/17/17 14:41	TMP	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	0.22	SW846 8260B			3/17/17 14:41	TMP	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 14:41	TMP	A
Trichloroethene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 14:41	TMP	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	0.24	SW846 8260B			3/17/17 14:41	TMP	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	0.30	SW846 8260B			3/17/17 14:41	TMP	A
o-Xylene	1.0 U	U	ug/L	1.0	0.33	SW846 8260B			3/17/17 14:41	TMP	A
mp-Xylene	2.0 U	U	ug/L	2.0	0.52	SW846 8260B			3/17/17 14:41	TMP	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.7		%	62 - 133	SW846 8260B			3/17/17 14:41	TMP	A
4-Bromofluorobenzene (S)	90		%	79 - 114	SW846 8260B			3/17/17 14:41	TMP	A
Dibromofluoromethane (S)	97.3		%	78 - 116	SW846 8260B			3/17/17 14:41	TMP	A
Toluene-d8 (S)	96.5		%	76 - 127	SW846 8260B			3/17/17 14:41	TMP	A

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2215399001	1	W-JO-Res House	SW846 8015D	Oil Range Oranics C28-C35

The ALS Middletown Laboratory is not NELAP accredited for Oil Range Organics by method EPA 8015D.

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: EXTR/47067 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215399001

METHOD BLANK: 2502584

Parameter	Blank Result	Units	Reporting Limit
Aldrin	0.020 U	ug/L	0.020
alpha-BHC	0.020 U	ug/L	0.020
beta-BHC	0.020 U	ug/L	0.020
delta-BHC	0.020 U	ug/L	0.020
gamma-BHC	0.020 U	ug/L	0.020
alpha-Chlordane	0.020 U	ug/L	0.020
gamma-Chlordane	0.020 U	ug/L	0.020
4,4'-DDD	0.020 U	ug/L	0.020
4,4'-DDE	0.020 U	ug/L	0.020
4,4'-DDT	0.020 U	ug/L	0.020
Dieldrin	0.020 U	ug/L	0.020
Endosulfan I	0.020 U	ug/L	0.020
Endosulfan II	0.020 U	ug/L	0.020
Endosulfan Sulfate	0.020 U	ug/L	0.020
Endrin	0.020 U	ug/L	0.020
Endrin Aldehyde	0.020 U	ug/L	0.020
Endrin Ketone	0.020 U	ug/L	0.020
Heptachlor	0.020 U	ug/L	0.020
Heptachlor Epoxide	0.020 U	ug/L	0.020
Methoxychlor	0.020 U	ug/L	0.020
Toxaphene	1.0 U	ug/L	1.0
Decachlorobiphenyls (S)	74.3	%	30 - 140
Tetrachloro-m-xylene (S)	40.8	%	30 - 123

LABORATORY CONTROL SAMPLE: 2502585

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	72.2	ug/L	.5	0.36	45 - 121
alpha-BHC	80.5	ug/L	.5	0.40	60 - 137
beta-BHC	71.4	ug/L	.5	0.36	59 - 139
delta-BHC	84.9	ug/L	.5	0.42	59 - 141
gamma-BHC	81.3	ug/L	.5	0.41	58 - 138
alpha-Chlordane	79.3	ug/L	.5	0.40	62 - 131
gamma-Chlordane	81.5	ug/L	.5	0.41	60 - 129
4,4'-DDD	95.4	ug/L	.5	0.48	58 - 142

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

4,4'-DDE	88	ug/L	.5	0.44	61 - 132
4,4'-DDT	100	ug/L	.5	0.50	58 - 140
Dieldrin	84.3	ug/L	.5	0.42	61 - 138
Endosulfan I	79.3	ug/L	.5	0.40	53 - 128
Endosulfan II	93.7	ug/L	.5	0.47	57 - 142
Endosulfan Sulfate	86.8	ug/L	.5	0.43	36 - 148
Endrin	100	ug/L	.5	0.50	58 - 143
Endrin Aldehyde	69.3	ug/L	.5	0.35	23 - 139
Endrin Ketone	88.4	ug/L	.5	0.44	51 - 139
Heptachlor	78.6	ug/L	.5	0.39	51 - 124
Heptachlor Epoxide	81.3	ug/L	.5	0.41	62 - 131
Methoxychlor	119	ug/L	.5	0.60	56 - 140
Toxaphene		ug/L		1.0 U	
Decachlorobiphenyls (S)	70.7	%			30 - 140
Tetrachloro-m-xylene (S)	42.1	%			30 - 123

MATRIX SPIKE SAMPLE: 2502586 ORIGINAL: 2215051001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aldrin	0	ug/L	.5	.41273	83.4	45 - 121
alpha-BHC	0	ug/L	.5	.45478	91.9	60 - 137
beta-BHC	0	ug/L	.5	.47132	95.2	59 - 139
delta-BHC	0	ug/L	.5	.44844	90.6	59 - 141
gamma-BHC	0	ug/L	.5	.45592	92.1	58 - 138
alpha-Chlordane	0	ug/L	.5	.43538	87.9	62 - 131
gamma-Chlordane	0	ug/L	.5	.45288	91.5	60 - 129
4,4'-DDD	0	ug/L	.5	.53445	108	58 - 142
4,4'-DDE	0	ug/L	.5	.47929	96.8	61 - 132
4,4'-DDT	0	ug/L	.5	.47511	96	58 - 140
Dieldrin	0	ug/L	.5	.46588	94.1	61 - 138
Endosulfan I	0	ug/L	.5	.44119	89.1	53 - 128
Endosulfan II	0	ug/L	.5	.49543	100	57 - 142
Endosulfan Sulfate	0	ug/L	.5	.45748	92.4	36 - 148
Endrin	0	ug/L	.5	.56171	113	58 - 143
Endrin Aldehyde	0	ug/L	.5	.43968	88.8	23 - 139
Endrin Ketone	0	ug/L	.5	.49189	99.4	51 - 139
Heptachlor	0	ug/L	.5	.47265	95.5	51 - 124
Heptachlor Epoxide	0	ug/L	.5	.44744	90.4	62 - 131
Methoxychlor	0	ug/L	.5	.58409	118	56 - 140
Decachlorobiphenyls (S)	21.7	%				30 - 140
Tetrachloro-m-xylene (S)	64.1	%				30 - 123

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: EXTR/47077 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2215399001

METHOD BLANK: 2502867

Parameter	Blank Result	Units	Reporting Limit
2,4-D	0.20 U	ug/L	0.20
2,4-DB	0.30 U	ug/L	0.30
Dalapon	1.0 U	ug/L	1.0
Dicamba	0.20 U	ug/L	0.20
Dichloroprop	0.50 U	ug/L	0.50
Dinoseb	5.0 U	ug/L	5.0
MCPA	40.0 U	ug/L	40.0
MCPP	40.0 U	ug/L	40.0
Pentachlorophenol	0.20 U	ug/L	0.20
2,4,5-T	0.20 U	ug/L	0.20
2,4,5-TP	0.30 U	ug/L	0.30
2,4-Dichlorophenylacetic acid (S)	100	%	14 - 172

LABORATORY CONTROL SAMPLE: 2502868

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	125	ug/L	2	2.5	56 - 156
2,4-DB	96.3	ug/L	2	1.9	23 - 174
Dalapon	93.3	ug/L	2	1.9	35 - 171
Dicamba	95.7	ug/L	2	1.9	64 - 115
Dichloroprop	84.8	ug/L	2	1.7	61 - 125
Dinoseb	10.3	ug/L	2	0.21J	1 - 98
MCPA	109	ug/L	200	218	11 - 194
MCPP	122	ug/L	200	243	14 - 205
Pentachlorophenol	70.1	ug/L	2	1.4	63 - 109
2,4,5-T	96.9	ug/L	2	1.9	57 - 127
2,4,5-TP	95.2	ug/L	2	1.9	58 - 123
2,4-Dichlorophenylacetic acid (S)	102	%			14 - 172

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

MATRIX SPIKE: 2502869 DUPLICATE: 2502870 ORIGINAL: 2214966009

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4-D	0	ug/L	40	46.8092	48.6555	117	122	56 - 156	3.87	40
2,4,5-TP	0	ug/L	40	39.8992	39.6631	99.7	99.2	58 - 123	.59	40
2,4-Dichlorophenylacetic acid (S)	109	%				109	106	14 - 172		

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: EXTR/47085 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215399001

METHOD BLANK: 2503540

Parameter	Blank Result	Units	Reporting Limit
Diesel Range Organics C10-C28	0.16 U	mg/L	0.16
Oil Range Oranics C28-C35	0.20 U	mg/L	0.20
o-Terphenyl (S)	97.8	%	26 - 139

LABORATORY CONTROL SAMPLE: 2503541

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	56.8	mg/L	.5	0.28	34 - 137
Oil Range Oranics C28-C35	0*	mg/L	.21	0.20 U	34 - 137
o-Terphenyl (S)	90.1	%			26 - 139

LABORATORY CONTROL SAMPLE: 2503542

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Diesel Range Organics C10-C28	48.8	mg/L	.5	0.24	34 - 137
Oil Range Oranics C28-C35	86.7	mg/L	.21	0.18J	34 - 137
o-Terphenyl (S)	100	%			26 - 139

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: EXTR/47098 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215399001

METHOD BLANK: 2504214

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	1.5 U	ug/L	1.5
Acenaphthylene	1.5 U	ug/L	1.5
Anthracene	1.5 U	ug/L	1.5
Benzo(a)anthracene	1.5 U	ug/L	1.5
Benzo(a)pyrene	1.5 U	ug/L	1.5
Benzo(b)fluoranthene	1.5 U	ug/L	1.5
Benzo(g,h,i)perylene	1.5 U	ug/L	1.5
Benzo(k)fluoranthene	1.5 U	ug/L	1.5
Chrysene	1.5 U	ug/L	1.5
Dibenzo(a,h)anthracene	1.5 U	ug/L	1.5
Fluoranthene	1.5 U	ug/L	1.5
Fluorene	1.5 U	ug/L	1.5
Indeno(1,2,3-cd)pyrene	1.5 U	ug/L	1.5
Naphthalene	1.5 U	ug/L	1.5
Phenanthrene	1.5 U	ug/L	1.5
Pyrene	1.5 U	ug/L	1.5
2-Fluorobiphenyl (S)	58.3	%	52 - 118
Nitrobenzene-d5 (S)	67	%	27 - 139
Terphenyl-d14 (S)	64.9	%	46 - 133

LABORATORY CONTROL SAMPLE: 2504215

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	57.2	ug/L	50	28.6	36 - 130
Acenaphthylene	62.5	ug/L	50	31.2	39 - 130
Anthracene	71.8	ug/L	50	35.9	48 - 133
Benzo(a)anthracene	73	ug/L	50	36.5	51 - 127
Benzo(a)pyrene	74.8	ug/L	50	37.4	53 - 127
Benzo(b)fluoranthene	75.7	ug/L	50	37.8	53 - 131
Benzo(g,h,i)perylene	70.8	ug/L	50	35.4	54 - 131
Benzo(k)fluoranthene	75.3	ug/L	50	37.7	52 - 130
Chrysene	74.3	ug/L	50	37.1	50 - 131
Dibenzo(a,h)anthracene	80	ug/L	50	40.0	56 - 130
Fluoranthene	79.5	ug/L	50	39.8	49 - 132
Fluorene	65.7	ug/L	50	32.9	42 - 131

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Indeno(1,2,3-cd)pyrene	78.7	ug/L	50	39.3	55 - 126
Naphthalene	48.9	ug/L	50	24.5	21 - 123
Phenanthrene	69.1	ug/L	50	34.6	46 - 131
Pyrene	67.7	ug/L	50	33.8	48 - 134
2-Fluorobiphenyl (S)	67	%			52 - 118
Nitrobenzene-d5 (S)	74.4	%			27 - 139
Terphenyl-d14 (S)	72	%			46 - 133

MATRIX SPIKE SAMPLE: 2504216 ORIGINAL: 2215052001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/L	49.5	29.991	60.6	36 - 130
Acenaphthylene	0	ug/L	49.5	32.5052	65.7	39 - 130
Anthracene	0	ug/L	49.5	34.1293	68.9	48 - 133
Benzo(a)anthracene	0	ug/L	49.5	34.8273	70.4	51 - 127
Benzo(a)pyrene	0	ug/L	49.5	35.82	72.4	53 - 127
Benzo(b)fluoranthene	0	ug/L	49.5	36.6311	74	53 - 131
Benzo(g,h,i)perylene	0	ug/L	49.5	34.7722	70.2	54 - 131
Benzo(k)fluoranthene	0	ug/L	49.5	36.0957	72.9	52 - 130
Chrysene	0	ug/L	49.5	36.4506	73.6	50 - 131
Dibenzo(a,h)anthracene	0	ug/L	49.5	38.5109	77.8	56 - 130
Fluoranthene	0	ug/L	49.5	36.0715	72.9	49 - 132
Fluorene	0	ug/L	49.5	32.8424	66.3	42 - 131
Indeno(1,2,3-cd)pyrene	0	ug/L	49.5	38.3228	77.4	55 - 126
Naphthalene	0	ug/L	49.5	27.277	55.1	21 - 123
Phenanthrene	0	ug/L	49.5	33.8921	68.5	46 - 131
Pyrene	0	ug/L	49.5	34.1772	69	48 - 134
2-Fluorobiphenyl (S)	64.8	%				52 - 118
Nitrobenzene-d5 (S)	69.7	%				27 - 139
Terphenyl-d14 (S)	65.6	%				46 - 133

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: EXTR/47099 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215399001

METHOD BLANK: 2504217

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	0.10 U	ug/L	0.10
Acenaphthylene	0.10 U	ug/L	0.10
Anthracene	0.10 U	ug/L	0.10
Benzo(a)anthracene	0.10 U	ug/L	0.10
Benzo(a)pyrene	0.10 U	ug/L	0.10
Benzo(b)fluoranthene	0.10 U	ug/L	0.10
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10
Benzo(k)fluoranthene	0.10 U	ug/L	0.10
Chrysene	0.10 U	ug/L	0.10
Dibenzo(a,h)anthracene	0.070 U	ug/L	0.070
Fluoranthene	0.10 U	ug/L	0.10
Fluorene	0.10 U	ug/L	0.10
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10
Naphthalene	0.10 U	ug/L	0.10
Phenanthrene	0.10 U	ug/L	0.10
Pyrene	0.10 U	ug/L	0.10
2-Methylnapthalene-d10 (S)	59.4	%	29 - 112
Fluoranthene-d10 (S)	70.5	%	45 - 130

LABORATORY CONTROL SAMPLE: 2504218

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	73.2	ug/L	1	0.73	46 - 121
Acenaphthylene	76	ug/L	1	0.76	49 - 122
Anthracene	75.3	ug/L	1	0.75	47 - 134
Benzo(a)anthracene	72.3	ug/L	1	0.72	51 - 141
Benzo(a)pyrene	67.4	ug/L	1	0.67	45 - 139
Benzo(b)fluoranthene	75.6	ug/L	1	0.76	48 - 147
Benzo(g,h,i)perylene	68.2	ug/L	1	0.68	43 - 153
Benzo(k)fluoranthene	74.8	ug/L	1	0.75	52 - 148
Chrysene	75.8	ug/L	1	0.76	52 - 144
Dibenzo(a,h)anthracene	68.6	ug/L	1	0.69	45 - 150
Fluoranthene	78	ug/L	1	0.78	51 - 149
Fluorene	74.4	ug/L	1	0.74	52 - 123
Indeno(1,2,3-cd)pyrene	67.6	ug/L	1	0.68	49 - 143

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Naphthalene	67	ug/L	1	0.67	44 - 113
Phenanthrene	73.7	ug/L	1	0.74	50 - 128
Pyrene	77.7	ug/L	1	0.78	48 - 143
2-Methylnapthalene-d10 (S)	63	%			29 - 112
Fluoranthene-d10 (S)	74.8	%			45 - 130

MATRIX SPIKE SAMPLE: 2504219 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/L	.94	.66757	70.8	46 - 121
Acenaphthylene	0	ug/L	.94	.69292	73.4	49 - 122
Anthracene	0	ug/L	.94	.68088	72.2	47 - 134
Benzo(a)anthracene	0	ug/L	.94	.63719	67.5	51 - 141
Benzo(a)pyrene	0	ug/L	.94	.61592	65.3	45 - 139
Benzo(b)fluoranthene	.02283	ug/L	.94	.67428	69.1	48 - 147
Benzo(g,h,i)perylene	0	ug/L	.94	.59841	63.4	43 - 153
Benzo(k)fluoranthene	0	ug/L	.94	.67651	71.7	52 - 148
Chrysene	0	ug/L	.94	.67813	71.9	52 - 144
Dibenzo(a,h)anthracene	.02326	ug/L	.94	.59438	60.5	45 - 150
Fluoranthene	0	ug/L	.94	.69252	73.4	51 - 149
Fluorene	0	ug/L	.94	.67243	71.3	52 - 123
Indeno(1,2,3-cd)pyrene	0	ug/L	.94	.59264	62.8	49 - 143
Naphthalene	0	ug/L	.94	.61862	65.6	44 - 113
Phenanthrene	0	ug/L	.94	.66216	70.2	50 - 128
Pyrene	0	ug/L	.94	.68561	72.7	48 - 143
2-Methylnapthalene-d10 (S)	63	%				29 - 112
Fluoranthene-d10 (S)	71.6	%				45 - 130

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: EXTR/47189 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 2215399001

METHOD BLANK: 2508481

Parameter	Blank Result	Units	Reporting Limit
2-Methylnapthalene-d10 (S)	59.4	%	29 - 112
Fluoranthene-d10 (S)	70.5	%	45 - 130

LABORATORY CONTROL SAMPLE: 2508482

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2-Methylnapthalene-d10 (S)	63	%			29 - 112
Fluoranthene-d10 (S)	74.8	%			45 - 130

MATRIX SPIKE SAMPLE: 2508483 ORIGINAL: 2215052003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
2-Methylnapthalene-d10 (S)	63	%				29 - 112
Fluoranthene-d10 (S)	71.6	%				45 - 130

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QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: MDIG/63316 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3015

Associated Lab Samples: 2215399001

METHOD BLANK: 2502474

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	0.0033 U	mg/L	0.0033
Barium, Total	0.0056 U	mg/L	0.0056
Cadmium, Total	0.0011 U	mg/L	0.0011
Chromium, Total	0.0022 U	mg/L	0.0022
Lead, Total	0.0022 U	mg/L	0.0022
Selenium, Total	0.0056 U	mg/L	0.0056
Silver, Total	0.0022 U	mg/L	0.0022

LABORATORY CONTROL SAMPLE: 2502475

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	100	mg/L	.22	0.22	80 - 120
Barium, Total	103	mg/L	2.2	2.3	80 - 120
Cadmium, Total	104	mg/L	.22	0.23	80 - 120
Chromium, Total	106	mg/L	.22	0.24	80 - 120
Lead, Total	107	mg/L	.22	0.24	80 - 120
Selenium, Total	94.8	mg/L	.22	0.21	80 - 120
Silver, Total	115	mg/L	.11	0.13	80 - 120

LABORATORY CONTROL SAMPLE: 2502476

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	103	mg/L	.22	0.23	80 - 120
Barium, Total	107	mg/L	2.2	2.4	80 - 120
Cadmium, Total	107	mg/L	.22	0.24	80 - 120
Chromium, Total	109	mg/L	.22	0.24	80 - 120
Lead, Total	110	mg/L	.22	0.24	80 - 120
Selenium, Total	96.2	mg/L	.22	0.21	80 - 120
Silver, Total	118	mg/L	.11	0.13	80 - 120

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: MDIG/63320 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 2215399001

METHOD BLANK: 2502498

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.00050 U	mg/L	0.00050

LABORATORY CONTROL SAMPLE: 2502499

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	101	mg/L	.002	0.0020	85 - 115

MATRIX SPIKE: 2502500 DUPLICATE: 2502501 ORIGINAL: 2214665001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.00513	.00527	103	105	70 - 130	2.69	20

MATRIX SPIKE: 2502502 DUPLICATE: 2502503 ORIGINAL: 2215370001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.00503	.00498	101	99.6	70 - 130	1	20

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QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: MDIG/63359 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3015

Associated Lab Samples: 2215399001

METHOD BLANK: 2503417

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Dissolved	0.0030 U	mg/L	0.0030
Barium, Dissolved	0.0056 U	mg/L	0.0056
Cadmium, Dissolved	0.0011 U	mg/L	0.0011
Chromium, Dissolved	0.0022 U	mg/L	0.0022
Lead, Dissolved	0.0022 U	mg/L	0.0022
Selenium, Dissolved	0.0056 U	mg/L	0.0056
Silver, Dissolved	0.0022 U	mg/L	0.0022

LABORATORY CONTROL SAMPLE: 2503418

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Dissolved	89.8	mg/L	.22	0.20	80 - 120
Barium, Dissolved	101	mg/L	2.2	2.2	80 - 120
Cadmium, Dissolved	93.6	mg/L	.22	0.21	80 - 120
Chromium, Dissolved	98.6	mg/L	.22	0.22	80 - 120
Lead, Dissolved	100	mg/L	.22	0.22	80 - 120
Selenium, Dissolved	84.6	mg/L	.22	0.19	80 - 120
Silver, Dissolved	102	mg/L	.11	0.11	80 - 120

MATRIX SPIKE: 2503419 DUPLICATE: 2503420 ORIGINAL: 2214606006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Dissolved	.00185	mg/L	.22	.20253	.20737	90.3	92.5	75 - 125	2.36	20
Barium, Dissolved	.07079	mg/L	2.2	2.32128	2.31765	101	101	75 - 125	.16	20
Cadmium, Dissolved	0	mg/L	.22	.21041	.21252	94.7	95.6	75 - 125	1	20
Chromium, Dissolved	.00082	mg/L	.22	.22109	.22187	99.1	99.5	75 - 125	.35	20
Lead, Dissolved	.00002	mg/L	.22	.22996	.22883	103	103	75 - 125	.49	20
Selenium, Dissolved	.00004	mg/L	.22	.18997	.18506	85.5	83.3	75 - 125	2.62	20
Silver, Dissolved	0	mg/L	.11	.11226	.11297	101	102	75 - 125	.63	20

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: MDIG/63382 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 2215399001

METHOD BLANK: 2504148

Parameter	Blank Result	Units	Reporting Limit
Mercury, Dissolved	0.00050 U	mg/L	0.00050

LABORATORY CONTROL SAMPLE: 2504149

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Dissolved	96.5	mg/L	.002	0.0019	85 - 115

MATRIX SPIKE: 2504150 DUPLICATE: 2504151 ORIGINAL: 2215333002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Dissolved	0	mg/L	.005	.00439	.00432	87.8	86.4	70 - 130	1.61	20

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QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: VOGC/9425 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 8015D

Associated Lab Samples: 2215399001

LABORATORY CONTROL SAMPLE: 2503549

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Gasoline Range Organics	81	ug/L	1000	810	77 - 125
a,a,a-Trifluorotoluene (S)	94.8	%			90 - 129

METHOD BLANK: 2503548

Parameter	Blank Result	Units	Reporting Limit
Gasoline Range Organics	47.1J	ug/L	100
a,a,a-Trifluorotoluene (S)	121	%	90 - 129

MATRIX SPIKE: 2503662 DUPLICATE: 2503663 ORIGINAL: 2215047001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Gasoline Range Organics	32.5368	ug/L	1000	924.167	925.786	89.2	89.3	77 - 125	.18	10
a,a,a-Trifluorotoluene (S)	114	%				114	108	90 - 129		

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: VOMS/42750 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 2215399001, 2215399002

METHOD BLANK: 2502598

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/L	10.0
Benzene	1.0 U	ug/L	1.0
Bromochloromethane	1.0 U	ug/L	1.0
Bromodichloromethane	1.0 U	ug/L	1.0
Bromoform	1.0 U	ug/L	1.0
Bromomethane	1.0 U	ug/L	1.0
2-Butanone	10.0 U	ug/L	10.0
Carbon Disulfide	1.0 U	ug/L	1.0
Carbon Tetrachloride	1.0 U	ug/L	1.0
Chlorobenzene	1.0 U	ug/L	1.0
Chlorodibromomethane	1.0 U	ug/L	1.0
Chloroethane	1.0 U	ug/L	1.0
Chloroform	1.0 U	ug/L	1.0
Chloromethane	1.0 U	ug/L	1.0
Cyclohexane	1.0 U	ug/L	1.0
1,2-Dibromo-3-chloropropane	7.0 U	ug/L	7.0
1,2-Dibromoethane	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	1.0 U	ug/L	1.0
Dichlorodifluoromethane	1.0 U	ug/L	1.0
1,1-Dichloroethane	1.0 U	ug/L	1.0
1,2-Dichloroethane	1.0 U	ug/L	1.0
1,1-Dichloroethene	1.0 U	ug/L	1.0
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0
1,2-Dichloropropane	1.0 U	ug/L	1.0
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0
Ethylbenzene	1.0 U	ug/L	1.0
Freon 113	1.0 U	ug/L	1.0
2-Hexanone	5.0 U	ug/L	5.0
Isopropylbenzene	1.0 U	ug/L	1.0
Methyl acetate	2.0 U	ug/L	2.0
Methyl cyclohexane	1.0 U	ug/L	1.0
Methyl t-Butyl Ether	1.0 U	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	5.0 U	ug/L	5.0

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Methylene Chloride	1.0 U	ug/L	1.0
Styrene	1.0 U	ug/L	1.0
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0
Tetrachloroethene	1.0 U	ug/L	1.0
Toluene	1.0 U	ug/L	1.0
Total Xylenes	3.0 U	ug/L	3.0
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0
1,2,4-Trichlorobenzene	2.0 U	ug/L	2.0
1,1,1-Trichloroethane	1.0 U	ug/L	1.0
1,1,2-Trichloroethane	1.0 U	ug/L	1.0
Trichloroethene	1.0 U	ug/L	1.0
Trichlorofluoromethane	1.0 U	ug/L	1.0
Vinyl Chloride	1.0 U	ug/L	1.0
o-Xylene	1.0 U	ug/L	1.0
mp-Xylene	2.0 U	ug/L	2.0
1,2-Dichloroethane-d4 (S)	96.8	%	62 - 133
4-Bromofluorobenzene (S)	89.9	%	79 - 114
Dibromofluoromethane (S)	96.6	%	78 - 116
Toluene-d8 (S)	95.9	%	76 - 127

LABORATORY CONTROL SAMPLE: 2502599

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	111	ug/L	100	111	40 - 151
Benzene	100	ug/L	20	20.1	80 - 124
Bromochloromethane	108	ug/L	20	21.5	73 - 117
Bromodichloromethane	101	ug/L	20	20.1	79 - 126
Bromoform	101	ug/L	20	20.2	70 - 123
Bromomethane	129	ug/L	20	25.8	45 - 148
2-Butanone	104	ug/L	100	104	50 - 152
Carbon Disulfide	101	ug/L	20	20.2	57 - 131
Carbon Tetrachloride	108	ug/L	20	21.6	62 - 132
Chlorobenzene	98.3	ug/L	20	19.7	85 - 117
Chlorodibromomethane	101	ug/L	20	20.2	77 - 122
Chloroethane	123	ug/L	20	24.6	51 - 142
Chloroform	113	ug/L	20	22.6	78 - 122
Chloromethane	138	ug/L	20	27.7	38 - 156
Cyclohexane	113	ug/L	20	22.6	66 - 130
1,2-Dibromo-3-chloropropane	107	ug/L	20	21.4	59 - 133
1,2-Dibromoethane	99.2	ug/L	20	19.8	80 - 124
1,2-Dichlorobenzene	99.8	ug/L	20	20.0	82 - 118
1,3-Dichlorobenzene	103	ug/L	20	20.5	81 - 118
1,4-Dichlorobenzene	102	ug/L	20	20.5	81 - 116
Dichlorodifluoromethane	110	ug/L	20	22.0	17 - 166

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

1,1-Dichloroethane	104	ug/L	20	20.7	78 - 124
1,2-Dichloroethane	105	ug/L	20	20.9	70 - 133
1,1-Dichloroethene	108	ug/L	20	21.6	63 - 128
cis-1,2-Dichloroethene	104	ug/L	20	20.8	78 - 125
trans-1,2-Dichloroethene	110	ug/L	20	22.0	71 - 122
1,2-Dichloropropane	104	ug/L	20	20.9	81 - 127
cis-1,3-Dichloropropene	103	ug/L	20	20.7	81 - 121
trans-1,3-Dichloropropene	112	ug/L	20	22.4	78 - 126
Ethylbenzene	106	ug/L	20	21.2	80 - 124
Freon 113	110	ug/L	20	22.0	50 - 130
2-Hexanone	105	ug/L	100	105	65 - 154
Isopropylbenzene	110	ug/L	20	22.0	73 - 129
Methyl acetate	132*	ug/L	20	26.3	70 - 130
Methyl cyclohexane	119	ug/L	20	23.9	70 - 130
Methyl t-Butyl Ether	101	ug/L	20	20.2	69 - 115
4-Methyl-2-Pentanone(MIBK)	105	ug/L	100	105	71 - 146
Methylene Chloride	106	ug/L	20	21.2	76 - 121
Styrene	114	ug/L	20	22.8	79 - 123
1,1,2,2-Tetrachloroethane	105	ug/L	20	20.9	74 - 135
Tetrachloroethene	98.3	ug/L	20	19.7	72 - 124
Toluene	113	ug/L	20	22.6	80 - 125
Total Xylenes	106	ug/L	60	63.8	79 - 125
1,2,3-Trichlorobenzene	91.2	ug/L	20	18.2	61 - 126
1,2,4-Trichlorobenzene	97.9	ug/L	20	19.6	67 - 123
1,1,1-Trichloroethane	107	ug/L	20	21.4	66 - 130
1,1,2-Trichloroethane	98.8	ug/L	20	19.8	82 - 126
Trichloroethene	94.6	ug/L	20	18.9	77 - 124
Trichlorofluoromethane	123	ug/L	20	24.6	38 - 123
Vinyl Chloride	119	ug/L	20	23.8	27 - 138
o-Xylene	104	ug/L	20	20.8	79 - 124
mp-Xylene	108	ug/L	40	43.1	79 - 125
1,2-Dichloroethane-d4 (S)	90.9	%			62 - 133
4-Bromofluorobenzene (S)	92	%			79 - 114
Dibromofluoromethane (S)	89.3	%			78 - 116
Toluene-d8 (S)	93.4	%			76 - 127

MATRIX SPIKE: 2502783 DUPLICATE: 2502784 ORIGINAL: 2214606006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Acetone	6.39263	ug/L	100	111.497	104.988	105	98.6	40 - 151	6.01	40
Benzene	0	ug/L	20	21.1695	20.8758	106	104	80 - 124	1.4	26
Bromochloromethane	0	ug/L	20	22.9685	22.9363	115	115	73 - 117	.14	19

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Bromodichloromethane	0	ug/L	20	20.6877	20.7317	103	104	79 - 126	.21	16
Bromoform	0	ug/L	20	20.771	21.3471	104	107	70 - 123	2.74	16
Bromomethane	0	ug/L	20	26.9022	26.5124	135	133	45 - 148	1.46	26
2-Butanone	0	ug/L	100	103.869	108.503	104	109	50 - 152	4.36	16
Carbon Disulfide	0	ug/L	20	21.7819	21.186	109	106	57 - 131	2.77	28
Carbon Tetrachloride	0	ug/L	20	24.0424	24.5735	120	123	62 - 132	2.18	17
Chlorobenzene	0	ug/L	20	20.615	21.2141	103	106	85 - 117	2.86	15
Chlorodibromomethane	0	ug/L	20	20.8319	20.7332	104	104	77 - 122	.47	15
Chloroethane	0	ug/L	20	27.6837	28.0003	138	140	51 - 142	1.14	24
Chloroform	0	ug/L	20	22.7273	23.0776	114	115	78 - 122	1.53	16
Chloromethane	0	ug/L	20	29.3167	29.3431	147	147	38 - 156	.09	27
Cyclohexane	0	ug/L	20	23.9235	24.3869	120	122	66 - 130	1.92	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	20.067	21.6689	100	108	59 - 133	7.68	26
1,2-Dibromoethane	0	ug/L	20	20.8454	21.2082	104	106	80 - 124	1.73	19
1,2-Dichlorobenzene	0	ug/L	20	20.6389	20.9011	103	105	82 - 118	1.26	15
1,3-Dichlorobenzene	0	ug/L	20	20.994	21.6458	105	108	81 - 118	3.06	16
1,4-Dichlorobenzene	0	ug/L	20	20.4448	21.167	102	106	81 - 116	3.47	15
Dichlorodifluoromethane	0	ug/L	20	24.4461	25.2145	122	126	17 - 166	3.09	24
1,1-Dichloroethane	0	ug/L	20	22.0357	21.9196	110	110	78 - 124	.53	15
1,2-Dichloroethane	0	ug/L	20	21.1166	21.3079	106	107	70 - 133	.9	19
1,1-Dichloroethene	0	ug/L	20	22.9473	23.3373	115	117	63 - 128	1.69	21
cis-1,2-Dichloroethene	0	ug/L	20	20.9373	21.0117	105	105	78 - 125	.35	21
trans-1,2-Dichloroethene	0	ug/L	20	22.9669	22.6453	115	113	71 - 122	1.41	22
1,2-Dichloropropane	0	ug/L	20	21.7971	21.798	109	109	81 - 127	.004	15
cis-1,3-Dichloropropene	0	ug/L	20	21.117	21.1545	106	106	81 - 121	.18	16
trans-1,3-Dichloropropene	0	ug/L	20	22.8834	22.7899	114	114	78 - 126	.41	18
Ethylbenzene	0	ug/L	20	22.9688	23.325	115	117	80 - 124	1.54	19
Freon 113	0	ug/L	20	24.3751	25.047	122	125	50 - 130	2.72	26
2-Hexanone	0	ug/L	100	105.352	106.266	105	106	65 - 154	.86	17
Isopropylbenzene	0	ug/L	20	22.9229	23.291	115	116	73 - 129	1.59	18
Methyl acetate	0	ug/L	20	23.1159	22.4928	116	112	70 - 130	2.73	18
Methyl cyclohexane	0	ug/L	20	24.3285	26.5785	122	133*	70 - 130	8.84	18
Methyl t-Butyl Ether	0	ug/L	20	19.8871	20.172	99.4	101	69 - 115	1.42	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	105.995	108.528	106	109	71 - 146	2.36	16
Methylene Chloride	0	ug/L	20	21.5528	21.5455	108	108	76 - 121	.03	17
Styrene	0	ug/L	20	22.8087	22.9068	114	115	79 - 123	.43	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	21.0552	21.1877	105	106	74 - 135	.63	16
Tetrachloroethene	0	ug/L	20	21.2394	21.3662	106	107	72 - 124	.6	38
Toluene	0	ug/L	20	22.8052	22.9368	114	115	80 - 125	.58	20
Total Xylenes	0	ug/L	60	66.6175	68.0886	111	113	79 - 125	2.18	35
1,2,3-Trichlorobenzene	0	ug/L	20	18.0449	19.2405	90.2	96.2	61 - 126	6.41	36
1,2,4-Trichlorobenzene	0	ug/L	20	19.4295	20.1801	97.1	101	67 - 123	3.79	22
1,1,1-Trichloroethane	0	ug/L	20	23.0072	22.121	115	111	66 - 130	3.93	20
1,1,2-Trichloroethane	0	ug/L	20	20.2342	20.4807	101	102	82 - 126	1.21	15
Trichloroethene	0	ug/L	20	20.5066	19.9904	103	100	77 - 124	2.55	18
Trichlorofluoromethane	0	ug/L	20	28.1739	27.6723	141*	138*	38 - 123	1.8	23

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Vinyl Chloride	0	ug/L	20	26.2564	27.2565	131	136	27 - 138	3.74	40
o-Xylene	0	ug/L	20	21.3609	21.9428	107	110	79 - 124	2.69	19
mp-Xylene	0	ug/L	40	45.2566	46.1457	113	115	79 - 125	1.95	21
1,2-Dichloroethane-d4 (S)	96.5	%				96.5	96.6	62 - 133		
4-Bromofluorobenzene (S)	88.4	%				88.4	90.1	79 - 114		
Dibromofluoromethane (S)	89.4	%				89.4	90.7	78 - 116		
Toluene-d8 (S)	91.4	%				91.4	92.8	76 - 127		

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: WETC/184400 **Analysis Method:** S2510B-97

QC Batch Method: S2510B-97

Associated Lab Samples: 2215399001

METHOD BLANK: 2502336

Parameter	Blank Result	Units	Reporting Limit
Specific Conductance	0.3J	umhos/c	1

LABORATORY CONTROL SAMPLE: 2502338

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	100	umhos/c	1410	1410	90 - 110

LABORATORY CONTROL SAMPLE: 2502339

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	98.9	umhos/c	10000	9890	90 - 110

LABORATORY CONTROL SAMPLE: 2502340

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	93.9	umhos/c	100000	93900	90 - 110

SAMPLE DUPLICATE: 2502345 ORIGINAL: 2215186001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Specific Conductance	307	umhos/c	306	.33	10

SAMPLE DUPLICATE: 2502415 ORIGINAL: 2215370001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Specific Conductance	823	umhos/c	818	.61	10

SAMPLE DUPLICATE: 2502419 ORIGINAL: 2215370005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Specific Conductance	775	umhos/c	775	0	10

METHOD BLANK: 2502428

Parameter	Blank Result	Units	Reporting Limit
Specific Conductance	0.3J	umhos/c	1

LABORATORY CONTROL SAMPLE: 2502429

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Specific Conductance	101	umhos/c	1410	1430	90 - 110

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: WETC/184615 **Analysis Method:** D6919-09

QC Batch Method: D6919-09

Associated Lab Samples: 2215399001

LABORATORY CONTROL SAMPLE: 2504689

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Ammonia-N	102	mg/L	2.5	2.56	90 - 110

METHOD BLANK: 2504690

Parameter	Blank Result	Units	Reporting Limit
Ammonia-N	0.010 U	mg/L	0.010

METHOD BLANK: 2504692

Parameter	Blank Result	Units	Reporting Limit
Ammonia-N	0.010 U	mg/L	0.010

MATRIX SPIKE: 2504693 DUPLICATE: 2504694 ORIGINAL: 2214344002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Ammonia-N	0	mg/L	10	9.51	9.789	95.1	97.9	75 - 125	2.89	25

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: WETC/184620 **Analysis Method:** SW846 9066

QC Batch Method: SW846 9066

Associated Lab Samples:

METHOD BLANK: 2504725

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2504727

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2504729

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.006	mg/L	0.005

METHOD BLANK: 2504730

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.004J	mg/L	0.005

METHOD BLANK: 2504733

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2504739

Parameter	Blank Result	Units	Reporting Limit

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

Phenolics	0.003J	mg/L	0.005

QUALITY CONTROL DATA

Workorder: 2215399 Project Shuttle

QC Batch: WETC/184670 **Analysis Method:** SW846 9066

QC Batch Method: SW846 9066

Associated Lab Samples:

METHOD BLANK: 2505367

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2505369

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005J	mg/L	0.005

METHOD BLANK: 2505371

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.003J	mg/L	0.005

METHOD BLANK: 2505475

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

METHOD BLANK: 2505477

Parameter	Blank Result	Units	Reporting Limit
Phenolics	0.005 U	mg/L	0.005

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA QUALIFIERS

Workorder: 2215399 Project Shuttle

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2502599	1	Lab Control Standard	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 132 and the control limits were 70 to 130.

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215399 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215399001	W-JO-Res House			S2510B-97	WETC/184400
2215399001	W-JO-Res House	SW846 3015	MDIG/63316	SW846 6020A	META/56512
2215399001	W-JO-Res House	SW846 7470A	MDIG/63320	SW846 7470A	META/56500
2215399001	W-JO-Res House	SW846 3510C	EXTR/47067	SW846 8081B	SVGC/44828
2215399001	W-JO-Res House			SW846 8260B	VOMS/42750
2215399002	TB-1(031617)			SW846 8260B	VOMS/42750
2215399001	W-JO-Res House	SW846 8151A	EXTR/47077	SW846 8151A	SVGC/44823
2215399001	W-JO-Res House	SW846 3015	MDIG/63359	SW846 6020A	META/56530
2215399001	W-JO-Res House	SW846 3015	MDIG/63359	SW846 6020A	META/56540
2215399001	W-JO-Res House	SW846 3510C	EXTR/47085	SW846 8015D	SVGC/44837
2215399001	W-JO-Res House			SW846 8015D	VOGC/9425
2215399001	W-JO-Res House	SW846 7470A	MDIG/63382	SW846 7470A	META/56557
2215399001	W-JO-Res House	SW846 3510C	EXTR/47098	SW846 8270D	SVMS/27787
2215399001	W-JO-Res House	SW846 3510C	EXTR/47099	8270 SIM	SVMS/27786
2215399001	W-JO-Res House	420.4/9066	WCPR/39451	SW846 9066	WETC/184670
2215399001	W-JO-Res House			D6919-09	WETC/184615

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2215399 Project Shuttle

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2215399001	W-JO-Res House	SW846 3510C	EXTR/47189	8270 SIM	SVMS/27829

Jefferson Orchard

ALS Environmental

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Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2

Courier:

Tracking #:

* 2 2 1 5 3 9 9 *

Co. Name: ERM

Contact (Report to): David Connelly — Phone: (304) 757-4777

Address: 204 Chase Drive, Hurricane, WV 25526

Bill to (if different than Report to): Same As Above — PO#: 0397010

Project Name/#: Project Shuttle — ALS Quote #:

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. 5-DAY — Date Required: 3/28/17 — Approved By: Paul Painter

Email? ☒ Y David.connelly@erm.com + Megan.Innis@erm.com

Fax? ☐ Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TPH-GRO	TPH-DRO/ORO	Pesticides	Herbicides	Total RCRA 8 Metals	Dissolved RCRA 8 Metals (LAB FILTER)	Specific Conductance	PAH	TCL VOCs	Phenol
***Container Type						CG	AG	AG	AG	PL	PL	PL	AG	CG	PL
***Container Size						40	1L	1L	1L	500	500	500	1L	40	500
***Preservative						HCL	H_2SO_4	-	-	HNO_3	[illegible]	-	-	HCL	H_2SO_4
1 W-JO-Res House		3/16/17	0850	G	W	X	X	X	X	X	X	X	X	X	X
2 TB-1 (031617)		↓	0700	G	W	TRIP		BLANK		ONLY					
3															
4															
5															
6															
7															
8															

Enter Number of Containers Per Analysis

(completed by sample receiving) Performed by: SFS

Cooler Temp: 3.8 — SFS 3/16/17

Therm. ID: ICL

No. of Coolers:

Notes:

Circle appropriate Y or N.

	Y	N
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Custody seals Present?	Y	N
(if present) Seals intact?	Y	N
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print): Megan Innis

Project Comments: 3/16/17 2305

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	Megan Innis	3/16/17	1506	2	[signature] ALS	3/16	1506
3	[signature]	3/16		4	[signature]		1920
5	[signature]		2126	6	[signature]	3/16	2120
7				8			
9				10			

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ other

EDDs Required? ☒ If yes, format type: Excel

ODD Criteria Required?

SDWA Forms?: yes ☐ yes ☐ yes ☐ yes ☐ Other

State Samples Collected In?: MD ☐ NJ ☐ NY ☐ PA ☐ Other: West Virginia

Enter PWSID No.

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

Jefferson Orchard

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Courier:
Tracking #: 2215999

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: ERM
Contact (Report to): David Connelly Phone: (304)757-4777
Address: 204 Chase Drive
Hurricane, WV 25526

Bill to (if different than Report to): Same As Above PO#: 0397010

Project Name/#: Project Shuttle ALS Quote #:

TAT: [ ] Normal-Standard TAT is 10-12 business days. Date Required: 3/28/17
[ ] Rush-Subject to ALS approval and surcharges. 5-Day Approved By: Paul Painter

Email? [X] Y David.Connelly@erm.com &
Fax? [ ] Y No.: Megan.Innis@erm.com

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	***Container Type	***Container Size	*** Preservative	Ammonia	VOCs (TB)	Enter Number of Containers Per Analysis
						PL	CG				
						250	40				
						H_2SO_4	HCl				
1 W-JO-Res House		3/16/17	0850	G	W				X		
2 TB-1 (031617)		↓	0700	G	W					X	
3											
4											
5											
6											
7											
8											

Receipt Information (completed by Sample Receiving)
Delivered by: SESL
Cooler Temp:
Therm. ID: 318
No. of Coolers:
Notes:

Circle appropriate Y or N.	Container in good condition?	COC/Labels complete/accurate?	Received on Ice?	(If present) Seals intact?	Custody seals Present?
N	N	N	N	N	Y
N	N	N	N	N	Y
N	N	N	Y	Y	Y

SAMPLED BY (Please Print): Megan Innis

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Megan Innis	3/16/17	1506	2 [illegible]	3/16	1506
3 [illegible]	3/16		4 [illegible]		1500
5 [illegible]		2120	6 [illegible]	3/16	2120
7			8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other
EDDs Required? [X] If yes, format type: Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]
Other West Virginia
SEE REVISION

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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CHAIN OF CUSTODY RECORD

Reliance LABORATORIES

Chapel Brook Business Park
PO Box 4657
Bridgeport, WV 26330
TEL: 304-842-5285 FAX: 304-842-5351

reliancelabs@wvdsl.net
www.reliancelabs.net

Ridgefield Business Center
25 Crimson Circle
Martinsburg, WV 25403
TEL: 304-596-2084 FAX: 304-596-2086

CLIENT: ERM CONTACT: Ryan Baisden

ADDRESS: 204 Chase Dr. CITY: Hurricane STATE: WV ZIP: 25526

TELEPHONE: (304) 757-4777 FAX: (304) 550-6601 CELL:

CUSTOMER #: C06643 SAMPLER: M. Innis

__1__ OF __1__ PAGE NO.

LABORATORY #	DATE	TIME	COMP	GRAB	MATRIX W,DW,S,SL,O,M	TEMP °C YES / NO	# OF CONTAINERS	HNO3 <2	H2SO4 <2	HCL <2	NaOH >10	BAC-T	NO PRES.	OTHER	Formaldehyde	*PROJECT/REMARKS
264431	3/15/17	900	✓		W	10.8	2						2		✓	W-JO-Labor Camp
264432	↓	930	✓		↓	↓	2						2		✓	W-JO-Packing Sh
264433	↓	950	✓		↓	↓	2						2		✓	W-JO-Duplicate

Samples DO ✓ DO NOT ____ meet USEPA guidelines for HOLDING TIMES.
Samples DO ✓ DO NOT ____ meet USEPA guidelines for CHEMICAL PRESERVATIVES.
Samples DO ✓ DO NOT ____ meet USEPA guidelines for SAMPLE CONTAINERS.
Samples ARE ✓ ARE NOT ____ for REGULATORY COMPLIANCE purposes.

RELINQUISHED BY:	DATE & TIME	RECEIVED BY:
PRINT / SIGN	DATE 3-15-17 TIME 1713	PRINT Meagan Ramirez SIGN
PRINT Meagan Ramirez SIGN	DATE 3-16-17 TIME 1700	PRINT Fedex SIGN
PRINT FedEx SIGN	DATE 3/17/17 TIME 815	PRINT C. Grant SIGN

____ FAX X EMAIL ryan.baisden@erm.com

PO# 0397010

REMARKS:

WEATHER/TEMP:

____ **RUSH STATUS** _____

ADDITIONAL LABORATORY FEES MAY APPLY

EXTENT OF LIABILITY Should Reliance Laboratories, Inc. be at fault and any dispute arise regarding analytical data generated by the laboratory, the extent of the liability to Reliance will be a duplicate analysis of the sample (providing adequate sample remains) or a refund of the analytical fee. In no event will Reliance Laboratories, Inc. be liable for damages including but not limited to direct, indirect, or consequential damages arising from such dispute.

NOTE: Typical sample turn around for routine samples is 7 to 10 business days. This is not a guarantee that sample will be completed in this time frame, however. Non-rountine samples may require additional time.

Jefferson Orchard

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1

Courier:

Tracking #:

Co. Name: ERM

Contact (Report to): David Connelly Phone: (321) 757-4777

Address: 204 Chase Drive
Hurricane, WV 25526

Bill to (if different than Report to): Same As Above PO#: 0897010

Project Name/#: Project Shuffle ALS Quote #:

TAT: [ ] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. 5-day Approved By:

Email? [X] Y David.Connelly@erm.com +
Fax? [ ] Y No.: Megan.Innis@erm.com

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Formaldehyde	Enter Number of Containers Per Analysis
1 W-JD-Labor Camp		3/15/17	0900	G	W	X	
2 W-JD-Packing Shed		↓	0930	↓	↓	X	
3 W-JD-DUP1		↓	0950	↓	↓	X	
4							
5							
6							
7							
8							

***Container Type: AG
***Container Size:
***Preservative:

ANALYSES/METHOD REQUESTED

Receipt Information (completed by Sample Receiving)
Performed by: INITIAL HERE
Cooler Temp:
Therm. ID:
No. of Coolers:
Notes:

Circle appropriate Y or N.	Container in good condition?	COC/Labels complete/accurate?	Received on ice?	(if present) Seals intact?	Custody seals Present?
Correct containers?	N	N	N	N	N
Correct sample volume?	Y	Y	Y	Y	Y
Correct preservation?	N	N	Y	N	Y
Headspace/Volatiles?	N	N	Y	N	Y
Circle appropriate Y or N.	N	N	Y	N	Y

SAMPLED BY (Please Print): MEGAN INNIS

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Megan Innis	3/15/17	1713	2 Megan Ramirez		
3			4 FedEx		
5 FedEx	3/17/17	815	6 C. Brands		
7			8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] (other)

EDDs Required? [X] If yes, format type: Excel

DOD Criteria Required?

SDWA Forms? → yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ] Other West Virginia

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health #: 00354, 00443 | WV Department of Environmental Protection #: 158, 181
MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

LABORATORY REPORT SUMMARY

Client: C06643

Wednesday, March 22, 2017

ERM
204 CHASE DR.
HURRICANE WV 25526-

Total Number of Pages: 4
(Not Including C.O.C.)

Lab ID	Sample ID	Sample ID 2	Sample Date
264431-2017-W	W-JO-Labor Camp		3/15/2017
264432-2017-W	W-JO-Packing Shed		3/15/2017
264433-2017-W	W-JO-Duplicate		3/15/2017

The enclosed results have been analyzed according to the referenced method and SOP. Any deviations to the method have been noted on the report. Unless otherwise noted, all results have been verified to meet quality control requirements of the method. All analysis performed by Reliance Laboratories, Bridgeport, WV unless otherwise noted. Parameters analyzed by Reliance Laboratories, Martinsburg, WV are noted with @ on laboratory report.This report may not be reproduced, except in full, without written approval of Reliance Laboratories, Inc.

Report Reviewed By:

Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

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MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

ERM
204 CHASE DR.

HURRICANE, WV 25526-

Wednesday, March 22, 2017

Lab Number: 264431-2017-W **Sample ID:** W-JO-Labor Camp

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MDL	MRL
Analyte Group: **Inorganics**							
Formaldehyde	< 1	mg/l	NIOSH 3500	3/21/2017 10:10	CP	1	1

Remarks:

Date Sample Collected: 3/15/2017 9:00
Sample Submitted By: M. Innis
Date Sample Received: 3/15/2017 17:13
Sample temp. upon receipt: 10.8 Deg C

ND = Not Detected at the MDL or MRL
MDL - Minimum Detectable Limit
MRL - Minimum Reporting Limit
MCL - Maximum Contaminant Level, USEPA Regulated
J = Reported value is an estimate because concentration is less than the MRL

***Method Code: STANDARD METHODS ONLINE ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.**

Reliance Laboratories, Inc.
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Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health #: 00354, 00443 | WV Department of Environmental Protection #: 158, 181
MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

ERM
204 CHASE DR.

HURRICANE, WV 25526-

Wednesday, March 22, 2017

Lab Number: 264432-2017-W **Sample ID:** W-JO-Packing Shed

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MDL	MRL
Analyte Group: **Inorganics**							
Formaldehyde	< 1	mg/l	NIOSH 3500	3/21/2017 10:10	CP	1	1

Remarks:

Date Sample Collected: 3/15/2017 9:30
Sample Submitted By: M. Innis
Date Sample Received: 3/15/2017 17:13
Sample temp. upon receipt: 10.8 Deg C

ND = Not Detected at the MDL or MRL
MDL - Minimum Detectable Limit
MRL - Minimum Reporting Limit
MCL - Maximum Contaminant Level, USEPA Regulated
J = Reported value is an estimate because concentration is less than the MRL

***Method Code: STANDARD METHODS ONLINE ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.**

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Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health #: 00354, 00443 | WV Department of Environmental Protection #: 158, 181
MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

ERM
204 CHASE DR.

HURRICANE, WV 25526-

Wednesday, March 22, 2017

Lab Number: 264433-2017-W **Sample ID:** W-JO-Duplicate

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MDL	MRL
Analyte Group: **Inorganics**							
Formaldehyde	< 1	mg/l	NIOSH 3500	3/21/2017 10:10	CP	1	1

Remarks:

Date Sample Collected: 3/15/2017 9:50
Sample Submitted By: M. Innis
Date Sample Received: 3/15/2017 17:13
Sample temp. upon receipt: 10.8 Deg C

ND = Not Detected at the MDL or MRL
MDL - Minimum Detectable Limit
MRL - Minimum Reporting Limit
MCL - Maximum Contaminant Level, USEPA Regulated
J = Reported value is an estimate because concentration is less than the MRL

***Method Code: STANDARD METHODS ONLINE ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.**

Project Shuttle - Jefferson Orchard

CHAIN OF CUSTODY RECORD

Reliance LABORATORIES

Chapel Brook Business Park
PO Box 4657
Bridgeport, WV 26330
TEL: 304-842-5285 FAX: 304-842-5351

reliancelabs@wvdsl.net
www.reliancelabs.net

Ridgefield Business Center
25 Crimson Circle
Martinsburg, WV 25403
TEL: 304-596-2084 FAX: 304-596-2086

CLIENT: ERM CONTACT: ~~Ryan Baisden~~ Megan Innis

ADDRESS: 204 Chase Dr. CITY: Hurricane STATE: WV ZIP: 25526

TELEPHONE: (304) 757-4777 FAX: ~~(304) 550-6601~~ (304) 757-4779 CELL: (304) 542-2256

CUSTOMER #: C06643 SAMPLER: M. Innis

__1__ OF __1__ PAGE NO.

LABORATORY #	DATE	TIME	COMP	GRAB	MATRIX W,DW,S,SL,O,M	TEMP ≤6C YES	TEMP ≤6C NO	# OF CONTAINERS	HNO3 <2	H2SO4 <2	HCL <2	NaOH >10	BAC-T	NO PRES.	OTHER	Formaldehyde	*PROJECT/REMARKS
264524	3/16/17	0850		X	W	12.1C		2						2X		X	W-Jo-Res House

Samples DO ✓ DO NOT ____ meet USEPA guidelines for HOLDING TIMES.
Samples DO ✓ DO NOT ____ meet USEPA guidelines for CHEMICAL PRESERVATIVES.
Samples DO ✓ DO NOT ____ meet USEPA guidelines for SAMPLE CONTAINERS.
Samples ARE ✓ ARE NOT ____ for REGULATORY COMPLIANCE purposes.

RELINQUISHED BY:	DATE & TIME	RECEIVED BY:
PRINT MEGAN INNIS	DATE 3/16/17	PRINT A. Davis
SIGN Megan Innis	TIME 1602	SIGN
PRINT	DATE 3-20-17	PRINT Fedex
SIGN Megan Ramirez	TIME 1300	SIGN
PRINT FedEx	DATE 3/21/17	PRINT E Evans
SIGN	TIME 835	SIGN

____ FAX X EMAIL megan.Innis@erm.com
ryan.baisden@erm.com
David.Connelly@erm.com

PO# 0397010
REMARKS:
WEATHER/TEMP:
____ **RUSH STATUS** _____
ADDITIONAL LABORATORY FEES MAY APPLY

EXTENT OF LIABILITY Should Reliance Laboratories, Inc. be at fault and any dispute arise regarding analytical data generated by the laboratory, the extent of the liability to Reliance will be a duplicate analysis of the sample (providing adequate sample remains) or a refund of the analytical fee. In no event will Reliance Laboratories, Inc. be liable for damages including but not limited to direct, indirect, or consequential damages arising from such dispute.
NOTE: Typical sample turn around for routine samples is 7 to 10 business days. This is not a guarantee that sample will be completed in this time frame, however. Non-rountine samples may require additional time.

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Certifications: WV Department of Health #: 00354, 00443 | WV Department of Environmental Protection #: 158, 181
MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

LABORATORY REPORT SUMMARY

Client: C06643

Wednesday, March 22, 2017

ERM
204 CHASE DR.
HURRICANE WV 25526-

Total Number of Pages: 2
(Not Including C.O.C.)

Lab ID	Sample ID	Sample ID 2	Sample Date
264521-2017-W	W-JO-Res House		3/16/2017

The enclosed results have been analyzed according to the referenced method and SOP. Any deviations to the method have been noted on the report. Unless otherwise noted, all results have been verified to meet quality control requirements of the method. All analysis performed by Reliance Laboratories, Bridgeport, WV unless otherwise noted. Parameters analyzed by Reliance Laboratories, Martinsburg, WV are noted with @ on laboratory report.This report may not be reproduced, except in full, without written approval of Reliance Laboratories, Inc.

Report Reviewed By:

Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health #: 00354, 00443 | WV Department of Environmental Protection #: 158, 181
MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

ERM
204 CHASE DR.

HURRICANE, WV 25526-

Wednesday, March 22, 2017

Lab Number: 264521-2017-W **Sample ID:** W-JO-Res House

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MDL	MRL
Analyte Group: **Inorganics**							
Formaldehyde	< 1	mg/l	NIOSH 3500	3/21/2017 10:10	CP	1	1

Remarks:

Date Sample Collected: 3/16/2017 8:50
Sample Submitted By: M. Innis
Date Sample Received: 3/16/2017 16:24
Sample temp. upon receipt: 12.1 Deg C

ND = Not Detected at the MDL or MRL
MDL - Minimum Detectable Limit
MRL - Minimum Reporting Limit
MCL - Maximum Contaminant Level, USEPA Regulated
J = Reported value is an estimate because concentration is less than the MRL

***Method Code: STANDARD METHODS ONLINE ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.**

Parcel A Soil Management Plan (February 2005)

west virginia department of environmental protection

Division of Land Restoration
131A Peninsula St., Wheeling, WV 26003
304-238-1220 FAX: 304-238-1006

Joe Manchin III, Governor
Stephanie R. Timmermeyer, Cabinet Secretary
www.wvdep.org

March 30, 2005

Lydia Work, LRS
Triad Engineering, Inc.
P.O. Box 1435
St. Albans, WV 25177

RE: March 2005 Parcel A Soil Management Plan Approval
Jefferson Orchards, Jefferson County, WV
VRP #06995

Dear Ms. Work:

I have reviewed the Parcel A Soil Management Plan for the Jefferson Orchards VRP site. The report as supplemented with additional laboratory dated submitted March 22, 2005 and with revisions to the Health and Safety Plan submitted March 28, 2005, is approved.

Please contact me at 304-238-1220 if you have any questions.

Sincerely,

Patty Hickman

Patty Hickman, Project Manager
Office of Environmental Remediation

Cc: David W. Ralston, Jefferson Orchards
Charleston file #06995
Wheeling file

PARCEL A
SOIL MANAGEMENT PLAN

Jefferson Orchards
VRP # 06995

Jefferson County, West Virginia

Prepared for:

Jefferson Orchards, Inc.

Submitted to:

West Virginia Department Of Environmental Protection
Division of Land Restoration
Office of Environmental Remediation
601 57th Street
Charleston, West Virginia 25304

Prepared by:

TRIAD ENGINEERING, INC.
PO Box 1435
4980 Teays Valley Road
St. Albans, West Virginia 25177

February 2005

Table of Contents

1.0 INTRODUCTION

1.1 Authorization

TRIAD ENGINEERING, INC. (TRIAD) has prepared this *Parcel A Soil Management Plan (SMP)* for Jefferson Orchards, Inc. and the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER). Jefferson Orchards, Inc. is requesting approval to manage orchard topsoil at Jefferson Orchards, Parcel A (the Site) under Agreement with the WVDEP, OER according to the requirements of the *Voluntary Remediation and Redevelopment Rule, West Virginia Code of State Rules (CSR) 60-03.*

The Jefferson Orchards Site has been assigned by the West Virginia *Voluntary Remediation Program (VRP)* application number 06995. Jefferson Orchards, Inc. (the applicant) has retained Lydia M. Work as the Licensed Remediation Specialist (LRS), No. 148. TRIAD has been contracted to perform various *VRP* work tasks, including preparation of this *SMP.*

Parcel A entered into the West Virginia *Voluntary Remediation Program (VRP)* in February 2005. In addition, Jefferson Orchards, Inc. and the WVDEP signed a *Voluntary Remediation Agreement (VRA)* in February 2005. A *Site Assessment Work Plan (SAWP)* was also approved in February 2005 by the WVDEP, OER.

1.2 Objective

Borrow material is needed from Parcel A to complete a State funded highway extension of WV State Route 9. Topsoil in Parcel A is unsuitable as fill material and must be separated from the subsurface borrow material. The objective of this Parcel A *Soil Management Plan* is to properly manage and consolidate removed topsoil while borrowing activities are occurring. In general, the topsoil will be removed from ground level to approximately one foot below the ground surface. Subsurface soils deeper than the topsoil will be mass balance graded and used as the borrow material. Jefferson Orchards, Inc., under contract with the J. F. Allen Co., intends to utilize the Parcel A as a borrow area over an approximate 18 month period. Following completion of the borrow activities, subsequent site assessment and remedial activities are anticipated. The proposed future land use scenario for Parcel A is residential use.

2.0 SITE INFORMATION

2.1 Site Description

Jefferson Orchards is located in Jefferson County, West Virginia, southeast of Kearneysville and is depicted on ***Figure 1, Site Location Map***. The entire site is approximately three hundred eighty eight (388) acres in size and is accessed from WV State Route 9. The Site has been used since the late 1940s as a fruit orchard. It is still an active site both producing and selling fruit. During the orchard's operation, pesticides have been applied to the orchard for crop protection. Both lead arsenate and organochlorine pesticides were applied. The lead arsenate pesticides were used in the orchard's earlier years (pre-1950s) switching to organochlorine pesticides. The site can be divided into three areas based on historical use, "old orchard", "young orchard", and "non-orchard". Only the "old orchard" area had lead arsenate historically applied.

This *SMP* only entails the Jefferson Orchards' Parcel A. Parcel A encompasses approximately sixty (60) acres and consists of both young orchard (37 acres) and old orchard (23 acres). These two orchard areas are delineated on ***Figure 2, Parcel A Site Plan***. Only orchard soils are deposited on Parcel A. No potential source areas such as pesticide mixing or storage areas or other orchard related structures are located at this parcel.

Burning dead or old fruit trees is a common orchard practice that may introduce polynuclear aromatic hydrocarbons (PAHs) to the soil. Within Parcel A, there are no known specific areas where trees may have been burned.

Land adjacent to Parcel A is agricultural land. Jefferson Orchards' Parcel B bounds the western and northwestern sides of Parcel A and Parcel C bounds the eastern and northeastern sides. The southern side is bounded by the CSX railroad.

2.2 Parcel A Land Use

Parcel A represents sixty (60) acres of Jefferson Orchards' total three hundred eighty eight (388) acres. This parcel has been used as an orchard only and contains no potential source areas such as pesticide mixing or storage areas or other orchard related structures. Jefferson Orchards' intent is to initially use the Parcel A site as a borrow area to support road construction activities associated

with the development of the WV State Route 9 highway extension project. Borrowing excavation will modify the parcel's existing contours and effectively leave the final terrain flat once the borrowing activities have ceased. The future land use scenario for Parcel A is to develop it for residential use. Parcel A is depicted on ***Figure 2, Parcel A Site Plan***.

The West Virginia Department of Transportation can not use Parcel A's topsoil as borrow material. Approximately one foot of topsoil will be mass balance graded to expose the borrow material beneath. Topsoil will be stockpiled on site. Management of this topsoil is further discussed in *Section 3.0, Soil Management.*

2.3 Previous Site Investigations

A site investigation of the entire Jefferson Orchards property was conducted by TRIAD ENGINEERING, INC. in July 2003. This investigation included surface soil (0-6") sampling and analysis in and around the proposed Parcel A boundaries. The scope of work included RCRA eight (8) metals and organochlorine pesticides. Analytical results indicated the presence of lead, arsenic, and organochlorine pesticides. However, only arsenic exceeded the residential soil *de minimis* standard in locations associated with Parcel A. ***Table 1, Parcel A Surface Soil Analysis*** summarizes the analytical results for each surface soil sample collected in Parcel A. Arsenic concentrations for each sample location in Parcel A are depicted for ease of review on ***Figure 2, Parcel A Site Plan***.

In February 2005, a *Site Assessment Work Plan (SAWP)* for Parcel A was approved by the WVDEP. Sampling locations were selected based on the orchard's age, topography, types of pesticides used, and the analytical results from TRIAD'S July 2003 surface soil sampling and analysis report. Sixteen (16) soil boring locations were selected for Parcel A. Five (5) boring locations were selected in the "young orchard" area. Eleven (11) boring locations were selected in the "old orchard" area. These boring locations are depicted on ***Figure 2, Parcel A Site Plan.***

Each soil boring was collected using Geoprobe® direct-push technology. Continuous subsurface borings were advanced to approximately four feet below the ground surface and soil cores were obtained. Soil boring samples were collected between one and four feet below the ground surface. Each sample was homogeneously mixed and a composite sample was collected. The composite samples were analyzed for each contaminant of potential concern (COPC). These COPCs included:

- Metals (specifically lead and arsenic)
- Organochlorine Pesticides
- Polynuclear Aromatic Hydrocarbons (PAHs)

In accordance with the requirements of the *Voluntary Remediation Program (VRP)*, field samples were analyzed by a WVDEP Certified Laboratory using promulgated USEPA methodology such as those listed in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (SW-846).*

These methodologies specify Quality Assurance and Quality Control (QA/QC) procedures that are implemented by the approved laboratory performing the analyses. Additionally, QA/QC requirements were outlined in the Quality Assurance Project Plan (QAPP), a component of the approved *SAWP*. To further enhance the QA/QC procedures, TRIAD verified ten percent of the laboratory analytical. This verification was accomplished by comparing the analytical data to the guidelines of the specific analytical methods used, the *National Functional Guidelines for Organic Data Review (USEPA, February 1994), the National Functional Guidelines for Inorganic Data Review (USEPA, February 1994), and the Guidance on Environmental Data Varification and Data Validation (USEPA, November 2002)* as required under the *VRP*. This independent verification indicated that the data met the quality assurance objectives.

Table 2, Parcel A Subsurface Soil Analysis summarizes the analytical results for each soil boring collected at Parcel A during the approved February 2005 site assessment. This site assessment verified that all the subsurface soil samples taken between one and four feet below the ground surface did not exceed the residential *de minimis* standard for lead, organochlorine pesticides, or polynuclear aromatic hydrocarbons. Soil samples taken at boring locations SB1 through SB8, SB10, SB11, and SB13 did not exceed West Virginia's maximum natural background concentration of 13 ppm for arsenic. The soil boring samples taken from locations SB9, SB12, SB14 through SB16 indicated arsenic concentrations were above the natural background concentration in the one to two foot interval. However, in the two to four foot interval, arsenic concentrations were below the natural background concentration. Arsenic concentrations for each soil boring are also depicted on ***Figure 2, Parcel A Site Plan***.

3.0 SOIL MANAGEMENT

3.1 Contaminants of Potential Concern (COPC)

Jefferson Orchards' Parcel A has been used since the late 1940s as an orchard. During the orchard's operation, pesticides have been applied to the orchard for crop protection. Lead arsenate pesticides were used in the orchard's earlier years (pre-1950s) switching to organochlorine pesticides. Pesticides were spray applied to the orchard for their intended use. Parcel A does not contain other typical sources of orchard contamination such as pesticide storage, pesticide mixing, or other orchard structures. The parcel is divided into two orchards, "young orchard" and "old orchard". Only organochlorine pesticides were used in the "young orchard" and both organochlorine and lead arsenate pesticides were applied in the "old orchard". There are no known areas in Parcel A where fruit trees were burned. However, consideration that potential burn areas could exist where evaluated during the approved February 2005 Parcel A site assessment.

Surface soils in Parcel A were investigated in July 2003. Eight RCRA metals and pesticides were analyzed during this investigation. This investigation indicated arsenic was the only COPC that exceeded the residential *de minimis* standard in the "old orchard" area of Parcel A. The "young orchard" did not exceed any of the residential *de minimis* standards. Arsenic concentrations in the young orchard were equivalent to background concentrations. The analytical data obtained during the 2003 investigation are summarized in ***Table 1, Parcel A Surface Soil Analysis.***

Subsurface soils in Parcel A from one to four feet below the ground surface were investigated in February 2005. COPCs identified for this assessment included metals (specifically arsenic and lead), organochlorine pesticides, and polynuclear aromatic hydrocarbons (PAHs). PAHs were included to identify areas where fruit trees may have been burned. The analytical data collected during this assessment demonstrated that lead, organochlorine pesticides, and PAHs did not exceeded a residential *de minimis* standard. Arsenic concentrations were also below the maximum natural background concentration except in soil borings SB9, SB12, and SB14 through SB16. Arsenic above the natural background concentration was limited to a depth of two feet below the ground surface. The analytical data obtained during the 2005 site assessment are summarized in ***Table 2, Parcel A Subsurface Soil Analysis***. A copy of the laboratory data sheets is provided as ***Appendix A, Laboratory Results.***

Two designated areas encompassing soil boring areas SB9, SB12, and SB14 through SB16 have been delineated and depicted on ***Figure 2, Parcel A Site Plan***. These areas were established by evaluating the subsurface soil's arsenic concentration and the site's natural topography. Based on this evaluation, areas were conservatively delineated to assure that the topsoil near these soil boring locations would be removed to a depth such that the arsenic natural background concentration will be met in the soil beneath. Arsenic concentrations in the soils associated with these soil boring locations indicates that arsenic is above the natural background concentration in the top two feet of soil and below this concentration at a depth of two feet or more. Therefore, to assure the natural background concentration is met, the top two feet of topsoil in these two delineated areas will be removed.

Topsoil management will be conducted under the guidelines of the site specific *Health and Safety Plan*. A copy of this plan is provided in ***Appendix B.***

3.2 Parcel A Storm Water Management

Management of storm water runoff from Parcel A will be accomplished in accordance with the *West Virginia Department of Environmental Protection's General NPDES Permit for Construction Storm Water*. Erosion and sediment controls that will be employed by the contractor, J. F. Allen, Company, are depicted on ***Figure 2, Parcel A Site Plan***. In general, temporary sediment collection ponds will be constructed on the western and eastern boundaries of Parcel A. Each pond has been sized based on the storm water drainage area and the volume of storm water generated during a required storm water event. Where storm water runoff will not naturally drain into the sediment ponds through the site's topographic contours, drainage ditches will be constructed to divert the runoff into the ponds. Silt fences will also be installed where necessary to minimize the migration of sediment outside of the borrow area.

Sediments will collect in these ponds during the course of both topsoil and borrow material removal. After borrow activities have ceased and before these ponds are closed or whenever sediments must be removed from the ponds, a COPC evaluation will be completed for the sediments that have accumulated. This evaluation will determine the appropriate disposition of the sediments, which could include leaving the sediment in place or excavating them and placing them in the topsoil stockpiles discussed in *Section 3.4, Topsoil Removal*.

3.3 Borrow Material Discussion

The purpose of the approved February 2005 *Site Assessment Work Plan (SAWP)* was to determine if there was any vertical migration of COPCs. The analytical data collected during this assessment demonstrated that no COPC exceeded the residential *de minimis* standard or natural background concentration, whichever is greater, in the material that will be borrowed from the site. Based on this demonstration, borrow material in Parcel A will not present an unacceptable risk to the environment, construction workers during excavation activities, or future on-site residents.

Based on the results of this site assessment, borrow material will be provided to the West Virginia Department of Transportation as an acceptable fill for the WV State Route 9 highway extension or used for other acceptable purposes. Borrow material will be mass balance graded and transported to the highway site. When completed, borrow material will have been excavated from Parcel A until the terrain is relatively flat. Excavation and removal of the borrow material is expected to occur over an eighteen (18) month period.

Erosion and sediment controls for storm water from the borrow area are addressed in *Section 3.2, Parcel A Storm Water Management.*

3.4 Topsoil Removal

Topsoil in Parcel A generally comprises the first one foot of soil below the ground surface. This soil is not an acceptable fill material for the WV State Route 9 highway extension project. In addition, two areas have been delineated where topsoil will be removed to a depth of two feet below the ground surface to ensure the soil below this level meets the natural arsenic background concentration of thirteen (13) ppm.

The topsoil must be excavated and removed to expose the borrow material beneath. The topsoil will be excavated using mass balance grading and will be stockpiled in one of two areas along the southern boundary of Parcel A adjacent to the railroad tracks right-of-way. Topsoil removed from the "old orchard" areas will be consolidated together, stockpiled, and segregated from the "young orchard" topsoil. These proposed stockpile areas and the delineated areas are depicted on ***Figure 2, Parcel A Site Plan.***

Final disposition for the stockpiled topsoil has not been decided. Further sampling of the stockpiled topsoil will be required to make appropriate decisions. Conceptually, Jefferson Orchards envisions two potential options. The first option would be to place the topsoil back over the Parcel A borrow area providing an approximate twelve (12) inch layer of vegetation soil. A second option is to leave the stockpiled soil in place. This would effectively create a berm along the railroad tracks which would function as a visual and sound barrier and improve the aesthetic value of the property for any future residential development. This second option is a similar design that other orchards in the *Voluntary Remediation Program* are using to manage topsoil.

The overall objective of this *SMP* is to manage the topsoil on-site in a manner that is both protective of human health and the environment. Additional sampling and analysis of the stockpiled topsoil will be necessary to determine actual COPC concentrations. However, arsenic is the most probable COPC in this soil. An addendum to the February 2005 *Site Assessment Work Plan (SAWP)* will be submitted to the WVDEP to address this additional sampling requirement.

Arsenic tends to be relatively immobile in a subsurface soil environment and does not leach at neutral soil pH conditions. Underlying subsurface soil observed during the February 2005 *SAWP* sampling event, indicates the soil in Parcel A is typical to those in the area surrounding Jefferson Orchards. ***Figure 3, Typical Soil Profile Photograph*** is a photograph of a soil core collected during this *SAWP*. This natural occurring clay soil typically has an in-place permeability value of approximately 1×10^{-6} centimeters per second (cm/sec). The low permeability soil provides a barrier against the downward migration of surface soil contaminants and affords protection to the underlying groundwater. Based on drinking water wells located on the Jefferson Orchards site, groundwater depths are approximately thirty (30) to forty (40) feet. Because of arsenic's immobile characteristics, the low permeability of the underlying soil, and the site's hydrogeology, any long-term environmental risks associated with stockpiling the topsoil and leaving it as a berm will be effectively mitigated.

3.4.1 Stockpile Construction

Approximately 145,000 cubic yards of topsoil will be excavated and stockpiled. Potentially, two topsoil stockpiles will be created. These stockpiles are located along the southern boundary of Parcel A and are adjacent to the railroad right-of-way. The piles will be split by an entrance road leading into the parcel. "Old orchard" topsoil will be removed first and placed in the eastern most pile.

Until the final application of topsoil can be determined, the stockpiles will be designed and constructed with the intent to permanently leave the excavated topsoil in place and to act as visual and sound barrier. The eastern stockpile will measure approximately five hundred (500) feet long, twenty (20) feet high, one hundred fifty (150) feet wide, and will span approximately twenty (20) feet on the top. Since the total volume that will be placed into the western stockpile is uncertain, an area measuring approximately three hundred twenty five (325) feet long and one hundred (100) feet wide has been allocated. Actual measurements will depend on the volume placed into the stockpile.

A typical cross sectional view of the proposed stockpile is depicted on ***Figure 4, Stockpile Design and Sediment Traps***. The excavated topsoil will be hauled to the stockpile site and placed into the pile. A track dozer will be used to move the soil and form the stockpile. Soil compaction will be accomplished using the track dozer, sheepsfoot roller, or other earthmoving equipment. To achieve a relatively smooth and uniform surface, a track dozer will be employed to finish the stockpile's grade. Sidewalls will be graded to approximately 3:1 (horizontal: vertical) or less slope to minimize erosion and promote vegetative growth. To minimize fugitive dust during dry weather conditions, the stockpiles will be water sprayed as necessary. Any rocks, debris, vegetation, or foreign matter will be removed from the finished surface during the final grading operations. The finished grade will be hydro-seeded with rye, fescue, or other hardy and appropriate grasses to minimize soil erosion.

3.4.2 Stockpile Storm Water Management

The topsoil stockpiles will be located on Parcel A's southern boundary adjacent to the railroad right-of-way. The existing topography of the proposed stockpile location is such that storm water will drain naturally

around the stockpiles and flow generally towards the southeast. For each stockpile, a sediment trap will be located on this southeastern edge. ***Figure 2, Parcel A Site Plan*** depicts the location of each stockpile and its associated sediment trap. Some contouring may be necessary to ensure that storm water runoff will enter into the sediment traps. Silt fences will be added as necessary to aid in sediment control.

The sediment traps will collect materials that can settle out of the storm water runoff, such as soil particles, sand, and debris. These traps will be sized to provide adequate retention time for gravity separation of the sediment material. The traps will be maintained and remain operational during the entire stockpile construction project. Typical construction details for the sediment traps are depicted in ***Figure 4, Stockpile Design and Sediment Traps***.

To aid in storm water runoff control and minimize soil erosion, inactive stockpile areas may be temporarily hydro-seeded. Upon completion of all construction activities, the entire stockpile will be hydro-seeded. The sediment traps will continue to operate and will be maintained throughout the entire stockpile construction and hydro-seeding periods. Once sufficient vegetation has been established, minimal erosion and sediment displacement from the stockpile will occur. Therefore, minimum volumes of sediment will be transported with storm water runoff. At this point, the sediment traps are not necessary and will be decommissioned, back filled, and the area vegetated.

Sediments that accumulate in the traps will be periodically removed. Accumulated sediments will be dredged from the traps and placed in a spoil pile allowing free water to drain back into the trap. After the sediments have dewatered, they will be placed back onto the stockpile.

Periodic maintenance of the topsoil stockpile may be necessary during the post-construction period to ensure that erosion and sediment loss do not occur to any appreciable extent. Should conditions develop which could cause sediments to be disturbed or mobilized in storm water runoff (e.g. gully erosion, drought with vegetative die off, extreme wet weather, etc.) appropriate corrective measures will be taken as soon as practicable. Corrective measures that could be employed include the addition of fill, re-grading, re-seeding or placement of mats to re-vegetate bare areas, and planting alternate types of vegetation and/or vegetative barriers.

3.5 RCRA Evaluation

Contaminated topsoil in Parcel A is due to the spray application of inorganic and organochlorine pesticides. These pesticides were applied to the orchard for their intended use. Parcel A does not contain any other source areas such as pesticide mixing or storage areas or other orchard type structures. Since these pesticides were applied to the orchard for their intended use and no other source areas exist, the Resource Conservation and Recovery Act (RCRA) regulations are not applicable to this soil.

4.0 VERIFICATION SAMPLING

Once stockpiling activities have been completed, composite sampling will be conducted to verify the average concentration of arsenic in the stockpiled soil. Furthermore, an addendum to the February 2005 *Site Assessment Work Plan* will be provided to the WVDEP for approval, followed by additional site assessment activities, prior to the applicant requesting a Certificate of Completion.

5.0 REFERENCES

West Virginia Voluntary Remediation and Redevelopment Rule, Title 60 Code of State Regulations, Series 3, as established in the *Voluntary Remediation and Redevelopment Act*, WV Code §22-22-1

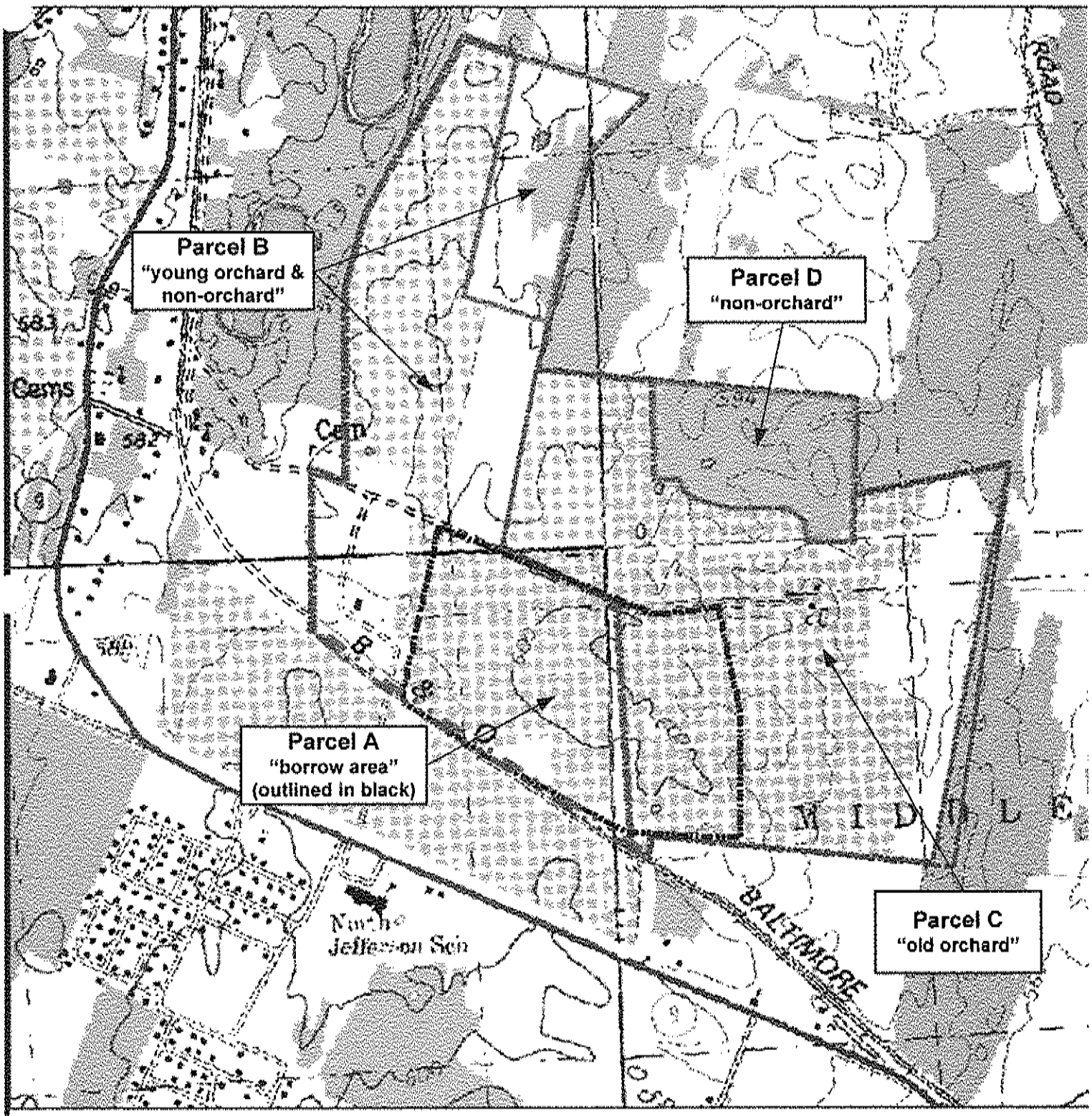
West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, version 2.1

Surface Soil Sampling and Analysis Report, Jefferson Orchards, Inc., (TRIAD ENGINEERING, INC., July 15, 2003)

Parcel A Site Assessment Work Plan, Jefferson Orchards, Inc., (TRIAD ENGINEERING, INC., February 10, 2005)

FIGURES

Figure 1
Site Location Map



Site
Borrow Area
Young Orchard
Old Orchard
Non-Orchard

SCALE

0 500 1,000 2,000 3,000 Feet

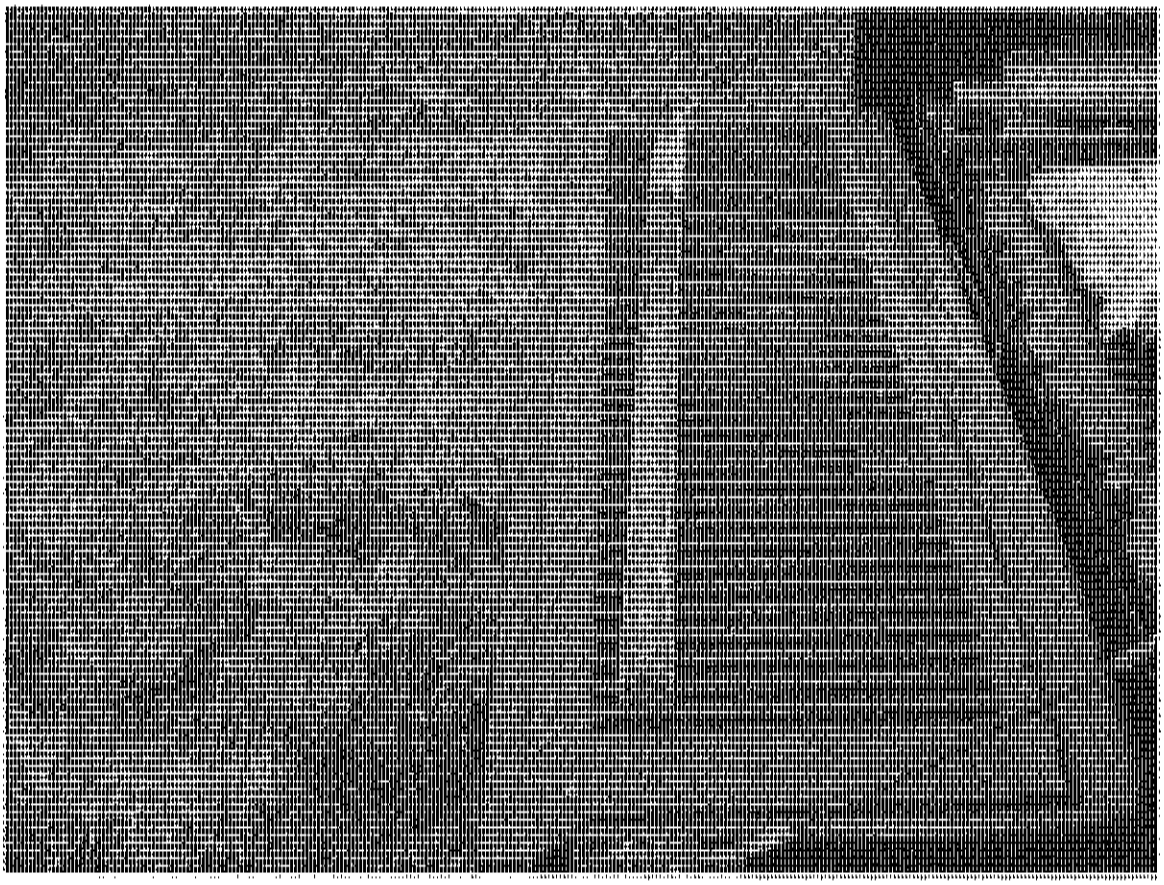
1:12000 1"=1000'

RIAD GIS

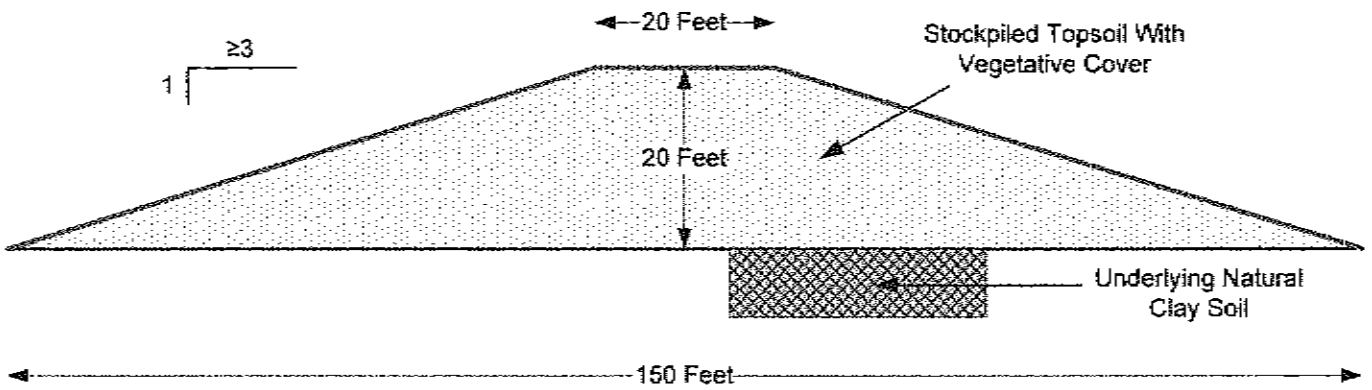
Triad Engineering, Inc.

Figure 3

Typical Soil Profile Photograph

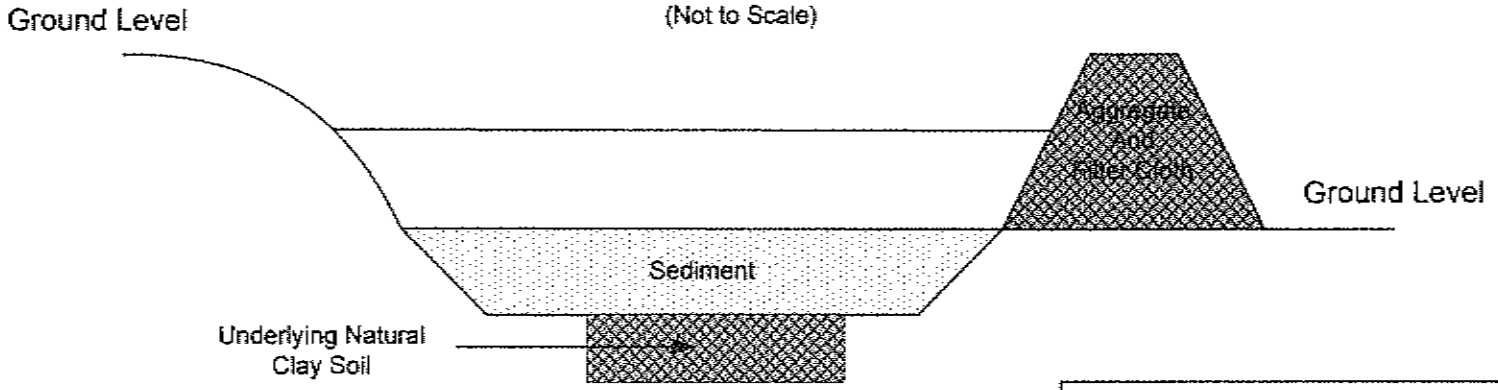


Conceptual Stockpile Design



Typical Sediment Trap Design

(Not to Scale)



Jefferson Orchards Parcel A	
Soil Management Plan	
Stockpile Design & Sediment Traps	
Created: 2/17/05 (drf)	Modified:
TRIAD	Figure 4

TABLES

Table 1. Parcel A Surface Soil Analysis

Jefferson Orchards (VRP # 06995)

Contaminate of Potential Concern	Surface Soil Concentrations (mg/kg)			Residential Soil *De Minimis* (mg/kg)
	Sample Location # 11	Sample Location # 29	Sample Location # 30	
	0'-0.5'	0'-0.5'	0'-0.5'	
Metals:				
Arsenic	**99**	6.5	6.8	13
Lead	260	13	16	400
Pesticides:				
4,4-DDD	ND	ND	ND	2.4
4,4-DDE	1.1	0.84	0.7	1.7
4,4-DDT	1.3	0.35	0.2	1.7
Aldrin	ND	ND	ND	0.029
Alpha-BHC	ND	ND	ND	0.090
Beta-BHC	ND	ND	ND	0.32
Chlordane	ND	ND	ND	1.6
Delta-BHC	ND	ND	ND	Na
Dieldrin	ND	ND	ND	0.030
Endosulfan I	ND	ND	ND	370
Endosulfan II	ND	ND	ND	370
Endosulfan Sulfate	ND	ND	ND	Na
Endrin	ND	ND	ND	18
Endrin Aldehyde	ND	ND	ND	Na
Endrin Ketone	ND	ND	ND	Na
Heptachlor	ND	ND	ND	0.11
Heptachlor Epoxide	ND	ND	ND	0.53
Lindane	ND	ND	ND	0.44
Methoxychlor	ND	ND	ND	310
Toxaphene	ND	ND	ND	0.44

Notes:

ND = COPC was not detected above the laboratory detection limit

Bolded numbers represent samples that were above the de minimis value

Na = de minimis value not available

Contaminate of Potential Concern	SB1	SB2	SB15			SB16			Residential Soil *De Minimis* (mg/kg)
	1'-4'	1'-4'	1'-4'	1'-2'	2'-4'	1'-4'	1'-2'	2'-4'	
Metals:									
Arsenic	11.7	7.41	7.7	48.4	9.3	**26.7**	21	7.16	13
Lead	26.3	33.9	13.2			46.8			400
Pesticides:									
4,4-DDD	<0.0041	<0.0041	<0.00			<0.0041			2.4
4,4-DDE	<0.0041	<0.0041	<0.00			0.0238			1.7
4,4-DDT	<0.0041	<0.0041	<0.00			0.0194			1.7
Aldrin	<0.0041	<0.0041	<0.00			<0.0041			0.029
Alpha-BHC	<0.0041	<0.0041	<0.00			<0.0041			0.090
Beta-BHC	<0.0041	<0.0041	<0.00			<0.0041			0.32
Chlordane	<0.0041	<0.0041	<0.00			<0.0041			1.6
Delta-BHC	<0.0041	<0.0041	<0.00			<0.0041			Na
Dieldrin	<0.0041	<0.0041	<0.00			<0.0041			0.030
Endosulfan I	<0.0041	<0.0041	<0.00			<0.0041			370
Endosulfan II	<0.0041	<0.0041	<0.00			<0.0041			370
Endosulfan Sulfate	<0.0041	<0.0041	<0.00			<0.0041			Na
Endrin	<0.0041	<0.0041	<0.00			<0.0041			18
Endrin Aldehyde	<0.0041	<0.0041	<0.00			<0.0041			Na
Endrin Ketone	<0.0041	<0.0041	<0.00			<0.0041			Na
Heptachlor	<0.0041	<0.0041	<0.00			<0.0041			0.11
Heptachlor Epoxide	<0.0041	<0.0041	<0.00			<0.0041			0.53
Lindane	<0.0041	<0.0041	<0.00			<0.0041			0.44
Methoxychlor	<0.0207	<0.0204	<0.02			<0.0205			310
Toxaphene	<0.415	<0.410	<0.41			<0.411			0.44
Polynuclear Aromatic Hydrocarbons (PAH):									
Acenaphthene	<0.082	<0.083	<0.08			<0.081			3,700
Acenaphthylene	<0.082	<0.083	<0.08			<0.081			3,700
Anthracene	<0.082	<0.083	<0.08			<0.081			22,000
Benzo(a)anthracene	<0.082	<0.083	<0.08			<0.081			0.62
Benzo(b)fluoranthene	<0.082	<0.083	<0.08			<0.081			0.62
Benzo(k)fluoranthene	<0.082	<0.083	<0.08			<0.081			6.2
Benzo(g,h,i)perylene	<0.082	<0.083	<0.08			<0.081			2,300
Benzo(a)pyrene	<0.026	<0.026	<0.02			<0.026			0.062
Chrysene	<0.082	<0.083	<0.08			<0.081			62
Dibenzo(a,h)anthracene	<0.034	<0.033	<0.03			<0.033			0.062
Fluoranthene	<0.082	<0.083	<0.08			<0.081			2,300
Fluorene	<0.082	<0.083	<0.08			<0.081			2,600
Napthalene	<0.082	<0.083	<0.08			<0.081			56
Indeno(1,2,3-cd)pyrene	<0.082	<0.083	<0.08			<0.081			0.62
Phenanthrene	<0.082	<0.083	<0.08			<0.081			22,000
Pyrene	<0.082	<0.083	<0.08			<0.081			2,300

Notes:

Blank cells represents COP
"<" concentration is below th
Bolded numbers represent s
Na = de minimis value not a

APPENDICES

Appendix A

Laboratory Results

#3767 **406405**

CHAIN OF CUSTODY RECORD

Triad Engineering, Inc.

TRIAD ENGINEERING, INC., 4980 Teays Valley Road, St. Albans, WV 25177 Tel: (304) 755-0721 FAX:(304) 755-1880

RESULTS TO: Lydia Work

PHONE: 304-755-0721 FAX: 304-755-1880

PROJECT: Jefferson Orchards SITE: Parcel A

PROGRAM: WV VRP PROJECT #: 07-03-0225

Laboratory Delivery Group

PAGE 1 of 54

TURNAROUND TIME: ☐ STD ☐ 24hr ☐ 48hr ☒ 72hr ☐ 1 wk

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	PRESERV. see key	ANALYSIS / METHOD: Arsenic (6010B)	Lead (6010B)	Organochlorine Pesticides (8081A)	PAH (8270C)				REMARKS
								0	0	0	0				
21235	JOA-SB1(1-4')	2/15/05	9:30	SOIL	1	C		/	/	/	/				
—	JOA-SB1(1-2')	↓	↓	SOIL	1	C									HOLD
—	JOA-SB1(2-4')	↓	↓	SOIL	1	C									HOLD
21236	JOA-SB2(1-4')	↓	10:00	SOIL	1	C		/	/	/	/				
—	JOA-SB2(1-2')	↓	↓	SOIL	1	C									HOLD
—	JOA-SB2(2-4')	↓	↓	SOIL	1	C									HOLD
21237	JOA-SB3(1-4')	↓	10:30	SOIL	1	C		/	/	/	/				
—	JOA-SB3(1-2')	↓	↓	SOIL	1	C									HOLD
—	JOA-SB3(2-4')	↓	↓	SOIL	1	C									HOLD
21238	JOA-SB4(1-4')	↓	11:00	SOIL	1	C		/	/	/	/				
—	JOA-SB4(1-2')	↓	↓	SOIL	1	C									HOLD
—	JOA-SB4(2-4')	↓	↓	SOIL	1	C									HOLD

Collected / Relinquished By (1)	Date	Time	Received By:
Dave Duncan Dave Duncan	2/15/05	21:00	FedEx
Relinquished By (2)	Date	Time	Received By:
			2/16/05 7:50

Special Instructions: Level II Report

LC

☒ EDD ☒ Report to MDL ☐ Report QC Data ☐ CLP-like Data Deliverable

PRESERVATION KEY: 0 - Ice Only 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - $Na_2S_2O_3$ 5 - MeOH 6 - NaOH

Pink = Sampler Copy Yellow = Lab Copy White = Return with Results

406405

CHAIN OF CUSTODY RECORD

TRIAD ENGINEERING, INC., 4960 Teays Valley Road, St. Albans, WV 25177 Tel: (304) 755-0721 FAX: (304) 755-1880

RESULTS TO: Lydia Work

PHONE: 304-755-0721 FAX: 304-755-1880

PROJECT: Jefferson Orchards SITE: Parcel A

PROGRAM: WV VRP PROJECT #: 07-03-0225

Laboratory Delivery Group

PAGE 2 of 4

TURNAROUND TIME: ☐ STD ☐ 24hr ☐ 48hr ☒ 72hr ☐ 1 wk

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	PRESERV see key	ANALYSIS / METHOD: Arsenic (6010B)	Lead (6010B)	Organochlorine Pesticides (8081A)	PAH (8270C)				REMARKS
								0	0	0	0				
21239	JOA-SB5 (1-4')	2/15/05	12:00	SOIL	1	C		/	/	/	/				
—	JOA-SB5 (1-2')			SOIL	1	C									HOLD
—	JOA-SB5 (2-4')		↓	SOIL	1	C									HOLD
21240	JOA-SB6 (1-4')		12:15	SOIL	1	C		/	/	/	/				
—	JOA-SB6 (1-2')			SOIL	1	C									HOLD
—	JOA-SB6 (2-4')		↓	SOIL	1	C									HOLD
21241	JOA-SB7 (1-4')		12:45	SOIL	1	C		/	/	/	/				
—	JOA-SB7 (1-2')			SOIL	1	C									HOLD
—	JOA-SB7 (2-4')		↓	SOIL	1	C									HOLD
21242	JOA-SB8 (1-4')		14:15	SOIL	1	C		/	/	/	/				
—	JOA-SB8 (1-2')			SOIL	1	C									HOLD
—	JOA-SB8 (2-4')	↓	↓	SOIL	1	C									HOLD

Collected / Relinquished By (1)	Date	Time	Received By
Dave Duncan	2/15/05	21:00	FedEx
Relinquished By (2)	Date	Time	Received By
			MB 2/16/05 7:50

Special Instructions:

☒ EDD ☒ Report to MDL ☐ Report QC Data ☐ CLP-like Data Deliverable

PRESERVATION KEY: 0 - Ice Only 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - $Na_2S_2O_3$ 5 - MeOH 6 - NaOH

Pink = Sampler Copy Yellow = Lab Copy White = Return with Results

406405

CHAIN OF CUSTODY RECORD

Triad Engineering, Inc.

TRIAD ENGINEERING, INC., 4980 Teays Valley Road, St. Albans, WV 25177 Tel: (304) 755-0721 FAX:(304) 755-1880

RESULTS TO: Lydia Work

PHONE: 304-755-0721 FAX: 304-755-1880

PROJECT: Jefferson Orchard SITE: Parcel A

PROGRAM: WVVRP PROJECT #: 07-03-0025

Laboratory Delivery Group:

PAGE 3 of 54

TURNAROUND TIME: ☐ STD ☐ 24hr ☐ 48hr ☒ 72hr ☐ 1 wk

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	#CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	PRESERV. see key	ANALYSIS / METHOD: Arsenic (6010B)	Lead (6010B)	Organochlorine Pesticides (8081A)	PAH (8270C)	REMARKS
							0	0	0	0		
21243	JOA-SB9 (1-4')	2/15/05	16:45	SOIL	1	C		/	/	/	/	
—	JOA-SB9 (1-2')	↓	↓	SOIL	1	C						HOLD
—	JOA-SB9 (2-4')		↓	SOIL	1	C						HOLD
21244	JOA-SB10 (1-4')		16:15	SOIL	1	C		/	/	/	/	
—	JOA-SB10 (1-2')		↓	SOIL	1	C						HOLD
—	JOA-SB10 (2-4')		↓	SOIL	1	C						HOLD
21245	JOA-SB11 (1-4')		14:45	SOIL	1	C		/	/	/	/	
—	JOA-SB11 (1-2')		↓	SOIL	1	C						HOLD
—	JOA-SB11 (2-4')		↓	SOIL	1	C						HOLD
21246	JOA-SB12 (1-4')		17:00	SOIL	1	C		/	/	/	/	
—	JOA-SB12 (1-2')		↓	SOIL	1	C						HOLD
—	JOA-SB12 (2-4')	↓	↓	SOIL	1	C						HOLD

Collected / Relinquished By: (1)	Date	Time	Received By:
Dave Duncan Dave Duncan	2/15/05	21:00	Fed Ex
Relinquished By: (2)	Date	Time	Received By:
			MB 2/16/05 7:15

Special Instructions:

☒ EDD ☒ Report to MDL ☐ Report QC Data ☐ CLP-like Data Deliverable

PRESERVATION KEY: 0 - Ice Only 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - $Na_2S_2O_3$ 5 - MeOH 6 - NaOH

Pink = Sampler Copy Yellow = Lab Copy White = Return with Results

406405 CHAIN OF CUSTODY RECORD

Triad Engineering, Inc.

TRIAD ENGINEERING, INC., 4980 Teays Valley Road, St. Albans, WV 25177 Tel: (304) 755-0721 FAX:(304) 755-1880

RESULTS TO: Lydia Work

PHONE: 304-755-0721 FAX: 304-755-1880

PROJECT: Jefferson Orchards SITE: Parcel A

PROGRAM: WV VRP PROJECT #: 07-03-0225

Laboratory Delivery Group:

PAGE 4 of 4

TURNAROUND TIME: ☐ STD ☐ 24hr ☐ 48hr ☒ 72hr ☐ 1 wk

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	PRESERV. see key	ANALYSIS / METHOD: Arsenic (6010B)	Lead (6010B)	Organochlorine Pesticides (8081A)	PAH (8270C)	REMARKS
							0	0	0	0		
21247	JOA-SB13(1-4')	2/15/05	15:15	SOIL	1	C		/	/	/	/	
—	JOA-SB13(1-2')	↓	↓	SOIL	1	C						HOLD
—	JOA-SB13(2-4')		↓	SOIL	1	C						HOLD
21248	JOA-SB15(1-4')		17:15	SOIL	1	C		/	/	/	/	
—	JOA-SB15(1-2')		↓	SOIL	1	C						HOLD
—	JOA-SB15(2-4')		↓	SOIL	1	C						HOLD
21249	JOA-SB16(1-4')		13:45	SOIL	1	C		/	/	/	/	
—	JOA-SB16(1-2')		↓	SOIL	1	C						HOLD
—	JOA-SB16(2-4')	↓	↓	SOIL	1	C						HOLD

Collected / Relinquished By: (1)	Date	Time	Received By:
Dave Duncan	2/15/05	21:00	FedEX
Relinquished By: (2)	Date	Time	Received By:
			MB 2/16/05 7:30

Special Instructions:

☒ EDD ☒ Report to MDL ☐ Report QC Data ☐ CLP-like Data Deliverable

PRESERVATION KEY: 0 - Ice Only 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - $Na_2S_2O_3$ 5 - MeOH 6 - NaOH

Pink = Sampler Copy Yellow = Lab Copy White = Return with Results

TestAmerica
ANALYTICAL TESTING CORPORATION

NASHVILLE ALERT FORM FOR SAMPLE LOGIN

This form is to be emailed only to the appropriate parties. The email will serve as the document control of the date and time received/sent.

ALERT INFORMATION: Project TAT = 3 DAY
Documentation Level: II III IV

- Client Name: Triad
- Client Number: 3767
- Project Name: Jefferson Orchards
- Project Number:
- Date to receive cooler: 2/17/05
- How many samples are there? 51
- Matrix of samples: soils
- What tests will be on the COC? Pest, Lead, Arsenic, and PAH
- Will a copy of the COC be faxed? YES or NO
  Please highlight/circle the appropriate answer.
- Is this Project TAT Pre-Approved? YES or NO
  Please highlight/circle the appropriate answer. Login, for pre-approved projects, please answer demographic "Approved Rush (YES)?" (60271) for every sample.

PURPOSE OF THIS ALERT:

- Heads up for incoming project: Samples will be due on the 22nd. 19 samples to start, 32 samples to be put on hold. Two COC's – one for Level II and one for Level IV. AppII report. Dry Weight correction.

Or

- Project changes prior to sample login:

LOGIN: REMEMBER TO ALWAYS PRINT CLIENT NOTES, WHEN APPLICABLE.

See Jennifer Gambill with any questions.

TestAmerica
ANALYTICAL TESTING CORPORATION

Nashville Division

406405

COOLER RECEIPT FORM **BC#**

Client Name : Trial

Cooler Received/Opened On: 2/16/05 **Accessioned By:** Mark Beasley

M. Beasley

Log-in Personnel Signature

1. Temperature of Cooler when triaged: 6.0 **Degrees Celsius**
2. Were custody seals on outside of cooler?..... (YES)...NO...NA
   a. If yes, how many and where: 1 Front
3. Were custody seals on containers ?..... (NO)..YES...NA
4. Were the seals intact, signed, and dated correctly?..... (YES)..NO...NA
5. Were custody papers inside cooler?..... (YES)..NO...NA
6. Were custody papers properly filled out (ink, signed, etc)?..... (YES)..NO...NA
7. Did you sign the custody papers in the appropriate place?..... (YES)..NO...NA
8. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite Other None
9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?..... (YES)..NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)?..... (YES)..NO...NA
12. Did all container labels and tags agree with custody papers?..... (YES)...NO...NA
13. Were correct containers used for the analysis requested?..... (YES)..NO...NA
14. a. Were VOA vials received?..... YES..(NO)..NA
    b. Was there any observable head space present in any VOA vial?..... NO...YES..(NA)
15. Was sufficient amount of sample sent in each container?..... (YES)..NO...NA
16. Were correct preservatives used?..... (YES)..NO...NA
    If not, record standard ID of preservative used here_____
17. Was residual chlorine present?..... (NO)..YES...NA
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:

6559 6560 _____ _____ _____

UPS Velocity DHL Route Off-street (Fedex) Misc.

19. If a Non-Conformance exists, see attached or comments below:

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800-765-0980 • 615-726-3404 Fax

2/22/05

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: JEFFERSON ORCHARDS
Project Number: 07-03-0225.
Laboratory Project Number: 406405.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

Sample Identification	Lab Number	Collection Date
JOA-SB1 (1-4)	05-A21235	2/15/05
JOA-SB2 (1-4)	05-A21236	2/15/05
JOA-SB3 (1-4)	05-A21237	2/15/05
JOA-SB4 (1-4)	05-A21238	2/15/05
JOA-SB5 (1-4)	05-A21239	2/15/05
JOA-SB6 (1-4)	05-A21240	2/15/05
JOA-SB7 (1-4)	05-A21241	2/15/05
JOA-SB8 (1-4)	05-A21242	2/15/05
JOA-SB9 (1-4)	05-A21243	2/15/05
JOA-SB10 (1-4)	05-A21244	2/15/05
JOA-SB11 (1-4)	05-A21245	2/15/05
JOA-SB12 (1-4)	05-A21246	2/15/05
JOA-SB13 (1-4)	05-A21247	2/15/05
JOA-SB15 (1-4)	05-A21248	2/15/05
JOA-SB16 (1-4)	05-A21249	2/15/05

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Sample Identification	Lab Number	Collection Date

Case Narrative / Additional Laboratory Comments:

All data was evaluated to the laboratory's MDL.

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

Report Approved By: Roxanne L Connor Report Date: 2/21/05

Johnny A. Mitchell, Laboratory Director
Michael H. Dunn, M.S., Technical Director
Pamela A. Langford, Senior Project Manager
Eric S. Smith, QA/QC Director
Sandra McMillin, Technical Services
Gail A. Lage, Senior Project Manager
Glenn L. Norton, Technical Services
Kelly S. Comstock, Technical Services
Roxanne L. Connor, Senior Project Manag

Laboratory Certification Number: 219

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21235
Sample ID: JOA-SB1 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 9:30
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	16:56	M.Schott	8270C	244
PESTICIDE/PCB'S/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21235
Sample ID: JOA-SB1 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil. Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
4,4'DDT	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0207	1	2/18/05	20:06	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.415	1	2/18/05	20:06	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/18/05	20:06	K. Burritt	8081A	241
METALS									
Arsenic	11.7	mg/kg	1.22	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	26.3	mg/kg	1.22	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	80.2	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.3 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.0 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21235
Sample ID: JOA-SB1 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	72.	23. - 121.
BNA Surr-2-Fluorobiphenyl	71.	45. - 101.
BNA Surr-Terphenyl-d14	84.	48. - 120.
pest surr-TCMX	122.	53. - 142.
pest surr-DCB	110.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21236
Sample ID: JOA-SB2 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 10:00
Date Received: 2/16/05
Time Received: 7:50

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.083	1	2/18/05	17:16	M.Schott	8270C	244
PESTICIDE/PCB'S/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21236
Sample ID: JOA-SB2 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
4,4'-DDT	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0204	1	2/18/05	20:35	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.410	1	2/18/05	20:35	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/18/05	20:35	K. Burritt	8081A	241
METALS									
Arsenic	7.41	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	33.9	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	81.2	%			2/15/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.7 gm	1.0 ml	3/17/05		J. Davis	3550
OC Pest	30.0 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21236
Sample ID: JOA-SB2 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	72.	23. - 121.
BNA Surr-2-Fluorobiphenyl	68.	45. - 101.
BNA Surr-Terphenyl-d14	77.	48. - 120.
pest surr-TCMX	104.	53. - 142.
pest surr-DCB	118.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21237
Sample ID: JOA-SB3 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 10:30
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.083	1	2/18/05	17:37	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21237
Sample ID: JOA-SB3 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
4,4'DDT	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0205	1	2/18/05	21:05	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.411	1	2/18/05	21:05	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/18/05	21:05	K. Burritt	8081A	241
METALS									
Arsenic	7.78	mg/kg	1.17	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	-13.2	mg/kg	1.17	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	81.0	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.8 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.4 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21237
Sample ID: JOA-SB3 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	75.	23. - 121.
BNA Surr-2-Fluorobiphenyl	71.	45. - 101.
BNA Surr-Terphenyl-d14	81.	48. - 120.
pest surr-TCMX	100.	53. - 142.
pest surr-DCB	110.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21238
Sample ID: JOA-SB4 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 11:00
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.084	1	2/18/05	17:58	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21238
Sample ID: JOA-SB4 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
4,4'DDT	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0204	1	2/18/05	21:35	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.410	1	2/18/05	21:35	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/18/05	21:35	K. Burritt	8081A	241
METALS									
Arsenic	6.90	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	15.0	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	81.2	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.5 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.4 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21238
Sample ID: JOA-SB4 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	75.	23. - 121.
BNA Surr-2-Fluorobiphenyl	71.	45. - 101.
BNA Surr-Terphenyl-d14	82.	48. - 120.
pest surr-TCMX	106.	53. - 142.
pest surr-DCB	108.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21239
Sample ID: JOA-SB5 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 12:00
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.083	1	2/18/05	18:19	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21239
Sample ID: JOA-SB5 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0239	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
4,4'DDT	0.0077	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0202	1	2/18/05	22:05	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.406	1	2/18/05	22:05	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0040	1	2/18/05	22:05	K. Burritt	8081A	241
METALS									
Arsenic	9.76	mg/kg	1.16	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	14.1	mg/kg	1.16	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	82.0	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.6 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	29.8 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21239
Sample ID: JOA-SB5 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	75.	23. - 121.
BNA Surr-2-Fluorobiphenyl	71.	45. - 101.
BNA Surr-Terphenyl-d14	81.	48. - 120.
pest surr-TCMX	108.	53. - 142.
pest surr-DCB	120.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21240
Sample ID: JOA-SB6 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 12:15
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.080	1	2/18/05	18:40	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21240
Sample ID: JOA-SB6 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0036 J	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
4,4'DDT	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0200	1	2/19/05	13:00	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.401	1	2/19/05	13:00	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0040	1	2/19/05	13:00	K. Burritt	8081A	241
METALS									
Arsenic	8.63	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	12.9	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	83.0	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.5 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.2 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21240
Sample ID: JOA-SB6 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	76.	23. - 121.
BNA Surr-2-Fluorobiphenyl	72.	45. - 101.
BNA Surr-Terphenyl-d14	80.	48. - 120.
pest surr-TCMX	90.	52. - 142.
pest surr-DCB	110.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21241
Sample ID: JOA-SB7 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 12:45
Date Received: 2/16/05
Time Received: 7:50

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	19:01	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21241
Sample ID: JOA-SB7 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
4,4'DDT	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0203	1	2/19/05	0:00	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.407	1	2/19/05	0:00	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0040	1	2/19/05	0:00	K. Burritt	8081A	241
METALS									
Arsenic	8.81	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	14.5	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	81.8	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.7 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.4 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21241
Sample ID: JOA-SB7 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	73.	23. - 121.
BNA Surr-2-Fluorobiphenyl	73.	45. - 101.
BNA Surr-Terphenyl-d14	83.	48. - 120.
pest surr-TCMX	124.	53. - 142.
pest surr-DCB	124.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21242
Sample ID: JOA-SB8 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 14:15
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	19:21	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21242
Sample ID: JOA-SB8 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
4,4'DDT	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0207	1	2/19/05	0:30	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.416	1	2/19/05	0:30	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/19/05	0:30	K. Burritt	8081A	241
METALS									
Arsenic	10.1	mg/kg	1.24	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	33.1	mg/kg	1.24	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	80.1	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.5 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	29.9 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21242
Sample ID: JOA-SB8 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	79.	23. - 121.
BNA Surr-2-Fluorobiphenyl	77.	45. - 101.
BNA Surr-Terphenyl-d14	87.	48. - 120.
pest surr-TCMX	124.	53. - 142.
pest surr-DCB	130.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21243
Sample ID: JOA-SB9 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 16:45
Date Received: 2/16/05
Time Received: 7:50

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.086	1	2/18/05	19:42	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0043	1	2/19/05	13:26	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0043	1	2/19/05	13:26	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0043	1	2/19/05	13:26	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0043	1	2/19/05	13:26	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0043	1	2/19/05	13:26	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0043	1	2/19/05	13:26	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21243
Sample ID: JOA-SB9 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0034 J	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
4,4'DDT	0.0042	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0212	1	2/19/05	13:26	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.425	1	2/19/05	13:26	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0042	1	2/19/05	13:26	K. Burritt	8081A	241
METALS									
Arsenic	29.0	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	25.2	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	78.3	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.7 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	29.8 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21243
Sample ID: JOA-SB9 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	75.	23. - 121.
BNA Surr-2-Fluorobiphenyl	73.	45. - 101.
BNA Surr-Terphenyl-d14	82.	48. - 120.
pest surr-TCMX	90.	53. - 142.
pest surr-DCB	112.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21244
Sample ID: JOA-SB10 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 16:15
Date Received: 2/16/05
Time Received: 7:50

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	20:03	M.Schott	8270C	244
PESTICIDE/PCB'S/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21244
Sample ID: JOA-SB10 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0158	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
4,4'DDT	0.0078	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0206	1	2/19/05	13:55	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.414	1	2/19/05	13:55	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/19/05	13:55	K. Burritt	8081A	241
METALS									
Arsenic	9.59	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	15.5	mg/kg	1.23	1	5/17/05	13:22	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	80.5	%			2/19/05	8:49	B. Taylor	CLP	7682

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.5 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	29.8 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21244
Sample ID: JOA-SB10 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	79.	23. - 121.
BNA Surr-2-Fluorobiphenyl	74.	46. - 101.
BNA Surr-Terphenyl-d14	83.	48. - 120.
pest surr-TCMX	102.	53. - 142.
pest surr-DCB	110.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21245
Sample ID: JOA-SB11 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 14:45
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	20:24	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0040	1	2/15/05	2:07	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21245
Sample ID: JOA-SB11 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
4,4'-DDT	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0202	1	2/19/05	2:07	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.406	1	2/19/05	2:07	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0040	1	2/19/05	2:07	K. Burritt	8081A	241
METALS									
Arsenic	11.7	mg/kg	1.20	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	12.9	mg/kg	1.20	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	82.0	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.9 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.3 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21245
Sample ID: JOA-SB11 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	74.	23. - 121.
BNA Surr-2-Fluorobiphenyl	73.	45. - 101.
BNA Surr-Terphenyl-d14	82.	48. - 120.
pest surr-TCMX	124.	53. - 142.
pest surr-DCB	120.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21246
Sample ID: JOA-SB12 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 17:00
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.085	1	2/18/05	20:44	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21246
Sample ID: JOA-SB12 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0042	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
4,4'DDT	0.0030 J	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0043	1	2/19/05	14:25	K. Burritt	8091A	241
Methoxychlor	ND	mg/kg	0.0213	1	2/19/05	14:25	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.427	1	2/19/05	14:25	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0042	1	2/19/05	14:25	K. Burritt	8081A	241
METALS									
Arsenic	14.2	mg/kg	1.30	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	31.3	mg/kg	1.30	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	77.9	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.3 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.3 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21246
Sample ID: JOA-SB12 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	67.	23. - 121.
BNA Surr-2-Fluorobiphenyl	65.	45. - 101.
BNA Surr-Terphenyl-d14	84.	48. - 120.
pest surr-TCMX	92.	53. - 142.
pest surr-DCB	108.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21247
Sample ID: JOA-SB13 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 15:15
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	21:05	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21247
Sample ID: JOA-SB13 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0265	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
4,4'DDT	0.0253	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Endrin	0.0040	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0200	1	2/19/05	14:54	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.401	1	2/19/05	14:54	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0040	1	2/19/05	14:54	K. Burritt	8081A	241
METALS									
Arsenic	7.14	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	13.9	mg/kg	1.19	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	83.0	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	29.5 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	29.7 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21247
Sample ID: JOA-SB13 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	69.	23. - 121.
BNA Surr-2-Fluorobiphenyl	68.	45. - 101.
BNA Surr-Terphenyl-d14	82.	48. - 120.
pest surr-TCMX	106.	53. - 142.
pest surr-DCB	110.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.
Endrin results greater than 40% difference between channels.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21248
Sample ID: JOA-SB15 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 17:15
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.082	1	2/18/05	21:25	M.Schott	8270C	244
PESTICIDE/PCB'S/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21248
Sample ID: JOA-SB15 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0120	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
4,4'DDT	0.0025 J	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0205	1	2/19/05	15:24	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.412	1	2/19/05	15:24	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/19/05	15:24	K. Burritt	8081A	241
METALS									
Arsenic	24.5	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	41.8	mg/kg	1.23	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	80.8	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.5 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.1 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21248
Sample ID: JOA-SB15 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	66.	23. - 121.
BNA Surr-2-Fluorobiphenyl	65.	45. - 101.
BNA Surr-Terphenyl-d14	77.	48. - 120.
pest surr-TCMX	108.	53. - 142.
pest surr-DCB	118.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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ANALYTICAL REPORT

TRIAD ENGINEERING, INC. 3767
LYDIA WORK
4980 TEAYS VALLEY ROAD
ST. ALBANS, WV 25177

Project: 07-03-0225
Project Name: JEFFERSON ORCHARDS
Sampler: DAVE DUNCAN

Lab Number: 05-A21249
Sample ID: JOA-SB16 (1-4)
Sample Type: Soil
Site ID:

Date Collected: 2/15/05
Time Collected: 13:45
Date Received: 2/16/05
Time Received: 7:50
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Naphthalene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Acenaphthene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Anthracene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Fluoranthene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Fluorene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Pyrene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Benzo(a)anthracene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Benzo(a)pyrene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Benzo(b)fluoranthene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Benzo(k)fluoranthene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Chrysene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Dibenzo(a,h)anthracene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Acenaphthylene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Benzo(g,h,i)perylene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
Phenanthrene	ND	mg/kg	0.081	1	2/18/05	21:46	M.Schott	8270C	244
PESTICIDE/PCB's/HERBICIDES									
Aldrin	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
a-BHC	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
b-BHC	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
d-BHC	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
g-BHC, Lindane	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
4,4'-DDD	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21249
Sample ID: JOA-SB16 (1-4)
Project: 07-03-0225

Analyte	Result	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
4,4'-DDE	0.0239	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
4,4'DDT	0.0194	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Dieldrin	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Endosulfan I	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Endosulfan II	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Endosulfan sulfate	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Endrin	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Endrin aldehyde	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Endrin Ketone	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Heptachlor	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Heptachlor epoxide	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
Methoxychlor	ND	mg/kg	0.0205	1	2/19/05	4:07	K. Burritt	8081A	241
Toxaphene	ND	mg/kg	0.411	1	2/19/05	4:07	K. Burritt	8081A	241
alpha-Chlordane	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
gamma-Chlordane	ND	mg/kg	0.0041	1	2/19/05	4:07	K. Burritt	8081A	241
METALS									
Arsenic	26.7	mg/kg	1.20	1	5/17/05	13:32	K. Ahmed	6010B	7733
Lead	46.8	mg/kg	1.20	1	5/17/05	13:32	K. Ahmed	6010B	7733
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	81.0	%			2/19/05	8:49	B. Taylor	CLP	7652

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BNA's	30.1 gm	1.0 ml	2/17/05		J. Davis	3550
OC Pest	30.5 gm	10.0 ml	2/17/05		J. Davis	3550

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 05-A21249
Sample ID: JOA-SB16 (1-4)
Project: 07-03-0225

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	68.	33. - 121.
BNA Surr-2-Fluorobiphenyl	67.	45. - 101.
BNA Surr-Terphenyl-d14	82.	48. - 120.
pest surr-TCMX	79.	53. - 142.
pest surr-DCB	100.	47. - 139.

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All reported results for metals or Organic analyses have been corrected for dry weight.

End of Sample Report.

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PROJECT QUALITY CONTROL DATA
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Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
UST ANALYSIS								
Naphthalene	mg/kg	< 0.066	1.16	1.67	69	23. - 121.	244	'21256
Acenaphthene	mg/kg	< 0.066	1.32	1.67	79	41. - 112.	244	'21256
Anthracene	mg/kg	< 0.066	1.42	1.67	85	47. - 123.	244	'21256
Fluoranthene	mg/kg	< 0.066	1.42	1.67	85	45. - 126.	244	'21256
Fluorene	mg/kg	< 0.066	1.35	1.67	81	38. - 121.	244	'21256
Pyrene	mg/kg	< 0.066	1.35	1.67	81	38. - 141.	244	'21256
Benzo(a)anthracene	mg/kg	< 0.066	1.39	1.67	83	36. - 138.	244	'21256
Benzo(a)pyrene	mg/kg	< 0.066	1.45	1.67	87	34. - 138.	244	'21256
Benzo(b)fluoranthene	mg/kg	< 0.066	1.39	1.67	83	30. - 137.	244	'21256
Benzo(k)fluoranthene	mg/kg	< 0.066	1.32	1.67	79	28. - 142.	244	'21256
Chrysene	mg/kg	< 0.066	1.35	1.67	81	33. - 137.	244	'21256
Dibenzo(a,h)anthracene	mg/kg	< 0.066	1.29	1.67	77	19. - 149.	244	'21256
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.066	1.25	1.67	75	21. - 146.	244	'21256
Acenaphthylene	mg/kg	< 0.066	1.42	1.67	85	42. - 116.	244	'21256
Benzo(g,h,i)perylene	mg/kg	< 0.066	1.22	1.67	73	16. - 147.	244	'21256
Phenanthrene	mg/kg	< 0.066	1.35	1.67	81	42. - 123.	244	'21256
PEST/PCB/HERB PARAMETERS								
Aldrin	mg/kg	< 0.0033	0.0173	0.0167	104	53. - 134.	241	05-A21249
g-BHC, Lindane	mg/kg	< 0.0033	0.0170	0.0167	102	48. - 140.	241	05-A21249
4,4'DDT	mg/kg	0.0157	0.0456	0.0167	179#	40. - 139.	241	05-A21249
Dieldrin	mg/kg	< 0.0033	0.0180	0.0167	108	55. - 131.	241	05-A21249
Endrin	mg/kg	< 0.0033	0.0190	0.0167	114	52. - 143.	241	05-A21249
Heptachlor	mg/kg	< 0.0033	0.0176	0.0167	105	52. - 134.	241	05-A21249

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
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Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	
METALS							
Arsenic	mg/kg	9.38	27.4	20.0	90	75. - 125.	7733 '21235
Lead	mg/kg	21.1	109.	100.	88	75. - 125.	7733 '21235

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
UST PARAMETERS						
Naphthalene	mg/kg	1.16	1.12	3.51	37.	244
Acenaphthene	mg/kg	1.32	1.32	0.00	34.	244
Anthracene	mg/kg	1.42	1.42	0.00	28.	244
Fluoranthene	mg/kg	1.42	1.42	0.00	33.	244
Fluorene	mg/kg	1.35	1.39	2.92	30.	244
Pyrene	mg/kg	1.35	1.42	5.05	33.	244
Benzo(a)anthracene	mg/kg	1.39	1.42	2.14	31.	244
Benzo(a)pyrene	mg/kg	1.45	1.45	0.00	31.	244
Benzo(b)fluoranthene	mg/kg	1.39	1.52	8.93	40.	244
Benzo(k)fluoranthene	mg/kg	1.32	1.22	7.87	33.	244
Chrysene	mg/kg	1.35	1.39	2.92	31.	244
Dibenzo(a,h)anthracene	mg/kg	1.29	1.32	2.30	34.	244
Indeno(1,2,3-cd)pyrene	mg/kg	1.25	1.29	3.15	34.	244
Acenaphthylene	mg/kg	1.42	1.42	0.00	30.	244
Benzo(g,h,i)perylene	mg/kg	1.22	1.25	2.43	36.	244
Phenanthrene	mg/kg	1.35	1.35	0.00	33.	244
PEST/PCB/HERB PARAMETERS						
Aldrin	mg/kg	0.0173	0.0166	4.13	39.	241
g-BHC, Lindane	mg/kg	0.0170	0.0176	3.47	41.	241
4,4'DDT	mg/kg	0.0456	0.0320	35.06	41.	241
Dieldrin	mg/kg	0.0180	0.0176	2.25	37.	241
Endrin	mg/kg	0.0190	0.0186	2.13	41.	241
Heptachlor	mg/kg	0.0176	0.0180	2.25	42.	241

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
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METALS						
Arsenic	mg/kg	27.4	27.0	1.47	20	7733
Lead	mg/kg	109.	119.	8.77	20	7733

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
UST PARAMETERS						
Naphthalene	mg/kg	1.67	1.19	71	43 - 107	244
Acenaphthene	mg/kg	1.67	1.42	85	52 - 108	244
Anthracene	mg/kg	1.67	1.58	95	56 - 123	244
Fluoranthene	mg/kg	1.67	1.55	93	58 - 118	244
Fluorene	mg/kg	1.67	1.45	87	50 - 115	244
Pyrene	mg/kg	1.67	1.48	89	39 - 141	244
Benzo(a)anthracene	mg/kg	1.67	1.52	91	41 - 138	244
Benzo(a)pyrene	mg/kg	1.67	1.62	97	39 - 138	244
Benzo(b)fluoranthene	mg/kg	1.67	1.45	87	34 - 136	244
Benzo(k)fluoranthene	mg/kg	1.67	1.55	93	32 - 142	244
Chrysene	mg/kg	1.67	1.48	89	38 - 135	244
Dibenzo(a,h)anthracene	mg/kg	1.67	1.42	85	25 - 149	244
Indeno(1,2,3-cd)pyrene	mg/kg	1.67	1.42	85	25 - 146	244
Acenaphthylene	mg/kg	1.67	1.48	89	54 - 111	244
Benzo(g,h,i)perylene	mg/kg	1.67	1.35	81	19 - 147	244
Phenanthrene	mg/kg	1.67	1.48	89	55 - 115	244
PEST/PCB/HERB PARAMETERS						
Aldrin	mg/kg	0.0167	0.0190	114	66 - 130	241
a-BHC	mg/kg	0.0167	0.0186	111	66 - 129	241
b-BHC	mg/kg	0.0167	0.0193	116	69 - 131	241
d-BHC	mg/kg	0.0167	0.0173	104	64 - 135	241
g-BHC, Lindane	mg/kg	0.0167	0.0190	114	69 - 131	241
4,4'-DDD	mg/kg	0.0167	0.0190	114	66 - 136	241
4,4'-DDE	mg/kg	0.0167	0.0193	116	65 - 136	241

Project QC continued . . .

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Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
4,4'DDT	mg/kg	0.0167	0.0200	120	63 - 132	241
Dieldrin	mg/kg	0.0167	0.0193	116	63 - 125	241
Endosulfan I	mg/kg	0.0167	0.0190	114	65 - 136	241
Endosulfan II	mg/kg	0.0167	0.0193	116	63 - 137	241
Endosulfan sulfate	mg/kg	0.0167	0.0193	116	63 - 138	241
Endrin	mg/kg	0.0167	0.0196	117	67 - 141	241
Endrin aldehyde	mg/kg	0.0167	0.0190	114	50 - 145	241
Endrin Ketone	mg/kg	0.0167	0.0193	116	62 - 131	241
Heptachlor	mg/kg	0.0167	0.0193	116	64 - 132	241
Heptachlor epoxide	mg/kg	0.0167	0.0196	117	63 - 136	241
Methoxychlor	mg/kg	0.0167	0.0203	122	62 - 146	241
Toxaphene	mg/kg	0.333	0.513	154	72 - 156	241
alpha-Chlordane	mg/kg	0.0167	0.0190	114	61 - 139	241
gamma-Chlordane	mg/kg	0.0167	0.0190	114	63 - 138	241
METALS						
Arsenic	mg/kg	20.0	19.0	95	80 - 120	7733
Lead	mg/kg	100.	97.6	98	80 - 120	7733

Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
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Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
UST PARAMETERS					
Naphthalene	< 0.066	mg/kg	244	2/18/05	15:33
Acenaphthene	< 0.066	mg/kg	244	2/18/05	15:33
Anthracene	< 0.066	mg/kg	244	2/18/05	15:33
Fluoranthene	< 0.066	mg/kg	244	2/18/05	15:33
Fluorene	< 0.066	mg/kg	244	2/18/05	15:33
Pyrene	< 0.066	mg/kg	244	2/18/05	15:33
Benzo(a)anthracene	< 0.066	mg/kg	244	2/18/05	15:33
Benzo(a)pyrene	< 0.066	mg/kg	244	2/18/05	15:33
Benzo(b)fluoranthene	< 0.066	mg/kg	244	2/18/05	15:33
Benzo(k)fluoranthene	< 0.066	mg/kg	244	2/18/05	15:33
Chrysene	< 0.066	mg/kg	244	2/18/05	15:33
Dibenzo(a,h)anthracene	< 0.066	mg/kg	244	2/18/05	15:33
Indeno(1,2,3-cd)pyrene	< 0.066	mg/kg	244	2/18/05	15:33
Acenaphthylene	< 0.066	mg/kg	244	2/18/05	15:33
Benzo(g,h,i)perylene	< 0.066	mg/kg	244	2/18/05	15:33
Phenanthrene	< 0.066	mg/kg	244	2/18/05	15:33
PEST/PCB/HERB PARAMETERS					
Aldrin	< 0.0033	mg/kg	241	2/18/05	19:08
a-BHC	< 0.0033	mg/kg	241	2/18/05	19:08
b-BHC	< 0.0033	mg/kg	241	2/18/05	19:08
d-BHC	< 0.0033	mg/kg	241	2/18/05	19:08
g-BHC, Lindane	< 0.0033	mg/kg	241	2/18/05	19:08
4,4'-DDD	< 0.0033	mg/kg	241	2/18/05	19:08
4,4'-DDE	< 0.0033	mg/kg	241	2/18/05	19:08
4,4'DDT	< 0.0033	mg/kg	241	2/18/05	19:08
Dieldrin	< 0.0033	mg/kg	241	2/18/05	19:08
Endosulfan I	< 0.0033	mg/kg	241	2/18/05	19:08

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
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Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Endosulfan II	< 0.0033	mg/kg	241	2/18/05	19:08
Endosulfan sulfate	< 0.0033	mg/kg	241	2/18/05	19:08
Endrin	< 0.0033	mg/kg	241	2/18/05	19:08
Endrin aldehyde	< 0.0033	mg/kg	241	2/18/05	19:08
Endrin Ketone	< 0.0033	mg/kg	241	2/18/05	19:08
Heptachlor	< 0.0033	mg/kg	241	2/18/05	19:08
Heptachlor epoxide	< 0.0033	mg/kg	241	2/18/05	19:08
Methoxychlor	< 0.0166	mg/kg	241	2/18/05	19:08
Toxaphene	< 0.333	mg/kg	241	2/18/05	19:08
alpha-Chlordane	< 0.0033	mg/kg	241	2/18/05	19:08
gamma-Chlordane	< 0.0033	mg/kg	241	2/18/05	19:08
pest surr-TCMX	106.	% Rec	241	2/18/05	19:08
pest surr-DCB	108.	% Rec	241	2/18/05	19:08
METALS					
Arsenic	< 0.68	mg/kg	7733	5/17/05	13:32
Lead	< 0.36	mg/kg	7733	5/17/05	13:32

= Value outside Laboratory historical or method prescribed QC limits.

Appendix B

Health and Safety Plan

Health and Safety Plan

for

Jefferson Orchards, Inc.

PO Box 700

Kearneysville, WV 25430

March 14, 2005

Prepared by:

McIntosh Consultants, LLC

204 Summit Drive

Scott Depot, WV 25560

1.0 INTRODUCTION

This site health and safety plan (HSP) has been prepared for safety and health requirements related to potential chemical exposures and physical hazards during soil management activities at Parcel A of the Jefferson Orchards, Inc. site located near Kearneysville, WV. This plan has been developed on the basis of information obtained from previous reports and historical data provided by Triad Engineering, Inc.

2.0 SCOPE and LIMITATIONS

This HSP establishes responsibilities and procedures for the health and safety program to be followed for preparation/ mobilization, excavation/ grading and soil staging activities at the Parcel A site. The procedures set forth in this HASP are designed to reduce the risk of potential chemical exposure and to physical hazards which may be present at the site during the activities described above.

Every potential hazard associated with this project cannot be anticipated. This HSP does not attempt to establish procedures and rules to cover every contingency which may arise, but is intended to provide a basic framework for the safe completion of field activities, planning for reasonable contingencies. The procedures provided herein are to be used by all employees who will be involved in the performance of the project. All personnel are required to enforce and adhere to the established rules specified in the approved HSP which will be made available to them.

The HSP has been written to be consistent with applicable federal and state safety and health requirements. Specific references used in assembling the HSP include:

- 29 CFR 1910 (OSHA General Industry Standard)
- 29 CFR 1926 (OSHA Construction Standards)

2.1 Contractors & Sub contractors

The HASP presents the minimum requirements for safety and health that must be met by site personnel and contractors engaged in site activities. All contractors and subcontractors shall complete all work in accordance with this plan. **It is the responsibility of the Contractors and subcontractors to prepare a site- specific HSP and implement safety and health measures for their employees. This HASP does not in any way relieve contractors or subcontractors from developing their own Health and Safety Plans.** All field personnel including subcontractor personnel shall read, understand, and comply with the requirements of this HASP. Any visitors to the site shall

be required to comply with the approved HASP to gain entry. Copies of the HSP shall be kept on-site by all individual contractors and sub contractors.

The recommended safety and health guidelines set forth within this document may be modified by the Project CIH as further information is made available.

3.0 SITE DESCRIPTION

3.1 Site Location

The Jefferson Orchards Site is located in Jefferson County, West Virginia, southeast of Kearneysville. The entire site is approximately three hundred eighty eight (388) acres in size and is accessed from WV State Route 9. This project only entails the Site's Parcel A, which encompasses approximately sixty (60) acres. The site is currently an operating and active fruit orchard. Parcel A consists only of orchard soils. No potential source areas such as pesticide mixing or storage areas or structures are located at this parcel.

3.2 Site History

The Site has been used since the late 1940s as a fruit orchard. It is still an active site both producing and selling fruit. During the orchard's operation, pesticides have been applied to the orchard as crop protection. Lead arsenate and organochlorine pesticides have been used. The lead arsenate pesticides were used in the orchards earlier years (pre-1950s) switching to organochlorine pesticides (1960s and 70s). The site can be divided into three areas based on historical use, "old orchard", "young orchard", and "non-orchard". Parcel A consists of old orchard and young orchard areas only.

3.3 Proposed Land-Use

Jefferson Orchards' intent is to initially use the sixty (60) acre Parcel A site as a borrow area to support road construction activities associated with the development of the State Route 9 highway project. Borrowed material will be excavated modifying the site's existing contours and effectively leaving flat terrain when borrowing activities has ceased. The future land use scenario for Parcel A is to develop it for residential use.

3.4 Current Adjacent Land-Use

Land adjacent to Parcel A is agricultural land. Jefferson Orchards' Parcel B bounds the western and northwestern sides of Parcel A and Parcel C bounds the eastern and northeastern sides. The southern side is bounded by the CSX railroad.

4.0 PROJECT ORGANIZATION & RESPONSIBILITIES

Safety and Health responsibilities must be incorporated into project management roles to ensure proper program implementation. Personnel shall be aware of the site organization and the responsibilities and qualifications of each member. Responsibilities as they impact project safety and health are described below.

Site/ Project Manager: Ed Phares, JF Allen
Contractor Project Manager: Ed Phares, JF Allen
Licensed Remediation Specialist: Lydia Work, L.R.S., Triad Engineering
Site Health and Safety Officer: Ed Paugh
Contractor Site Health and Safety Officer: Ed Paugh, JF Allen
Project Certified Industrial Hygienist: James D. McIntosh, CIH, CSP
Project Field Team: TBD

4.1 Site/ Project Manager

The Project Manager (PM) is responsible for the overall implementation of this HSP and is the primary contact for the Project Team. **The PM is responsible for ensuring that field personnel are aware of and in conformance with the HSP.** The PM is also responsible for the following:

- Correcting any work practices that are not in conformance with this HSP and those which may result in injury or exposure.
- Maintaining communications with the Site Safety and Health Officer (SHSO) and Project Certified Industrial Hygienist (CIH) regarding resolution of health and safety problems/concerns.
- Assuring that the proper safety equipment is available at the site and that it is used properly.
- Assuring that appropriate safety meetings and updates are provided for contractors and subcontractors.

4.2 Licensed Remediation Specialist

The Licensed Remediation Specialist (LRS) is responsible for overseeing and ensuring the work is performed in accordance with the West Virginia Voluntary Remediation Program.

4.3 Project Certified Industrial Hygienist (CIH)

The Project CIH will be responsible for review and approval of provisions of the plan and any amendments.

The CIH will also be responsible for the following tasks:

- Review any air monitoring results and accident reports, as necessary.
- Report problems/concerns regarding project safety.

- Interpret the air monitoring/sampling data required to upgrade or downgrade personal protective measures.

It is anticipated that the Project CIH will be on-site at the initiation of site activities to monitor the implementation of the HSP and otherwise when necessary.

4.4 Site Health and Safety Officer (SHSO)

The Site Health and Safety Officer (SHSO) reports to the PM and is responsible for implementing the health and safety plan in the field. The SHSO is responsible for the following:

- Advising the PM on all aspects of site safety and health and advising the PM to cease or change operations in the event that worker or public health or safety is threatened.
- Ensuring that all site personnel have received the appropriate and required safety and health training for the site.
- Day to day monitoring of work activities to ensure that work practices and other requirements specified by the HSP are being properly implemented.
- Following up on necessary corrective actions.
- Recommending proper precautions or work limitations required to reduce heat or cold stress.
- Investigating all accidents and safety incidents and preparing the appropriate reports.

4.5 Contractor Safety and Health Manager

It is anticipated that the primary contractor shall provide the SHSO for project activities. Therefore responsibilities would be the same as those described above in section 4.4.

4.6 Project Field Team/ Contractor Personnel

The Project Field Team is responsible for the following:

- Completing all site tasks in conformance with the HSP.
- Reporting any accidents or injuries to the PM and SHSO.

5.0 SITE ACCESS and SITE CONTROL

The site access and control measures shall be established by the contractor and the SHSO before work begins on the site. During site activities Access inside the site shall be limited to trained and authorized personnel.

5.1 Site Access

Access to the established Exclusion Zone or work area will be limited to those authorized and wearing the appropriate personal protective equipment. The Exclusion zone shall be cordoned off with flagging tap or other suitable indicators designating the area.

5.2 Site Control

Site control measures designed to minimize potential contamination of personnel and the potential to spread contamination outside the Exclusion zone shall be utilized. Control of contamination shall be done through defined work zones and decontamination procedures. The following work zones shall be implemented.

- Exclusion Zone (EZ) - the area(s) where soil excavation/grading activities are being conducted with the potential of soil containing hazardous constituents.
- Contamination Reduction Zone (CRZ) – used when working in potentially contaminated areas. The area where personnel and equipment exiting are decontaminated.
- Support Zone (SZ) - the area outside the EZ and CRZ used for project management and coordination, and storage of equipment and vehicles.

When needed, the CRZ shall be located and sized to provide for easy but controlled site access and egress by personnel, vehicles, and equipment. The CRZ shall consist of an area to drop equipment, plastic bags for disposal of protective clothing, adequate soap and water for personnel and equipment decontamination. A first-aid kit, fire blanket, fire extinguisher (20 lb. ABC-type), and portable eyewash shall be located on the clean side of the CRZ.

The SZ shall be located near to, but upwind of, the worksite to minimize potential exposures to site-associated contaminants. It shall be positioned and sized to provide adequate space for the staging and support activities.

5.3 Site Control for Excavations

Prior to excavation the contractor shall assure that there are no underground line hazards or plan appropriately. OSHA requirements specified in 29 CFR 1926.652 shall be followed for all excavation activities. When site personnel are required to enter excavations or trenches OSHA requirements for personnel protection and means of exit shall be utilized. All excavations (greater than 4 feet deep) that are left open and unattended by field personnel will be appropriately barricaded and visibly posted with warning or other suitable hazard signage. The walls and faces of excavations and trenches shall be protected using means acceptable to OSHA to protect site personnel from the dangers of moving ground and cave-ins. OSHA requirements for location of excavated material shall also be utilized.

5.4 Site Control for Heavy Machinery and Potentially Contaminated Soil

All heavy machinery and equipment will be stored in secured areas (Gated Road) upon completion of daily activities. Lastly, all potentially contaminated media will be secured in an area to prevent tampering or inadvertent exposure.

6.0 SITE HAZARD EVALUATION

Site Personnel shall be made aware of chemical, physical, and biological hazards of concern associated with the project. The potential hazards of each task are discussed below. Protective measures and proper personal protective equipment are discussed in the following section. The evaluation of potential chemical hazards is based on information provided by Triad Engineering.

6.1 Site Preparation/Mobilization

Prior to starting project activities on site the following site preparations may need to be completed: Staging areas will be cleared of brush and other debris, access roads and traffic control patterns to work areas developed and site control zones including equipment decontamination areas will be established.

Potential hazards associated with these tasks include, but are not limited to, physical hazards such as noise, heavy equipment operation, slippery surfaces, material handling, and heat/ cold stress.

6.2 Soil Grading/ Excavation

This task encompasses the project and consists of excavation of potentially impacted soil during grading activities.

Potential hazards associated with this task include: excavation safety, toxicity associated with inhalation, dermal, ocular, and ingestion exposure to contaminants during grading activities. Specifically, **low levels of lead and arsenic in topsoil** above naturally occurring background concentrations have been identified on the old orchard site and may be encountered during excavation/ grading activities. Safety/ Health information for lead and arsenic is included with this plan as Attachment 1.

6.3 Soil Staging

This task consists of stockpiling and transporting excavated soils to on-site areas. If impacted topsoil or materials
are transported off-site shall be done in compliance with applicable Federal, State, and Local laws and regulations governing the disposal of waste materials. The primary hazards associated with this activity are consistent with those described for excavation/ grading activities.

7.0 ANTICIPATED PERSONAL PROTECTIVE EQUIPMENT (PPE)

7.1 Initial PPE Requirements

The levels of protection initially assigned for personnel represent the best estimate of anticipated potential exposure and protective equipment required to eliminate the exposure. **The levels of protection may be down-graded or up-graded by the SHSO after consultation with the Project CIH based on professional judgment or personal air sampling or other direct-reading instrument results.** The initial levels of protection are presented in table 7-1 below.

Table 7-1
Initial PPE Requirements

ZONE	ACTIVITY	LEVEL OF PROTECTION
EXCLUSION	Site Preparation and Mobilization	Level D
EXCLUSION	Topsoil Excavation/ Grading	Modified Level D or D
EXCLUSION	Topsoil Stockpiling	Modified Level D or D

Note: Modified Level D protection **(old orchard area)** includes coveralls (disposable or laundered), latex gloves, and rubber boots (or disposable booties or boots disposed of on-site).

Note: Modified Level D protection **(old orchard area)** includes coveralls (disposable or laundered), latex gloves, and rubber boots (or disposable booties or boots disposed of on-site).

7.2 Personal Protection

Level D or modified level D protection (old orchard area only) is required for the beginning of each activity. Coveralls and latex or leather gloves and leather boots (with rubber booties) shall be worn during excavation or grading activities which may lead to potential contact with contaminated materials.

Where airborne concentrations of contaminants exceed the action level, dust suppression using wetting techniques will be implemented as necessary. Level C protection (i.e. respiratory protection) can also be initiated for employees (this includes NIOSH approved, full-face, air-purifying respirators with NIOSH-approved cartridges for dusts).

The use of personal protective equipment shall be in compliance with 29 CFR 1910 Subpart I. Personnel using respirators shall provide written certification of medical fitness and proof of training to the SHSO prior to initiating site operations.

A detailed list of Level's D and C protection as well as Respiratory protection requirements is provided in Attachment 2

7.3 Action Levels

During the excavation, removal and staging of potentially contaminated material, there is a possibility of contaminated particulate (dust) being generated. In addition to the hazard presented by airborne dust particles, the particles generated by this activity may involve Arsenic and Lead.

Based on the maximum soil concentrations for Arsenic and Lead found on Parcel A by Triad Engineering, the calculated Action Levels for air borne dust containing arsenic and lead are well above the PEL for Arsenic (0.01 mg/m3), the Action Level for Lead (0.03 mg/m3), and the PEL for Total Nuisance Dust (10 mg/m3). Additionally efforts shall be employed as necessary to reduce air borne dust by the use of "wetting" the surface of the soil periodically with low pressure water. **Therefore, site personnel exposure to airborne particulate levels above those identified is NOT anticipated during tasks needed to complete the project.** Therefore, the Action Level for upgrading to Level C (or respiratory protection) has been set at 10 mg/m3 for total dust and 0.005 mg/m3 for Arsenic and 0.015 mg/m3 for Lead. Modified level D (coveralls, latex gloves and rubber boots or

booties) protection can be worn during each activity of the project. Table 7-2 presents the action levels.

Table 7-2
Action Levels

DIRECT READING INSTRUMENT	READINGS ABOVE BACKGROUND (Breathing Zone)	LEVELS OF PPE
Personal Air Sampling	<0.005 mg/m3 Arsenic and <0.015 mg/m3 Lead (OSHA Action Level)	D
Aerosol Monitor	<10 mg/m3 Total Particulate	D
Personal Air Sampling	>0.005 mg/m3 Arsenic, or >0.015 mg/m3 Lead	C
Aerosol Monitoring	>10 mg/m3 Total Particulate	C

During the first week of initial excavation/grading activities, personal air samples will be collected on workers and analyzed for Arsenic and Lead to verify that personnel exposures are below established Action Levels and OSHA PEL's. Additionally, periodic monitoring for total nuisance dust may be performed using an MIE, Inc. Miniature Real-Time Aerosol Monitor (Mini-RAM) or equivalent.

8.0 AIR MONITORING

The purpose of air monitoring is to identify and quantify airborne contaminants in order to verify and determine the level of worker protection needed and to document the level of airborne contaminants that may potentially migrate from the site.

8.1 Personal Sampling

Time-weighted average (TWA) or personal sampling will be conducted at active areas of the site to establish personal exposures. The results of this sampling shall be used to confirm the suitability of the personal protective equipment. These samples shall be collected by drawing a

known volume of air through a collection media using a personal sampling pump over an 8-hour period.

Air sampling will be completed during the first week of excavation and grading activities to establish baseline personal exposure exposures to Arsenic and Lead. The specific procedures to be followed for the collection, handling, and analysis of the personal samples are those prescribed by the National Institute for Occupational Safety and Health (NIOSH). Analysis of air samples shall be performed by a laboratory accredited by the American Industrial Hygiene Association (AIHA).

8.2 Direct-Reading Instrument Measurements

Monitoring may also be conducted using the Mini-RAM (real-time aerosol monitors) or similar aerosol monitor for total dust measurements of organic or inorganic dusts. The Mini-RAM shall be used periodically during site operations whenever a potential exists for airborne dust such as in the excavation or moving of soil or dry materials. The direct-reading instruments shall be calibrated according to manufacturer's instructions prior to field use. Re-calibration of the instruments shall be performed pre- and post-sampling each day that the instrument is used. Calibrations and areas where used, instrument settings, and readings obtained shall be recorded in the Site Safety and Health Logbook.

9.0 WORK and ADDITIONAL SAFETY PRACTICES

The following work and safety practices shall be utilized during the project.

9.1 Medical emergencies supersede routine safety requirements.
9.2 Good personal hygiene shall be practiced by all site personnel. This includes:
- No Eating, drinking, tobacco chewing or smoking in the CRZ or EZ.
- Thoroughly washing face and hands at the end of each day's activities prior to exiting the site.

9.3 If respirator protection is required all OSHA requirements including facial hair requirements shall apply.
9.4 The buddy system shall be utilized whenever site personnel are working in the exclusion zone in level C PPE.
9.5 Contact with potentially contaminated materials shall be avoided.

10.0 DECONTAMINATION OF PERSONNEL AND EQUIPMENT

Work areas with potential contamination shall be setup such that a decontamination zone is established so that transport of potentially

contaminated materials is minimized. Personnel shall be aware of procedures used to decontaminate personnel and equipment. A wash station, at a minimum will be provided so that field personnel can thoroughly wash their hands and face after leaving the point of operations. Disposable personal protective equipment and other items shall be placed in heavy-duty plastic bags and properly disposed of. All equipment shall be cleaned of dirt, dust, and debris before leaving the site.

Should further decontamination be necessary, detergent and water shall be used with a long-stemmed brush to remove potential contamination from areas contacting surfaces of the EZ (i.e., tires, equipment bases, shovels).

Specific decontamination procedures are presented in Attachment 3.

11.0 Training

At a minimum all employees working on site (such as equipment operators, general laborers, and others) shall be trained in accordance with the appropriate OSHA requirements. Personnel shall provide written certification to the SHSO that the required training has been received prior to engaging in onsite activities. Documentation of training will be maintained on site and managed by the SHSO.

Specific training requirements are discussed below.

11.1 OSHA 120 (HAZWOPER)

Based on information provided by Triad Engineering concerning this site it does not meet the requirements to require OSHA HAZWOPER training.

11.2 Site-Specific Hazcom Training

All personnel assigned to the site shall complete at least one site-specific training session. The training can be administered by the Project manager or Project CIH or SHSO and shall include:

- Review of the Hazard Communication Program, including MSDS and chemical hazards.
- Review of personal protective equipment to be worn.
- Site control requirements including decontamination, emergency response, general safety requirements, and security procedures for this site.
- Review of the HSP.

11.3 Daily Toolbox and Follow-up Training

Daily and follow-up training sessions, including discussion of operational problems and compliance with the site-specific HSP, shall be conducted by the SHSO. Should an operational change affecting onsite fieldwork be

made, a meeting prior to implementation of the change shall be convened to explain health and safety concerns. In the event air monitoring readings indicate that respiratory protection is warranted, the SHSO shall conduct a safety briefing regarding the upgrade.

12.0 Hazard Communication

12.1 Material Safety Data Sheet (MSDS)

MSDS's will be brought on site for each hazardous material used during the project. The MSDS's will be filed in the PM office trailer under the responsibility of the SHSO. Prior to site activities each individual will be informed of the file location and will be permitted to review any MSDS.

The HSP for site operations should contain MSDS's for potential contaminants present on the site. The purpose of this section is to ensure all personnel working with potential hazardous materials are made aware of the hazards associated with the materials and to adhere to the Hazard Communication Standard 29 CFR 1910.1200. This information is included with this HSP as Attachment 1.

12.2 Container Labeling

All containers of hazardous materials subject to 29 CFR 1910.1200 must be labeled in accordance with the OSHA Standard. Manufacturers, importers, distributors or employers existing labels may be used, provided information is found to be correct and sufficient.

12.3 Contractor requirements

Contractors shall have a Hazard Communication Program that complies with OSHA requirements. Contractors must inform the SHSO of any hazardous substances they will bring to the work site, provide a copy of MSDS's to the SHSO, and label all containers properly.

13.0 EMERGENCY INFORMATION and RESPONSE

Project personnel shall be familiar with the various contingency measures should an accident occur. Mobile phones and public telephones shall be available and utilized in emergencies.

The PM will be notified in the event of any site emergency.

Emergency telephone numbers, directions to the local hospital and other emergency provisions for the site are presented in Attachment 4.

14.0 RECORD KEEPING

14.1 HSP Approval, agreement & Contractor Certification

Attachment 5 provides for an approval form and sign off sheet to document HSP review and agreement.

14.2 Safety and Health Logbook

The SHSO shall maintain a Safety and Health Logbook of all safety and health-related notations including daily inspection records and personnel training records.

14.3 Incident Reports

All accidents/ incidents shall be investigated and reported to the PM and Project CIH. Incident reports shall be prepared by the SHSO using the Incident Reporting Form provided in Attachment 6. The report shall be submitted to the Project Manager and Project CIH.

NIOSH Pocket Guide to Chemical Hazards

Arsenic (inorganic compounds, as As)	CAS 7440-38-2 (metal)
As (metal)	**RTECS** CG0525000 (metal)
Synonyms & Trade Names Arsenic metal: Arsenia Other synonyms vary depending upon the specific As compound. [Note: OSHA considers "Inorganic Arsenic" to mean copper acetoarsenite & all inorganic compounds containing arsenic except ARSINE.]	**DOT ID & Guide** 1558 152 (metal) 1562 152 (dust)

Exposure Limits	NIOSH REL: Ca C 0.002 mg/m^3 [15-minute] See Appendix A
	OSHA PEL: [1910.1018] TWA 0.010 mg/m^3

IDLH Ca [5 mg/m^3 (as As)] See: 7440382	**Conversion**

Physical Description
Metal: Silver-gray or tin-white, brittle, odorless solid.

MW: 74.9	BP: Sublimes	MLT: 1135°F (Sublimes)	Sol: Insoluble
VP: 0 mmHg (approx)	IP: NA		Sp.Gr: 5.73 (metal)
Fl.P: NA	UEL: NA	LEL: NA	

Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame.

Incompatibilities & Reactivities
Strong oxidizers, bromine azide [Note: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.]

Measurement Methods
NIOSH 7300, 7900; OSHA ID105
See: NMAM or OSHA Methods

Personal Protection & Sanitation Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contaminated/Daily Remove: When wet or contaminated Change: Daily Provide: Eyewash, Quick drench	**First Aid** (See procedures) Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Important additional information about respirator selection
Respirator Recommendations NIOSH
At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode/(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure

mode in combination with an auxiliary self-contained positive-pressure breathing apparatus **Escape**: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted acid gas canister having a high-efficiency particulate filter/Any appropriate escape-type, self-contained breathing apparatus
Exposure Routes inhalation, skin absorption, skin and/or eye contact ingestion
Symptoms Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, [potential occupational carcinogen]
Target Organs Liver, kidneys, skin, lungs, lymphatic system **Cancer Site** [lung & lymphatic cancer]
See also: INTRODUCTION See ICSC CARD: 0013 See MEDICAL TESTS: 0017

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NIOSH Pocket Guide to Chemical Hazards

Lead	**CAS** 7439-92-1
Pb	**RTECS** OF7525000
Synonyms & Trade Names Lead metal, Plumbum	**DOT ID & Guide**

Exposure Limits	NIOSH REL*: TWA 0.050 mg/m^3 See Appendix C [*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.]
	OSHA PEL*: [1910.1025] TWA 0.050 mg/m^3 See Appendix C [*Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.]

IDLH 100 mg/m^3 (as Pb) See: 7439921	**Conversion**

Physical Description
A heavy, ductile, soft, gray solid.

MW: 207.2	BP: 3164°F	MLT: 621°F	Sol: Insoluble
VP: 0 mmHg (approx)	IP: NA		Sp.Gr: 11.34
FI.P: NA	UEL: NA	LEL: NA	

Noncombustible Solid in bulk form.

Incompatibilities & Reactivities
Strong oxidizers, hydrogen peroxide, acids

Measurement Methods
NIOSH 7082, 7105, 7300, 7700, 7701, 7702, 9100, 9105; OSHA ID121, ID125G, ID206
See: NMAM or OSHA Methods

Personal Protection & Sanitation Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: Daily Remove: When wet or contaminated Change: Daily	**First Aid** (See procedures) Eye: Irrigate immediately Skin: Soap flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Important additional information about respirator selection
Respirator Recommendations NIOSH/OSHA

Up to 0.5 mg/m^3: (APF = 10) Any air-purifying respirator with a high-efficiency particulate filter/(APF = 10) Any supplied-air respirator

Up to 1.25 mg/m^3: (APF = 25) Any supplied-air respirator operated in a continuous-flow mode/(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter

Up to 2.5 mg/m^3: (APF = 50) Any air-purifying, full-facepiece respirator with a high-efficiency particulate filter/(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode/(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter/(APF = 50) Any self-contained breathing apparatus with a full facepiece/(APF = 50) Any supplied-air respirator with a full facopiece

Up to 50 mg/m^3: (APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Up to 100 mg/m^3: (APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode/(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape: (APF = 50) Any air-purifying, full-facepiece respirator with a high-efficiency particulate filter/Any appropriate escape-type, self-contained breathing apparatus

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation

eyes; hypotension
Target Organs Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue
See also: INTRODUCTION See ICSC CARD: 0052 See MEDICAL TESTS: 0127

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ATTACHMENT 2

LEVEL D & C PROTECTION

RESPIRATORY PROTECTION REQUIREMENTS

Level D Protection

Level D protection shall consist of the following:

- Steel toed/shank chemical resistant boots or safety work shoes.
- Hard hat (when not inside cab of heavy equipment)
- Safety glasses.
- Leather work gloves.

This level of protection shall be used when air contamination has not been detected through monitoring instruments and skin contact is unlikely. Level D protection shall be worn by all personnel as a minimum standard.

Modified Level D protection

Modified Level D protection includes the same requirements as Level D protection with the addition of:

- Cotton/Fabric or disposable Tyvek [m] coveralls. The cotton coveralls may be laundered and re-used. The laundering service must be informed of the potential contamination to the coveralls.
- Latex gloves
- Rubber Booties

Level C Protection

Level C protection shall consist of the following:

- Full-face, air-purifying respirator (NIOSH approved) with NIOSH approved cartridges (high efficiency particulate filter) for particulate and dusts.
- Tyvek coveralls with hoods.
- Latex inner gloves.
- Leather outer work gloves.
- Steel-toed/shank chemical resistant boots or safety works hoes with chemical resistant over boots
- Hardhat (when not inside cab of heavy equipment

Level C protection shall be worn for excavation/grading, sampling waste sources and other activities that will involve contact with potentially contaminated areas and exposure to chemicals above the OSHA PEL.

Respiratory Protection

If respiratory protection is determined to be required, site participants qualified for respirator use shall demonstrate to the SHSO that they have been fit-tested in the past year. Fit-testing shall be performed as outlined in OSHA 29 CFR 1910.134 and the American National Standards Institute (ANSI) Z88.2. Personnel who must wear respirators shall report to the site with clean-shaven faces and during use shall not be permitted to wear contact lenses.

ATTACHMENT 3

DECONTAMINATION STEPS

Level D and Modified Level D Personnel Decontamination

Step 1: Equipment drop (if any used).
Step 2: Remove boot covers or wash rubber boots (place boot covers in disposable container).
Step 3: Remove outer gloves, if worn.
Step 4: Remove coverall (if worn); place in disposable container. If coveralls are to be laundered, place coveralls in designated area for laundering or re-use.
Step 5: Remove inner gloves; place in disposable container.
Step 6: Wash and rinse face and hands.

Level C Personnel Decontamination

Step 1: Equipment drop (if any used).
Step 2: Remove boot covers or wash rubber boots (place boot covers in disposable container).
Step 3: Remove outer work glove, if worn.
Step 4: Remove disposable protective clothing, place in disposal container. If coveralls are worn and are to be laundered, place coveralls in designated area for laundering or re-use.
Step 5: Wash inner surgical gloves.
Step 6: Remove respirator; sanitize prior to reuse.
Step 7: Remove inner gloves; place in disposable container.
Step 8: Wash and rinse face and hands.

ATTACHMENT 4

EMERGENCY INFORMATION

EMERGENCY PHONE NUMBERS

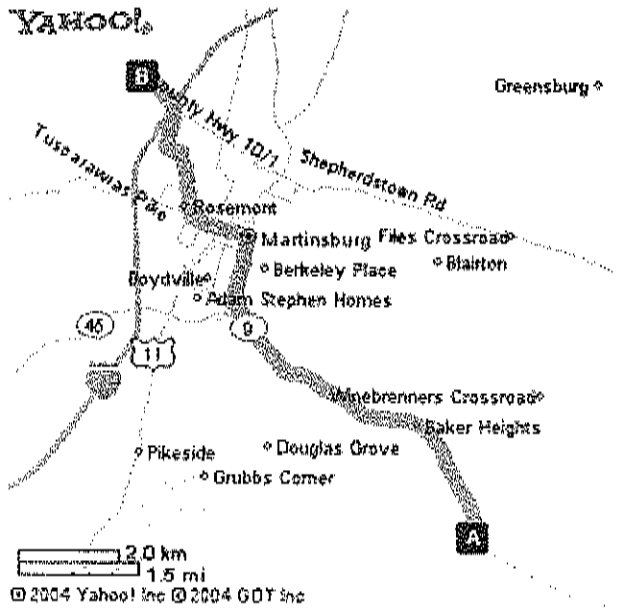
Ambulance:	Call 911
Fire:	Call 911
Police:	Call 911
Hospital Name:	See attached Map and Directions
Hospital Phone:	Emergency Room (304) 728-1641
Contractor Project Manager	Ed Phares
Environmental Site Health and Safety Officer:	Ed Paugh
Contractor Site Health and Safety Officer	Ed Paugh
Licensed Remediation Specialist:	Lydia Work, LRS
Hazardous Materials Team:	Call 911 Jefferson County Fire and Rescue Department
State Agency:	

The nearest hospital is City Hospital located at the intersection of Dry Run Road and Tavern Road in Martinsburg, WV (304-264-1000). A secondary hospital is Jefferson Memorial Hospital, which is located at 300 South Preston Street in Ranson, WV (304-728-1600).

Driving directions and maps to both hospitals are provided on the following pages:

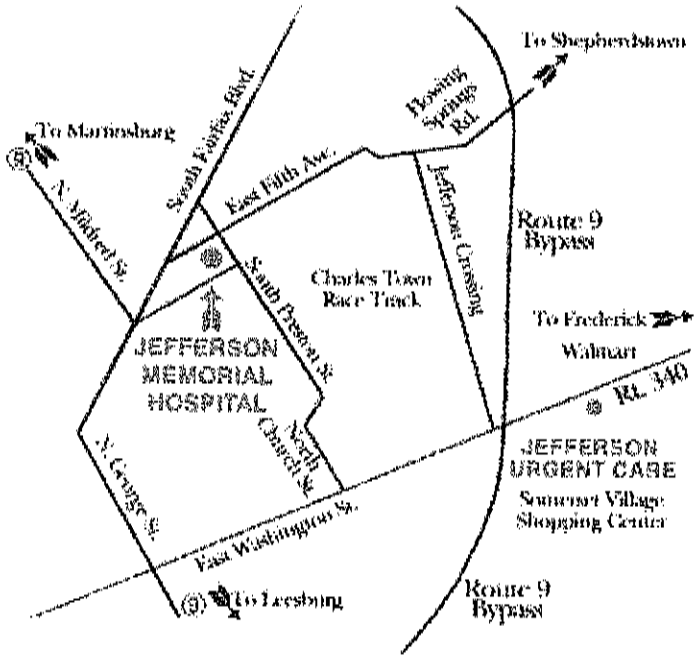
Directions to City Hospital, Martinsburg, WV:

1. Exit Site and turn R on **COUNTY HWY 9** - go **3.9** mi
2. Continue on **APPLE HARVEST DR** - go **0.3** mi
3. Continue on **HACK WILSON WAY** - go **0.4** mi
4. Turn R on **S QUEEN ST** - go **0.8** mi
5. Turn L on **W KING ST** - go **0.7** mi
6. Turn R on **S TENNESSEE AVE** - go **0.1** mi
7. Continue on **N TENNESSEE AVE** - go **0.9** mi
8. Turn R on **DRY RUN RD** - go **1.1** mi
9. Arrive at **DRY RUN RD, MARTINSBURG**



Directions to Jefferson Memorial Hospital, Ranson, WV:

1. Exit Site and turn (L) on **STATE RT. 9**
2. Continue East on **STATE RT. 9** to Ranson- go @ **5** m
3. Follow blue hospital sign and **Exit** at the **Charles Town Race Track**
4. Turn (R) at the four-way stop onto **East 5th Ave** past the back gate of the Charles Town Race Track (.1 mile).
5. Turn (L) (South) onto **South Preston Street** (.1 mile).
6. **Hospital** is on the Corner at: **300 S. Preston Street**



Emergency Medical Treatment and First Aid

During site activities, at least one individual(s) certified in first aid/adult CPR shall be present at all times. During an accident involving injury to site personnel, this individual(s) shall not attempt emergency medical procedures other than first aid unless specifically directed by a licensed physician.

EMERGENCY FIRST AID PROCEDURES

To Stop Bleeding	CPR
1. Give medical statement. 2. Assure airway, breathing, and circulation. 3. Use **DIRECT PRESSURE** over the wound with clean dressing or your hand (use non-permeable gloves). Direct pressure will control most bleeding. 4. Bleeding from an artery or severe injury may require **DIRECT PRESSURE** on a **PRESSURE POINT**. Use pressure points for 30 – 60 seconds to help control severe bleeding. 5. Continue primary care and seek medical aid as needed.	1. Call for help. 2. Arousal: check for consciousness. 3. Open airway with chin-lift. 4. Look, listen, and feel for breathing. 5. If breathing is absent, give 2 slow, full rescue breaths. 6. Check the pulse for 5 to 10 seconds. 7. If pulse is present, continue rescue breathing: **1 breath every 5 seconds** 8. If pulse is absent, start CPR: • Fifteen (15) compressions, 2 breaths (1- person CPR) • Five (5) compressions, 1 breath (2-person CPR)

Pre-emergency Planning and Coordination with Outside Parties

Site personnel shall be made aware of the provisions of the emergency response plan. This awareness training shall be conducted by the Site Health and Safety Officer (SHSO) prior to the commencement of site activities during the site-specific training. Emergency phone numbers shall be posted at phone locations.

Personnel Roles, Lines of Authority, and Communication

Personnel witnessing an accident shall find the nearest telephone, and 911. Once contact is made, witnessing personnel shall stay on the telephone to provide the responding elements with additional data. In no case shall witnessing personnel attempt to fight a major fire, conduct a rescue in an unsafe environment, or conduct a cleanup of a major spill.

Safe Distances and Places of Refuge

Prior to the commencement of site activities, the SHSO shall select a location at an appropriate distance from the site where personnel can gather in the event of an emergency requiring evacuation of the site. This location shall be pointed out to site personnel during the site-specific training. This site may change depending on weather and activity. The SHSO shall ensure that all personnel are made aware of any changes. Workers should pay special note to the wind direction and evacuate the work area upwind during an emergency. During accidents involving a fire or spill of potentially explosive materials, site personnel shall turn off any operating equipment and evacuate the site by the nearest means of egress.

Evacuation Routes and Procedures

Personnel shall exit the site by the nearest means of egress during accidents requiring site evacuation. Workers should pay special note to the wind direction and evacuate the work area upwind during an emergency. Once off the site, personnel shall assemble at a location designated by the SHSO and be counted. Any missing personnel shall be brought to the attention of the emergency response personnel.

ATTACHMENT 5 HSP APPROVAL FORM

Site HSP Approval

Site/ Project Manager_____ **Date**_____

Project LRS_____ **Date**_____

Site Safety and Health Officer_____ **Date**_____

Site HSP Sign-Off Sheet

By signing below, you agree that you have read and will adhere to the policies and provisions of the HSP while on site.

Name	Signature	date

ATTACHMENT 6
ACCIDENTS / INCIDENT REPORT FORM

Accident Investigation Report

Date of Accident: ___/_____/____ Time: _____am/pm

Employee's Name:_____ Soc. Sec. Number: _____-_____-_____

Address:_____City:_____State:_____Zip:_____

Home Telephone Number: ( ) _____-_____ Date of Birth: _____/_____/_____

Job Classification:_____ Experience:_____Years_____Weeks

Location of accident: _____

Task employee was performing when injured:_____

Briefly Describe the Accident (use additional pages pages if needed)._____

List equipment/materials(s), involved:_____

List Personal Protective Equipment being worn by employee when accident occurred:_____

Name(s) of witness (es) to accident:_____
Was emergency care required?_____
If yes, by whom?_____

Was injured employee transported to emergency care facility?___If yes, by whom?_____

Person completing this report_____ Title_____
Date Report Completed__/__/____

Injured Employee's Signature_____ Date__/__/__

Site/ Project Manager Signature_____ Date __/__/__

Parcel A Site Assessment Work Plan (February 2005)

PARCEL A
Jefferson Orchards
VRP # 06995

SITE ASSESSMENT
WORK PLAN

Jefferson County, West Virginia

Prepared for:

Jefferson Orchards, Inc.

Submitted to:

Office of Environmental Remediation
Division of Land Restoration
West Virginia Department of Environmental Protection
131A Peninsula Street
Wheeling, West Virginia 26003

Prepared by:

TRIAD ENGINEERING, INC.
PO Box 1435
4980 Teays Valley Road
St. Albans, West Virginia 25177

February 2005

P.O. Box 1435
St. Albans, WV 25177
Phone (304) 755-0721
FAX (304) 755-1880

TRIAD
Triad Engineering, Inc.

February 10, 2005

Patricia Hickman, Project Manager
Office of Environmental Remediation
Division of Land Restoration
West Virginia Department of Environmental Protection
131A Peninsula Street
Wheeling, West Virginia 26003

SUBJECT: *Parcel A Site Assessment Work Plan*
Jefferson Orchards
VRP No. 06995

Dear Ms. Hickman:

TRIAD ENGINEERING, INC. is pleased to submit the ***Parcel A Site Assessment Work Plan*** for the ***Orchard Soils*** at the Jefferson Orchards Site prepared under the guidelines of the West Virginia Voluntary Remediation Program (VRP). This *Site Assessment Work Plan* has been prepared on behalf of the VRP applicant, Jefferson Orchards, Inc.

If you have any questions or desire additional information, please feel free to contact us.

Sincerely,
TRIAD ENGINEERING, INC.

Lydia M. Work, LRS
Project Manager/Senior Chemist

David R. Fewell
Senior Engineer

Enclosure

Cc: Don Martin, WVDEP, OER Assistant Director
David Ralston, Jefferson Orchards, Inc.
Public Repository, Charles Town, WV Public Library

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ACRONYM GLOSSARY

CCV	Continuing Calibration Verification
COC	Certificate of Completion
CoC	Chain-of-Custody
CSR	West Virginia Code of State Rules
DI	De-ionized
DL	Detection Limit
DOT	Department of Transportation
DQO	Data Quality Objective
FOM	Field Operations Manager
FSP	Field Sampling Plan
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operation and Emergency Response
HSC	Health and Safety Coordinator
IATA	International Air Transport Association
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
IDW	Investigative-Derived Waste
IS	Internal Standard
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
LRS	Licensed Remediation Specialist
MB	Method Blank
MD	Matrix Duplicate
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MSW	Municipal Solid Waste
OER	Office of Environmental Remediation
OSHA	Occupational Safety and Health Administration
PM	Project Manager
PPE	Personnel Protective Equipment
PQL	Practical Quantitation Limit
PVC	Polyvinyl Chloride
QA	Quality Assurance
QAO	Quality Assurance Officer
QAPP	Quality Assurance Project Plan
QC	Quality Control
RBC	Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Difference

ACRONYM GLOSSARY (continued)

SAWP	Site Assessment Work Plan
SQL	Sample Quantitation Limit
SW-846	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition*
SWMP	Storm Water Management Pond
The Site	Jefferson Orchards, Parcel A
TCLP	Toxicity Characteristics Leaching Procedure
TRIAD	TRIAD ENGINEERING, INC.
USEPA	United States Environmental Protection Agency
VRP	West Virginia Voluntary Remediation Program
WVDEP	West Virginia Department of Environmental Protection

EXECUTIVE SUMMARY

TRIAD ENGINEERING, INC. (TRIAD) has prepared this *Parcel A Site Assessment Work Plan* (*SAWP*) for Jefferson Orchards, Inc. (the Applicant) and the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER). Jefferson Orchards, Inc is requesting approval to perform a site assessment of Parcel A (the Site) at Jefferson Orchards located near Kearneysville, Jefferson County under Agreement with the WVDEP, OER according to the requirements of the *Voluntary Remediation and Redevelopment Rule, West Virginia Code of State Rules (CSR) 60-03*. Parcel A consists of orchard soils only. It does not include any source areas such as mixing stations or pesticide storage facilities.

The Applicant's intent is to utilize the Parcel A orchard area as a borrow site to support road construction activities associated with the development of the State Route 9 highway project. Following completion of the borrow activities, the future land use scenario for Parcel A is residential use. Residential soil *de minimis* standards will be applied to the borrow material so that its use will be unrestricted. Site assessments for Parcels B, C, and D will be managed under separate *SAWPs*.

In 2003, TRIAD performed a site investigation that include orchard surface soils (0-6"). The scope of work included RCRA eight (8) metals and organochlorine pesticides. The sample locations associated with Parcel A, only arsenic exceeded the residential soil *de minimis* standard.

The objective of this *SAWP* is to perform a site investigation of Parcel A and determine whether environmental contamination is present in soils at a depth of greater than one foot below the ground surface, as this represents the needed borrow material. The contaminants of potential concern (COPCs) to be investigated include:

- Metals (specifically lead and arsenic)
- Organochlorine Pesticides
- Polynuclear Aromatic Hydrocarbons (PAHs)

Historical orchard activities as Parcel A included application of lead arsenate (pre-1960s) and organochlorine pesticides (1960s and 1970s) as well as tilling of soil to depths of approximately one foot and tree uprooting and transplanting which may have disturbed soils to a depth of three to four feet below the ground surface. Orchard trees (apple and peach) were removed from Parcel A in 1966-1967, stockpiled and burned on the surface, creating a potential for residual PAHs in the soil.

Subsequently, Parcel A will be investigated at depths of one to four feet below the ground surface to determine the vertical extent of potential arsenic, lead, PAH, and pesticide contamination. A total of sixteen (16) soil borings are being proposed. Once the vertical extent of contamination is defined, a *Remedial Action Work Plan* and *Health and Safety Plan* will be submitted in order to effectively manage contaminated soils during the excavation activities.

Following the completion of the excavation and removal of borrow material, a *SAWP* addendum will be submitted to investigate the remaining orchard soils and determine if additional activities are warranted before requesting a Certificate of Completion at Parcel A.

1.0 PROJECT DESCRIPTION

1.1 Authorization

TRIAD ENGINEERING, INC. (TRIAD) has prepared this *Parcel A Site Assessment Work Plan* (*SAWP*) for Jefferson Orchards, Inc. and the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER). Jefferson Orchards, Inc. is requesting approval to perform a site assessment of the orchard soils at the Jefferson Orchards, Parcel A (the Site) under Agreement with the WVDEP, OER according to the requirements of the *Voluntary Remediation and Redevelopment Rule, West Virginia Code of State Rules (CSR) 60-03.*

The Jefferson Orchards Site has West Virginia Voluntary Remediation Program (VRP) designation number 06995. Jefferson Orchards, Inc. (the applicant) has retained Lydia M. Work as the Licensed Remediation Specialist (LRS). TRIAD has been contracted to perform various VRP work tasks, including preparing this *SAWP.*

1.2 Objective

The objective of this *Parcel A Site Assessment Work Plan* is to perform a site investigation of Parcel A and determine whether environmental contamination is present in soils at a depth of greater than one foot below the ground surface, as this represents the material needed to complete a State funded highway extension of State Route 9. Jefferson Orchards, Inc., under contract with the J. F. Allen Co., intents to utilize the Parcel A as a borrow area over an approximate 18 month period. Following completion of the borrow activities, the future land use scenario for Parcel A is proposed to be residential use. Residential soil *de minimis* standards will be applied to the borrow material so that its removal and use will be unrestricted.

2.0 SITE DESCRIPTION

2.1 Site Location

The Jefferson Orchards Site is located in Jefferson County, West Virginia, southeast of Kearneysville. The entire site is approximately three hundred eighty eight (388) acres in size and is accessed from WV State Route 9. This site assessment only entails the Site's Parcel A, which encompasses approximately sixty (60) acres. Areas designated as Parcels B, C, and D are not included in this SAWP. The site is currently an operating and active fruit orchard. The location of the Site is depicted on **Figure 1, *Site Location Map.*** Parcel A is

depicted in ***Figure 2, Parcel A Site Plan.***

Parcel A consists only of orchard soils. No potential source areas such as pesticide mixing or storage areas or structures are located at this parcel.

2.2 Site History

The Site has been used since the late 1940s as a fruit orchard. It is still an active site both producing and selling fruit. During the orchard's operation, pesticides have been applied to the orchard as crop protection. Lead arsenate and organochlorine pesticides have been used. The lead arsenate pesticides were used in the orchards earlier years (pre-1950s) switching to organochlorine pesticides (1960s and 70s). The site can be divided into three areas based on historical use, "old orchard", "young orchard", and "non-orchard". Parcel A consists of old orchard and young orchard areas only. The delineation of the two orchards is shown on ***Figure 2, Parcel A Site Plan.***

2.3 Current and Historic Property Ownership

The Jefferson Orchards Site was purchased by Jefferson Orchards, Inc. in 1966 from Malcolm M. Brown and Lorena H. Brown. The Browns purchased the site from Elyse Boak Stewart in 1948. In 1930, Stewart purchased the property from Dorothy S. Musgrave and Husband.

2.4 Current Land-Use

Parcel A is currently an active orchard.

2.5 Proposed Land-Use

Jefferson Orchards' intent is to initially use the sixty (60) acre Parcel A site as a borrow area to support road construction activities associated with the development of the State Route 9 highway project. Borrowed material will be excavated modifying the site's existing contours and effectively leaving flat terrain when borrowing activities has ceased. The future land use scenario for Parcel A is to develop it for residential use.

2.6 Current Adjacent Land-Use

Land adjacent to Parcel A is agricultural land. Jefferson Orchards' Parcel B bounds the western and northwestern sides of Parcel A and Parcel C bounds the eastern and northeastern sides. The southern side is bounded by the CSX railroad.

2.7 Previous Remedial and Investigative Activities

No remedial activities have been performed at the Jefferson Orchards' Parcel A site. A limited site investigation of the entire Jefferson Orchards property was

conducted by TRIAD ENGINEERING, INC. in July 2003. This investigation included surface soil (0-6") sampling and analysis in and around the proposed Parcel A boundaries. This investigation indicated the presence of lead, arsenic, and organochlorine pesticides. However, only arsenic exceeded the residential soil *de minimis* standard in locations associated with Parcel A. ***Table 1, Summary of 2003 Surface Soil Analysis*** summarizes the analytical results of this investigation. Arsenic concentrations for each 2003 sample location are depicted for ease of review on ***Figure 2, Parcel A Site Plan***.

3.0 FIELD SAMPLING PLAN (FSP)

3.1 Objective

Parcel A will be investigated at depths of one to four feet below the ground surface to determine the vertical extent of arsenic, lead, PAH, and pesticide contamination. A total of sixteen (16) soil borings are being proposed. The analytical results will be compared to the residential soil *de minimis* standard, as well as the published natural background concentrations, to verify there will be no unacceptable risk to future on-site residents or construction workers during proposed excavation activities.

3.2 Approach

Based upon the 2003 site investigation results, it has been determined that the surface soils within Parcel A at 0-6" have been impacted by historical pesticide application. This occurred due to routine orchard activities and is not due to any application of pesticides beyond their intended use.

These impacted surface soils will be managed under an approved *Remedial Action Work Plan (RAWP)* that will be submitted following the completion of these *SAWP* activities. The extent of contamination, if beyond 12" will be determined by this *SAWP*. The top soil, determined to be 0-12" bgs at the site, cannot be used by the contractor, J. F. Allen Company, as borrow material. Therefore, at a minimum, all surface soils at a depth of 0-12' bgs will be managed under the *RAWP* regardless if contamination is present. Additionally, any soils at the site determined to exceed the residential soil *de minimis* below 12" bgs will also be managed under the *RAWP*.

TRIAD will utilize Geoprobe® direct push technology to collect soil samples to a depth of one to four foot below the ground surface. For each boring site, a composite soil sample will be collected between the one and four foot interval in the manner described in Section 3.6.1. A composite reference soil sample will be taken and retained for the interval between one and two feet and between two and four feet. Samples will be analyzed by a WVDEP Certified Laboratory.

If the analytical results indicate that a COPC exceeds the residential soil *de minimis* concentration or natural background concentration (whichever is greater), the reference sample will be used to better define the depth of contamination. Sixteen (16) soil boring sites have been selected. The location of these borings are depicted on ***Figure 2, Parcel A Site Plan.***

Because pesticides were applied to the orchard for their intended use, RCRA regulations would not be applicable to these soils.

3.3 Project Organization

The WVDEP Licensed Remediation Specialist (LRS) and the TRIAD Project Manager (PM) for this project is Lydia M. Work, LRS No. 148. Decisions regarding project scope, sampling locations, and collection equipment, or other project related issues, will be made by the LRS in consultation with the WVDEP, OER Project Manager.

The WVDEP, OER Project Manager (PM) for this project is Patricia Hickman. Decisions regarding project scope, sampling locations, and collection equipment, or other project related issues, will be made by the WVDEP, OER PM in consultation with the LRS.

The Quality Assurance Officer (QAO) for the project is Lydia M. Work, LRS. The level of Quality Assurance (QA), QA procedures, and overall *Quality Assurance Project Plan* (*QAPP*) development is the responsibility of the QAO. All decisions regarding the *QAPP* and related issues should be made by the QAO.

The Field Operations Manager (FOM) for the project is David Duncan, LRS. Implementation of the *FSP* and the *QAPP* at the Site is the responsibility of the FOM. Field level decisions not affecting project quality will be made by the FOM. Real time assessment of the *QAPP* and recommendations for revisions will be made by the FOM to the QAO.

The Health and Safety Coordinator (HSC) for the project is Lloyd C. Winters. Preparation of the *Health and Safety Plan* (*HASP*), selection of personnel protective equipment (PPE), Health and Safety record keeping, and evaluation of the *HASP* effectiveness is the responsibility of the HSC.

3.4 Special Training Requirements and Certification

All on-site field sampling personnel will possess current 40-hour Occupational Safety and Health Administration (OSHA) hazardous waste operation and emergency response (HAZWOPER) training and 8-hour OSHA HAZWOPER annual refresher training.

3.5 Sampling Rationale

Sampling locations were selected based on the orchard's age, types of pesticides used, and the analytical results from a TRIAD July 2003 surface soil sampling and analysis report. Of the Parcel's total sixty (60) acres, approximately thirty seven (37) acres in the western portion is classified as "young orchard" and the remaining twenty three (23) acres in the eastern portion is classified as "old orchard." Both lead arsenate and organochlorine pesticides have been applied to the old orchard. Only organochlorine pesticides have been applied in the young orchard. This division between the two orchards is also evident by the surface soil analytical results which indicate background concentrations of arsenic in the young orchard and elevated concentrations in the old orchard.

Based on the above discussion, sixteen (16) soil boring locations were selected for Parcel A. These boring locations are shown on ***Figure 2, Parcel A Site Plan***. Because of the "young orchard's age" and the fact arsenic in the surface soil is at background concentrations, five (5) boring locations were selected. These locations were geometrically selected to provide a representative profile. Eleven (11) boring locations were selected in the "old orchard section". These boring locations were selected to provide good coverage of the old orchard section and took into consideration the Parcel's topographic contours.

The West Virginia Department of Transportation can not use Parcel A's top soil as fill. Approximately one foot of top soil will be mass graded and stockpiled on the site before borrow material is removed from the area. Because the top soil will be removed and surface soil in the area has already been characterized, further analysis of the first foot of soil is not required. Therefore, subsurface soil sampling will begin at one foot below the ground surface.

Based on soil assessments performed at other orchards in the same area as Jefferson Orchards, specifically Paynes Ford Station and Huntsfield, the orchard COPCs have been demonstrated to be concentrated in the upper one to two feet of soil. This is particularly event in non-source areas such as orchard soils. In addition, interviews with David Ralston and Ronald Slonaker of Jefferson Orchards indicated that disturbance of soil due to orchard maintenance activities (e.g. tilling of ground and removal of trees) did not occur any deeper than four feet below the ground surface. Therefore, the maximum soil sampling depth has been established to be four feet below the ground surface. Should soil sample analysis indicate that COPC concentrations are greater than the residential *de minimis* or natural background concentrations, then the need for additional sampling will be evaluated.

Burning dead or old fruit trees is a common orchard practice. Within Parcel A, there are no known specific areas where trees may have been burned.

Therefore, to ensure potential PAH contamination is addressed; PAH analysis will be performed at each boring location.

Based on previous surface soil investigations and the discussion above, the following COPCs will be analyzed:

- Metals (specifically lead and arsenic)
- Organochlorine Pesticides
- Polynuclear Aromatic Hydrocarbons (PAHs)

The field sampling plan described in Section 3.1.1 has been designed to provide high quality sampling data. Samples collected in this project will be analyzed according to the specifications of the current USEPA *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition* (SW-846).

The sample types are summarized in **Table 2, *Sampling and Analysis Summary*** and sample locations are depicted on **Figure 2, *Parcel A Site Plan***.

3.6 Sampling Procedures

Overall, sampling procedures will be preformed in substantial compliance with the following documents:

- *West Virginia Voluntary Remediation and Redevelopment Act Program Guidance Manual, version 2.1*
- *Compendium of ERT Soil Sampling and Surface Geophysics Procedures, USEPA/540/P-91/006.*

Table 3, *Analytical Methods and Field Sample Container Requirements* summarizes the analytical methods, method detection limit requirements, minimum sample volume, container type, preservative, and technical holding time of each media. Quality Control (QC) samples that will be collected are summarized in **Table 4, *Field and Matrix QC Samples***.

3.6.1 Soil Borings

Based on the rational developed in Section 3.5, sixteen (16) soil boring locations have been selected. The location of these borings are depicted on ***Figure 2, Parcel A Site Plan.*** Each soil boring location will be identified and documented with a hand held global positioning system (GPS) unit at the time of sample collection. If groundwater is encountered, the location and depth to groundwater will be documented.

Each soil borings will be collected using Geoprobe® direct-push technology. Continuous subsurface soil cores will be obtained with a two-

inch diameter Geoprobe® acetate sleeve. These disposable sleeves will be discarded after each boring location in order to eliminate cross-contamination of samples. Borings will be advanced to approximately four feet below the ground surface. Soil boring samples will be collected between one to four feet below the ground surface.

Soil samples will be taken between the one and two foot interval and homogenously mixed. A 4-ounce sample will be taken of this interval and properly retained as a reference sample. Likewise, a sample will be taken between the two to four foot interval, homogenously mixed, and a 4-ounce reference sample taken. A homogenous composite will be made with soil remaining from the one to two foot interval and that remaining from the two to four foot interval. Four ounces of soil from this composite will be sent to a West Virginia Certified Laboratory for analysis. The two retained reference samples will be analyzed only if the analytical data indicates a COPC exceeded the residential soil *de minimis* concentration or natural background concentration (whichever is greater). A total of forty eight (48) samples will be collected with at least sixteen (16) of these samples being analyzed. Soil boring samples from each location will be analyzed for total metals (arsenic and lead), PAHs, and pesticides.

Disposable scoops will be used to collect the samples from the acetate sleeves. The scoops will be discarded after each location and interval in order to eliminate cross-contamination of samples. Certified pre-cleaned 4-ounce glass containers will be used to collect each soil sample.

Samples will be placed immediately on ice and maintained at a temperature of 4 ± 2°C. They will be submitted to a WVDEP certified laboratory.

Because pesticides were applied to the orchard for their intended use, RCRA regulations would not be applicable to these soils.

3.7 Investigative Derived Waste

TRIAD shall manage investigated derived waste (IDW) during field operations in compliance with USEPA, *Management of Investigation-Derived Waste During Site Inspections (EPA/540/G-9/009)*. IDW, if generated, shall be placed into 55-gallon steel drums or other suitable containers and stored on site in a secure location. TRIAD personnel will sample the drum(s) and submit the sample(s) on behalf of Jefferson Orchards, Inc. for analysis to a WVDEP certified laboratory in order to ascertain if the IDW is a hazardous waste. Final disposal of IDW shall be managed by Jefferson Orchards, Inc. based on the results of laboratory analyses. It is not anticipated that IDW will be generated during this *SAWP*.

3.8 Paperwork Requirements

3.8.1 Sample Labeling

After samples have been collected, they will be placed into certified pre-cleaned containers supplied by the laboratory. Each sample container will have a sample label generated by the sampling personnel containing at a minimum the following information:

- Sample identification
- Analysis requested.

Samples are to be identified according to the following guideline:

JOA - (1) - (2)

Where: Prefix "JOA" denotes the project name, followed by (1) a two alpha, one numeric sample media identification and location with the sample depth in parentheses, followed by (2) an alpha identification suffix only used if it is a quality control sample.

JOA denotes the project name, which is Jefferson Orchards – Parcel A

(1) denotes the subsurface boring soil sample location number and feet below the ground surface

2)
- FD denotes the sample is a field duplicate
- MS denotes the sample is a matrix spike sample
- MSD denotes the sample is a matrix spike duplicate sample
- DUP denotes the sample is a matrix duplicate sample
- EQ denotes the sample is an equipment blank
- TB denotes the sample is a trip blank submitted with a sample

For example:

JOA-SB1(1-4) Where: JOA is the project name, SB1 is the subsurface boring location, and (1-4) indicates the soil sample was taken between the one to four foot interval bgs.

JOA-SB1(1-4)-FB Where: JOA is the project name, SB1 is the subsurface boring location, and FB is a field duplicate sample of the boring location number one at 1-4' bgs.

3.8.2 Sample Packaging and Shipping

After the sample labels have been placed on each sample container, the outside of each container will then be wiped clean. A strip of clear tape will be applied on the label to ensure the ink does not smear. Each sample will then be packaged and shipped in the following manner:

- Check lid/cap to ensure proper closure to eliminate leaks.
- Check to ensure label is intact and covered with clear tape.
- Place the labeled sample container in a clear plastic bag and zip bag.
- Ensure that samples, which need to be kept cool (4 ± 2°C), are cooled before being enclosed in bubble wrap and placed in the shipping container.
- Place the sample in a clean waterproof shipping container (i.e. a cooler), which has been lined with plastic.
- Place a temperature blank (40 ml vial filled with water and labeled "Temperature Blank") in the cooler with the samples.
- Place double-bagged ice on top of the samples.
- Pack the shipping container with noncombustible absorbent packing material such as bubble wrap.
- Securely close the top of the plastic lining of the shipping chest with plastic tape.
- Enclose a copy of the chain-of-custody in a clear plastic bag and tape to the underside of the shipping container lid.
- Tape the cooler shut using strapping tape over the hinges.
- Place custody seals across the top and sides of the cooler so that they will be broken at the signature section of the seal when the shipping container is opened.
- Place clear tape over the custody seals to prevent accidental damage during shipment.
- Place return address label clearly on the outside of the shipping container.
- If more than one shipping container is being sent to a laboratory, mark shipping containers as 1 of 2, etc.
- If a laboratory courier or sample drop-off at the laboratory by TRIAD personnel is not possible, ship by overnight delivery through a commercial carrier, in accordance with Department of Transportation

(DOT) and International Air Transport Association (IATA) regulations.

- Fill out an air bill for the laboratory so as to be received the next calendar day. Address the recipient as "sample custodian."

3.8.3 Custody Seals

Each sample shipping container will be sealed with strapping tape and with at least two custody seals. The custody seals will be placed so that they will be broken at the signature section of the seal when the shipping chest is opened. Each custody seal shall include the following information:

- Date of sample shipment (release of custody)
- Signature of FOM or authorized representative releasing custody.

3.8.4 Chain-of-Custody (CoC)

CoC forms will be generated at the end of the work shift for the samples procured during that shift. The CoC form sent to the laboratory shall include the following information:

- Release Signature of FOM or authorized representative
- Date and time relinquished
- Project number
- Sample numbers or identifications
- Sample matrix
- Type of sample (grab or composite)
- Analyses requested/turnaround time
- Preservative information
- Date and time of sample collection
- Designation of laboratory QC samples
- Date shipped/method of shipment/airbill number/laboratory address.

Each chain-of-custody form will be distributed as follows:

- One copy to the TRIAD, Project Manager
- One laboratory original will be placed into a zip-lock7 type bag, which will then be placed into the shipping container to accompany the sample containers to the laboratory.

3.8.5 Communicating Shipping Information

The following information will be communicated to the Laboratory PM for all shipping container shipments:

- Project identification

- Number and matrices (water, soils, etc.) of samples shipped
- Type of analysis required
- Turn around time
- Overnight carrier (FedEx or UPS)
- Shipment date
- Information on completions, changes, delays, continuations, etc.
- Suspected contaminants associated with the samples or site if applicable.

3.8.6 Field Log Book

The FOM will be responsible for maintaining a log book(s) and sample sheets that document field activities. Criteria for the documentation include:

- Bound log book
- Indelible ink used for entries
- Entries should be factual, detailed, and objective
- Date and time of all entries
- Each individual page signed by the person recording the information.

The FOM will document on a daily basis in the log book on-site personnel, visitors, and activities. Information to be recorded will include as applicable:

- Date and time of entry.
- Purpose of sampling.
- Name, address, and affiliation of personnel performing sampling.
- Name and address of the responsible party, if known.
- Type of sample, e.g., surface soil, subsurface soil, groundwater, surface water, etc.
- Description of sample containers.
- Description of samples.
- Chemical components and concentrations, if known.
- Number and size of samples taken
- Analysis requested.
- Description and location of the sampling point.
- Date and time of sample collection.
- Difficulties experienced in obtaining sample if applicable.
- Visual references, such as maps or photographs of the sampling site. Include the film roll number, the frame number, and a written description of the picture for photographs.
- Field observation, such as weather conditions during sampling periods.

- Field measurements of the materials, e.g., specific conductivity, pH, temperature.
- Whether chain-of-custody forms have been filled out for the samples; chain-of-custody form numbers.
- Global Positioning System (GPS) related information (latitude and longitude) for the site and each sampling location.
- Laboratory name, address, and date shipped.

3.9 Analytical Procedures

The samples will be analyzed for the parameters identified in **Table 2, *Sampling and Analysis Summary*** by a WVDEP certified laboratory. These samples will be analyzed according to the most current method requirements specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition* (SW-846).

3.10 Quality Control Requirements

Field and sample matrix quality control will be performed as detailed in the *QAPP*, presented as section 4.0 of this report. Field QC samples will be collected during the work to assess sampling precision as summarized in **Table 4, *Field and Matrix QC Samples*** and **Table 5, *QC Sampling***.

3.11 Decontamination and Personal Protective Equipment (PPE)

PPE and field sampling equipment shall be decontaminated at the Site to prevent or reduce the potential for cross-contamination. PPE shall be decontaminated as per the *HASP*. In general, the following guidelines will be followed unless modified in the *HASP*:

1) PPE in direct contact with the sample material (e.g., outer gloves) will be decontaminated or replaced between samples. Outer gloves will be replaced at each new sample or boring location.
2) Contaminated PPE will be placed into drums or other suitable containers located at the Site, and disposed of as IDW. IDW management will be performed as per section 2.6 of this report.

Field sampling equipment shall be decontaminated between samples as per the following nine-step procedure:

1) Initially remove physical contamination by any or all of the following abrasive cleaning methods: washing, brushing, and air/water blasting.
2) Wash equipment with a non-phosphate detergent.
3) Rinse with tap water.
4) Rinse with distilled/deionized water.

5) Rinse with 10% nitric acid if the sample will be analyzed for metals.
6) Rinse with distilled/deionized water.
7) Use a solvent rinse (e.g. pesticide grade hexane) if the sample will be analyzed for organics.
8) Keep equipment covered from dust or other particulate matter.
9) Air dry the equipment completely.

Selection of the solvent for use in the decontamination process is based on the contamination present at the Site. Use of a solvent is required when organic analysis is applicable to the sample being collected. An acid rinse step is required if metals are to be analyzed. If a particular contaminant fraction is not to be analyzed, the nine-step decontamination procedure listed above may be modified for site specificity. The decontamination solvent used should not be among the COPC=s at the Site. Suitable solvent rinses are as follows:

SOLVENT	SOLUBLE CONTAMINANTS
1.) Water	- Inorganic compounds - Some organic acids and other polar compounds
2.) Dilute Acids	- Basic (caustic) compounds - Metals
3.) Organic solvents (e.g., alcohols, ethers, ketones, aromatics, straight-chain alkanes (e.g., hexane))	- Non-polar compounds (e.g., some organic compounds), and - common petroleum products (e.g., fuel, oil, kerosene)

3.12 Assessment and Oversight

3.12.1 Assessment of Field Sampling and Response Actions

The FOM will constantly assess and evaluate the QA system and QC practices during the course of the project. If at any time it becomes apparent that these are not adequate to ensure collection of data of the quality required, the FOM may discontinue the project until sufficient revisions can be made. These revisions may be made in the field at the direction of the FOM, and noted by the FOM in the field log book, or may be recommended to the PM or LRS for implementation. The TRIAD PM and/or LRS will review any such revisions with the WVDEP, OER PM.

3.12.2 Reports to Management

If, in the opinion of the FOM, sufficient adjustment can not be made to QC

practices in the field, the FOM will report these findings to the TRIAD PM and/or LRS, and discontinue data collection under the current QA system. The TRIAD PM and LRS, in consultation with the FOM and WVDEP, OER PM, will revise the QA system as necessary to ensure that data of adequate quality are obtained.

4.0 QUALITY ASSURANCE PROJECT PLAN (QAPP)

4.1 Data Quality Objectives (DQOs)

In accordance with the requirements of the VRP, field samples will be analyzed by a West Virginia Department of Environmental Protection (WVDEP) Certified Laboratory using promulgated USEPA methodology such as those listed in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition* (SW-846). These methodologies specify Quality Assurance and Quality Control (QA/QC) procedures that are to be implemented by the approved laboratory performing the analyses. The data will then be verified and validated independently.

TRIAD has selected Test America, located in Nashville, Tennessee for analytical testing of solid and aqueous samples. Test America holds WVDEP laboratory certification number 219.

Ten percent of the laboratory analytical data will be validated by TRIAD against the guidelines of the analytical methods performed and the *National Functional Guidelines for Organic Data Review* (USEPA, February 1994), the *National Functional Guidelines for Inorganic Data Review* (USEPA, February 1994) and the *Guidance on Environmental Data Verification and Data Validation* (USEPA, November 2002) as required under the VRP.

Data collected during the field sampling activities will be screened and compared to the following *De Minimis* environmental standards and criteria:

- *WV De Minimis Levels, Table 60-3B* (Revised January 2002), residential soil risk-based concentrations.
- *WVVRP Table 2-3 Published Background Maximum Concentration in Soil*
- *40 Code of Federal Regulations (CFR) Parts 260-279*

Each solid sample must be corrected for percent moisture content, sometimes referred to as "dry weight corrected". For example: 10 ppb Compound X wet weight with 20% moisture would be 10 ppb/0.80 = 12.5 ppb Compound X dry weight

4.2 Data Acquisition

4.2.1 Sampling Rationale

Sampling locations and procedures are discussed in Sections 3.5 and 3.6 of this *SAWP*, respectively.

4.2.2 Data Validation Process

The data validation review will be performed on ten percent of the data generated. The review will be conducted against the guidance provided in the *National Functional Guidelines for Organic Data Review* (USEPA, February 1994), the *National Functional Guidelines for Inorganic Data Review* (USEPA, February 1994), and the *Guidance on Environmental Data Verification and Data Validation* (USEPA, November 2002). Data validation consists of an analyte and sample specific process to determine the analytical quality of a specific data set as compared to the applicable analytical procedures and methods. The laboratory analytical data will be examined to determine the usability of the analytical results and compliance relative to the method requirements specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition* (SW-846), and the data quality considerations specified in this *QAPP*. Under no circumstances should the laboratory deviate from SW-846 recommended procedure and quality control unless given written permission by the Quality Assurance Officer (QAO).

4.2.3 Laboratory Quality Control Requirements

4.2.3.1 Detection Limit (DL)

A DL is a measure of the capability of an analytical method to distinguish samples that do not contain a specific analyte from samples that contain low concentrations of the analyte; the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability. DLs are analyte, instrument, and matrix specific and may be laboratory dependent. Some of the more commonly used definitions are described below.

Instrument Detection Limit (IDL) - The lowest concentration or mass an instrument can detect above background instrument noise under ideal conditions. IDLs are typically applied to the analysis of metals. Sample preparation is not considered in the determination of an IDL.

Method Detection Limit (MDL) - A statistically derived estimate

of the lowest concentration or mass detectable under method conditions at the concentration evaluated. A series of standards at an estimated limit of detection is analyzed multiple times (usually seven), a standard deviation of these seven replicate analyses is determined and the standard deviation is multiplied by the Student's t-distribution statistic at 6 degrees of freedom. See section 4.8.2.4 of this *QAPP*. Sample preparation is considered in the determination of an MDL.

Practical Quantitation Limit (PQL) - A measure of the lowest limit of detection under the conditions of a particular method. The PQL is often determined by multiplying the MDL by a factor between three and 10.

Reporting Limit (RL), Limit of Quantitation (LOQ), or Sample Quantitation Limit (SQL) - For a target analyte, the RL, LOQ, or SQL (these acronyms are synonymous) is instrument dependent and based on the lowest concentration point of the instrument's current calibration curve. It is also sample specific, as percent moisture, dilution factor, and sample preparation variables are to be included in the calculation of the final RL, LOQ, or SQL.

For this project, each compound of interest will be reported at its appropriate MDL and RL, LOQ, or SQL.

Where technologically feasible, the MDLs must meet the *De Minimis* environmental standards and criteria listed in section 4.2 of this *QAPP*. If the MDLs are not technologically feasible by the laboratory, the laboratory must communicate this prior to sample receipt and reporting.

4.2.3.2 Instrument Calibrations

A calibration is a comparison of a measurement standard, instrument, or item with a standard or instrument of higher accuracy to detect and quantify inaccuracies and to report or eliminate those inaccuracies by adjustments. Laboratory instrument calibrations typically consist of two types: initial calibration verification (ICV) and continuing calibration verification (CCV).

Initial Calibration Verification (ICV) – ICV procedures establish the calibration range of the instrument and determine instrument response over that range. Typically, a minimum of three to five

analyte concentrations is used to establish instrument response over a concentration range. The instrument response over that range is commonly expressed as a correlation coefficient or response factor. Any detected compound whose response is below the calibration range of the instrument must be considered quantitatively estimated, qualified with a "J," and reported as such to the data user.

Dilution - Any detected compound whose response is above the calibration range of the instrument must be considered quantitatively estimated and reanalyzed at an appropriate dilution to achieve a response within the calibration range of the instrument. If a dilution is not possible, the result is to be reported and qualified with an "E." If multiple dilutions result in multiple compounds of interest falling within the calibration range of the instrument, all dilutions will be reported by the laboratory to the user of the data.

Continuing Calibration Verification (CCV) - a CCV usually includes measurement of one or more calibration standards. The response is compared to the initial measured instrument response. Continuing calibration is performed at least once per operating shift for laboratory analyses. Where required, the CCV standard must be a separate source (i.e. a different vendor, or if same vendor, a different lot number) from the ICV standard.

Instrument calibration procedures, both ICV and CCV, are to be analyzed according to the requirements of the USEPA approved methodologies performed. Any deviations from the above must be documented and reported to the user of the data.

4.2.3.3 Laboratory Control Samples

Laboratory control samples (LCS) are used to evaluate the accuracy of the laboratory's procedures. A LCS, or blank spike, is prepared and analyzed every one per 20 samples of the same media within the same preparation or analytical batch. Any LCS that does not meet the laboratory established recovery criteria must be prepared and analyzed again, along with any associated samples until acceptable recovery is achieved. Procedures for the preparation and analysis of the LCS are according to the requirements of the USEPA approved methods and must be the same as the samples to which the LCS is compared. Any

deviations from the above must be documented by the laboratory and reported to the data user.

4.2.3.4 Method Blank

Method blank (MB) samples are used to evaluate the presence and/or effect of laboratory contamination. A MB must be analyzed every one per 20 samples of the same media within the same preparation or analytical batch. A method blank is prepared to represent the sample matrix as closely as possible and analyzed exactly like the samples for which it is associated. Any method blank that demonstrates contamination (i.e. any positive response of compounds of interest) must be prepared and analyzed again, along with any associated samples that demonstrated the same compounds of interest detected. The only acceptable deviation from this is if the compound sample concentration is greater than ten times the concentration detected in the method blank. Procedures for the MB are analyzed according to the requirements of the USEPA approved methods performed. Any deviations from the above must be documented and reported by the laboratory to the data user, with impacted results qualified with a "B."

4.2.3.5 Internal Standard

An internal standard (IS) is a standard unlikely to be found in environmental samples but has similar properties to the compounds of interest. The IS is added to the sample in a known amount and carried through the entire determination procedure as a reference for calibrating and controlling the precision and bias of the applied analytical method. Any sample for which an IS did not meet the USEPA approved method established recovery and retention time criteria, must be analyzed again. If the IS failure is duplicated, matrix interference is assumed and both results are to be reported by the laboratory to the data user.

4.2.3.6 Surrogate Standard

A surrogate standard of known concentration is added to environmental samples for quality control purposes. A surrogate standard is unlikely to be found in environmental samples but has similar properties to the compounds of interest. Surrogate standards are intended to monitor recovery differences, problems during the extraction phase of the analysis, and for any potential matrix interferences. Any sample that a surrogate standard did not meet the laboratory established recovery criteria must be

prepared and analyzed again. If the surrogate standard failure is duplicated, matrix interference is assumed and both results are to be reported by the laboratory to the data user.

4.2.4 Matrix Quality Control Samples

Matrix spike (MS) and matrix spike duplicate (MSD) samples, performed by the laboratory, are used to evaluate the accuracy and precision of the sample matrix for the organic analyses. Matrix spike (MS) and matrix duplicate (MD) samples are used to evaluate the accuracy and precision of the matrix for the inorganic analyses. A MS, MSD or MD that did not meet the laboratory established accuracy or precision criteria is indicative of possible matrix interference. Only matrix quality control samples selected from media specific to this project are to be reported. Procedures for the MS, MSD, and MD are performed according to the same requirements of the USEPA approved methods.

4.2.5 Technical Holding Times

A sample's technical holding time is the period of time a sample may be stored prior to its required preparation and analysis by the laboratory. While exceeding the holding time does not necessarily negate the usability of the analytical results, it causes the qualifying of any data as not meeting the specified acceptance criteria. If the technical holding time of any sample is exceeded it is to be reported by the laboratory to the data user immediately. A summary of the technical holding times is presented in **Table 3, *Analytical Methods and Field Sample Container Requirements***.

4.2.6 Sample Preservation

A sample's preservation requirements are media and analysis specific. Preservation is required at sample collection in order to preserve the contaminants in their original state prior to analysis by the laboratory. The laboratory is required to maintain the preservation of the samples once they are in the custody of the laboratory. If the sample is found to be outside the preservation required, it is to be reported by the laboratory to the data user immediately. A summary of the preservation requirements is presented in **Table 3, *Analytical Methods and Field Sample Container Requirements***.

4.3 Field Quality Control Samples

4.3.1 Blanks

A blank is a sample subjected to the usual analytical or measurement process to establish a zero baseline or background value. It is sometimes

used to adjust or correct routine analytical results. It is a sample that is intended to contain none of the analytes or compounds of interest. A blank can be used to detect contamination during sample collection, handling, or shipment. There are many types of blanks, each with a specific purpose including:

Equipment Blank - Monitor for potential contamination from decontamination procedures (refer to section 2.10) of field gear or from other sources of equipment contamination like oil or other lubricants. To be collected in the field following standard decontamination procedures; one per twenty samples of the same media, analytical request, and equipment used. An equipment blank is collected by pouring water, demonstrated to be free of the contaminants to be analyzed, over the equipment into the appropriate containers. For example, if 21 soil samples are to be collected using stainless steel scoops for VOCs and PAHs, one would collect a total of two equipment blanks for both VOCs and PAHs following decontamination of the scoop by pouring deionized (DI) water over the equipment into the appropriate container(s).

Trip Blank - A clean sample of a matrix that is taken to the sampling site and transported to the laboratory for analysis without having been exposed to sampling procedures; typically submitted for aqueous VOC analysis only. One trip blank is required with each sample shipment.

Temperature Blank - An aqueous sample, typically submitted as water in a 40-ml VOC vial, is transported to the laboratory for temperature verification of the samples. One temperature blank is required with each sample shipment container.

4.3.2 Duplicate Samples

Duplicate samples are two samples taken from and representative of the same population and carried through all steps of the sampling and analytical procedures in an identical manner. Duplicate samples are used to assess variance of the total method, including sampling and analysis. There are several different types of duplicate samples that provide information on the precision of specific types of environmental data operations:

Field Duplicates - Independent samples that are collected as close as possible to the same point in time and space. They are two separate samples taken from the same source, stored in separate containers and analyzed independently. These types of duplicates are useful in characterizing the precision of the sampling process.

Split Samples - Two or more representative portions taken from one sample in the field or in the laboratory and analyzed by different analysts or laboratories. Split samples are quality control (QC) samples that are used to assess analytical variability and comparability.

4.4 Assessments and Oversight

4.4.1 Performance and System Audits

4.4.1.1 Technical Performance Audits

Qualified TRIAD personnel will perform technical performance monitoring on an ongoing basis during the project, as field data are generated, reduced, and analyzed. These monitoring activities serve as a performance audit and are essentially ongoing due to the length of the project schedule. All numerical analyses such as manual calculations, mapping, and computer modeling, are documented and will be the subject of performance audits in the form of quality control review, numerical analysis, and peer review.

4.4.1.2 Laboratory System Audits

The WVDEP commercial laboratory certification program performs external system audits of the laboratory on a pre-defined basis. The system audit may consist of review of the following:

- Laboratory quality assurance manual
- Instrumentation and/or analytical systems for the analyses of interest
- Sample preparation methodologies
- Laboratory sample handling
- Sample receiving and custody procedures
- Data reduction and reporting procedures
- Data validation procedures
- Instrument calibration procedures
- Quality control program
- Other laboratory procedures that may impact laboratory analyses

4.4.2 Corrective Action

4.4.2.1 Field Corrective Action

The initial responsibility for monitoring the quality of field measurements and observation lies with the field personnel. The FOM is responsible for verifying that all QC procedures are being followed. This requires that the FOM assess the correctness of field methods and their ability to meet the QA objectives. If a problem occurs that may jeopardize the integrity of the project or cause some specific QA objective to not be met, the field project personnel will report it to the FOM. The FOM will then report all such suspect problems to the TRIAD PM. The TRIAD PM documents the problem, consults with the QAO, LRS, and/or WVDEP, OER PM as applicable, develops a corrective action, and documents the results. The FOM will initiate the corrective action and identify and direct the appropriate personnel to implement the corrective action.

4.4.2.2 Laboratory Corrective Action

The initial responsibility for monitoring the quality of an analytical system lies with the analyst. In this pursuit, the analyst must verify that all standard operating procedures and quality control procedures are followed and that the results of analysis of instrument calibration and quality control samples are within acceptance criteria.

If his or her assessment reveals that any of the quality control acceptance criteria were not met, he or she immediately assesses the analytical system to correct the problem. The deficiency is reported to the appropriate supervisor, who notifies the laboratory QC Officer. Specific corrective actions to exceed acceptance criteria for the laboratory quality control checks are defined in the laboratory QA program.

4.4.3 Reports to Management

Reports to management encompass both routine reports and special reports, including written reports and memoranda documenting data assessment activities, results of data validations, audits, nonconformance, and corrective actions. The management hierarchy receiving some or all of the reports includes appropriate personnel from TRIAD such as the LRS, QAO, and PM and the WVDEP, OER PM.

4.5 Data Usability

The following sections describe the processes used to generate and check data and produce reports for both field sampling and laboratory analysis data. As discussed previously in the *QAPP*, ten percent of the laboratory analytical data will be validated.

4.5.1 Data Reduction

Data will be reduced either manually on calculation sheets or by computer on formatted printouts. The methodology and procedures implemented by TRIAD to determine the accuracy of data reduction are described in this section. The following responsibilities are delegated in the data reduction process:

- Technical personnel document and review their own work and are accountable for its correctness.
- Major calculations receive both a method and an arithmetic check by an independent checker. The checker is accountable for the correctness of the checking process.
- The QAO is responsible for ensuring that data reduction is performed in a manner that produced quality data through review and approval of calculations.

Hand calculations are to be legibly recorded on calculation sheets and in logical progression with sufficient descriptions. Major calculations are checked by an engineer or scientist of professional level equal to or higher than that of the originator. After completing the check, the checker will initial and date the calculation sheet immediately below the originator. Both the originator and checker are responsible for the correctness of calculations. A calculation sheet will contain the following, at a minimum:

- Project title and brief description of the task
- Date performed
- Initials of person who performed the calculation
- Basis for calculation
- Assumptions made or inherent in the calculation
- Complete reference for each source of input data
- Methods used for calculations
- Results of calculations, clearly annotated

Computer analyses include the use of models, programs, and data management systems. For published software with existing documentation, test case runs are performed periodically to verify that the software is performing correctly. Both systematic and random-error analyses are investigated and appropriate corrective action measures are taken.

4.5.2 Data Validation and Verification

The process through which data is accepted or rejected is based on specific data verification and validation criteria. These criteria are discussed below for both field and laboratory data. Personnel experienced with sampling and analytical protocols and procedures will perform the data validation in accordance with the established criteria and the intended use of the data.

Field data verification and validation are used to eliminate or limit the use of field data that are not collected or documented in accordance with specified protocols outlined here or in the *FSP*. In some instances, the field data are used only for approximation purposes. In all cases, evaluations of field data are performed on two separate levels. First, all field data will be verified at the time of collection by following the QC checks outlined throughout the *FSP* and *QAPP*. Second, field data will be validated by the PM, or designee, who will review the field data documentation to identify discrepancies or unclear entries. Field data documentation will be validated against the following criteria, as appropriate:

- Sample location and adherence to the *FSP*
- Adherence to procedures and protocols
- Field instrumentation and calibration
- Sample collection protocol
- Sample volume
- Sample preservation
- Equipment QC samples collected and submitted
- Field duplicate QC samples collected and submitted
- Sample labels protocols
- Sample documentation protocols
- Chain-of-custody protocol
- Sample shipment

4.5.3 Requested Analyses

Under the review procedures, the following data validation criteria for the requested analyses are to be prepared by the laboratory for potential validation in a organized, legible, and tabulated manner:

- Sample paperwork, both preparatory and analysis
- Chromatograms
- Retention times
- Peak integration and labels
- Mass spectral library comparisons
- ICV
- CCV
- LCS
- Method Blank/Instrument Blank
- MS/MSD/MD
- Holding time
- Surrogate recovery
- Internal standards recovery and retention time
- Dilution factor
- Moisture content
- Confirmation Data

4.5.4 Data Quality Assessment

Data quality assessments are prepared to document the overall quality of data collected in terms of the established DQOs and the effectiveness of the data collected and generation processes. The data assessment parameters calculated from the results of the field measurements and laboratory analyses will be reviewed to ensure that all data used in subsequent evaluations were scientifically valid, of known and documented quality, and, where appropriate, legally defensible. In addition, the performance of the overall measurement system will be evaluated in terms of the completeness of the project plans, effectiveness of field measurement and data collection procedures, and relevance of laboratory analytical methods used to generate data as planned. Finally, the goal of the data quality assessment is to present the findings in terms of data usability.

Generally, to achieve an acceptable level of confidence in the decisions that were made from the data, the degree to which the total error in the

results derived from data collected and generated will be controlled. The methods and procedures used to implement and accomplish these QC objectives are as follows:

- Assess the quality of data values measured and generated to ensure that all were scientifically valid, of known and documented quality, and, where appropriate, legally defensible. This is accomplished by assessing actual data values generated or measured against the established DQOs for parameters such as precision, accuracy, completeness, representativeness, and comparability, and by testing generated data against acceptance criteria established for these parameters.
- Achieve an acceptable level of confidence in the decisions that were to be made from measurements and data by controlling the degree of total error permitted in the data through QC checks. Data that failed the QC checks or did not fall within the acceptance criteria established will be rejected from further use or qualified for limited use.

The major components of a data quality assessment are presented below and show the logical progression of the assessment leading to determination of data usability:

- *Data Validation Summary.* Summarizes the individual data validation reports for all sample delivery groups by analytical method. Systematic problems, data generation trends, general conditions of the data, and reasons for data qualification are presented.
- *Data Evaluation Procedures.* Describes the procedures used to further qualify data caused by such factors as dilution, reanalysis, matrix effect and duplicate analysis of samples. Examples of the decision logic are provided to illustrate the methods by which qualifiers are applied.
- *QC Sample Evaluation.* Evaluates QC samples such as field blanks, trip blanks, equipment rinsates, field replicates, and laboratory control samples to assess the quality of the field activities and laboratory procedures.
- *Assessment of Data Quality Objectives.* Assesses the quality of data measured and generated in terms of accuracy, precision, representativeness, and completeness through the examination of laboratory and field control samples in relation to objectives established.

- *Summary of Data Usability.* Summarizes the usability of data, based on the assessment of data conducted during the previous four steps. Sample results for each analytical method will be qualified as acceptable, rejected, estimated, biased high, or biased low.

4.5.5 Data Reporting

Field measurements and observations will be recorded in the field log book maintained by the FOM. Laboratory data is reported in standard formats that identify the specific sample, date, parameter, parameter value, detection limit, and various analytical parameters. Both field and laboratory data will be combined and summarized as appropriate in tables, graphs, and other formats that are appropriate to the type of data and conveyed information, to support the findings of the data collection program. In all cases, data will be clearly tabulated and presented in a consistent manner to support comparison of common sets of data. Finally, data will be presented so as to logically lead to and substantiate the conclusions and recommendations provided by the final report.

4.6 Reconciliation with Data Quality Objectives

All data generated for the project will be assessed for accuracy, precision, completeness, representativeness, and comparability. The methods for calculating accuracy, precision, and completeness, and for evaluating representativeness and comparability are summarized in USEPA guidance documents (EPA 1990a). Generally, data that does not meet the established acceptance criteria may be probable cause for re-sampling and re-analysis. However, in some cases, data that did not meet acceptance criteria are usable with specified limitations. Data that are marked as usable with limitations are included in the project reports, but will be clearly marked as having limited usability.

4.6.1 Qualitative Quality Assurance Objectives

4.6.1.1 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that pertains to the proper design of the sampling program. The representativeness criterion is best satisfied by making certain that sampling locations are selected properly and a sufficient number of samples are collected.

This parameter is addressed in the project-specific work plans by collecting samples at locations specified in such work plans, and by following the procedures for sample collection/analyses that are described in the *FSP*. Additionally, analytical programs utilize procedures that are consistent with USEPA approved analytical methodology. QA/QC parameters that are utilized to aid representativeness of environmental samples are technical holding time and sample preservation. The technical holding time and sample preservation requirements, presented in Table 2 are used in accordance with this *QAPP* to ensure that the environmental samples submitted to the laboratories remained representative of site conditions.

4.6.1.2 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This goal is achieved through the use of the standardized techniques for sample collection and analysis presented in the *FSP*. The USEPA *Methods of Chemical Analysis for Water and Waste* or *Test Methods for Evaluating Solid Waste (SW846)* analytical methods are updated on occasion by the USEPA to benefit from recent technological advancements in analytical chemistry and instrumentation. In most cases, the method upgrades include the incorporation of new technology that improves the sensitivity and stability of the instrumentation or allows the laboratory to increase throughput without hindering accuracy and precision. The overall goal for analytical programs conducted in accordance with this *QAPP* is to provide comparable analytical data over time through the use of approved analytical techniques that remain consistent in their general approach and continued use of the basic analytical techniques (i.e., sample extraction/ preparation, instrument calibration, QA/QC procedures, etc.). Through this use of consistent base analytical procedures and by requiring that updated procedures meet the QA/QC criteria specified in this *QAPP*, the analytical data from past, present, and future sampling events are comparable to allow for qualitative and quantitative assessment of site conditions.

4.6.2 Quantitative Quality Assurance Objectives

4.6.2.1 Completeness

Completeness is defined as a measure of the amount of valid data obtained from an event or investigation compared to the total data planned. Completeness of laboratory tests is expected to be 90 percent (90%) or better for investigations conducted in accordance with this *QAPP*. The reasons for any variances from 100 percent completeness are to be identified and addressed, as required, in the appropriate data validation report. This quantity is calculated as follows:

$$\textbf{Completeness (\%)} = \frac{V}{P} \times 100$$

Where: V = number of valid measurements
P = number of planned measurements

4.6.2.2 Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared to their average value. For investigations conducted in accordance with this *QAPP*, precision was defined as the relative percent difference (RPD) or the relative standard deviation (RSD) between duplicate sample results. The lower these values are, the more precise that data. These quantities were defined as follows:

$$\textbf{RPD (\%)} = 100 \times \frac{(S - D)}{(S + D)/2}$$

or:

$$\textbf{RSD (\%)} = \frac{100}{\sqrt{2}} \times \frac{2\,(S - D)}{(S + D)}$$

Where: S = Analyte or compound concentration in a sample
D = Analyte or compound concentration in a duplicate sample

Or when there are more than two measurements:

$$\textbf{RSD (\%)} = 100 \left(\frac{s}{0} \right)$$

Where: S = Standard deviation of replicate measurements
0 = Mean of replicate measurements

The duplicate samples utilized to evaluate precision include laboratory MD, MS, MSD, and field duplicates samples. The goal is to maintain a level of analytical precision consistent with the objectives of the sampling event. To maximize precision, consistent sampling and analytical procedures are to be followed as presented in the *FSP*. Control limits for field duplicate sample analyses are 40%. Control limits for laboratory MS, MSD, and MD sample analyses are determined by the laboratory's internal QA plan.

4.6.2.3 Accuracy

Accuracy measures the bias in an analytical system, or the degree of agreement of a measurement with a known reference value. This measure is defined as the difference between the average of reported values and the actual value. Accuracy was expressed as the percent bias for standard reference samples. The closer this value was to zero, the more accurate the data. This quantity was defined as follows:

$$\textbf{Bias (\%)} = \frac{(MC - KC)}{KC} \times 100$$

Where: KC = Known analyte or compound (i.e. spike) concentration
MC = Measured analyte or compound concentration

In cases where accuracy is determined from spiked samples, such as the LCS, accuracy was expressed as the percent recovery. The closer these values were to 100, the more accurate the data and were calculated as follows:

$$\textbf{Recovery (\%)} = \frac{(MC)}{SC} \times 100$$

Where: SC = Known analyte or compound (i.e. spike) concentration
MC = Measured analyte or compound concentration

Matrix spike percent recovery was calculated as follows:

$$\text{Recovery (\%)} = \frac{(MC - USC)}{KC} \times 100$$

Where: SC = Known analyte or compound (i.e. spike) concentration
MC = Measured analyte or compound concentration
USC = Unspiked sample concentration

For investigations conducted in accordance with this *QAPP*, accuracy is defined as the percent recovery of QA/QC samples that are spiked with a known concentration of an analyte of interest and reported as such by the laboratory. The QA/QC samples used to evaluate analytical accuracy included instrument calibrations, internal standards, ICP serial dilution analysis, laboratory control samples, MS/MSD samples, and surrogate compound recoveries. Control limits for instrument calibration, laboratory control samples, internal standards, ICP serial dilution analysis, and surrogate compound recoveries are provided in the applicable USEPA approved methods. MS/MSD samples acceptable accuracy is determined by the laboratory's internal QA plan.

4.6.2.4 Sensitivity

The sensitivity is defined by the method detection limits (MDLs). Unless otherwise specified in the project-specific work plan, the analytical results were reported against the laboratory MDLs.

The achievement of MDLs depends on instrument sensitivity and matrix effects. Therefore, it was important to monitor the instrument sensitivity to ensure data quality through constant checks on instrument performance. The method detection limit is defined as the minimum concentration of a substance that can be measured with 99 percent confidence that the concentration is above zero. The MDL is calculated as follows:

$$MDL = s * t_{(n-1,\ 1-a=0.99)}$$

Where: s = standard deviation of replicate analyses
$t_{(n-1,\ 1-a=0.99)}$ = student's t-value for a one-sided 99% confidence level and a standard deviation estimate with n-1 degrees of freedom

5.0 CONCLUSIONS

Upon the successful completion of this site assessment activity, Jefferson Orchards, Inc. will submit a *Remedial Action Work Plan* and Health and Safety Plan defining appropriate risk management activities that will be employed at Parcel A during soil borrow activities.

6.0 REFERENCES

West Virginia Voluntary Remediation and Redevelopment Rule, Title 60 Code of State Regulations, Series 3, as established in the *Voluntary Remediation and Redevelopment Act*, WV Code §22-22-1

West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, version 2.1

Application to Participate in the Voluntary Remediation Program, Jefferson Orchards, Inc., (Jefferson Orchards, Inc., February 2005)

Voluntary Remediation Agreement for Investigation and Remediation Activities, Jefferson Orchards, Inc., (Jefferson Orchards, Inc., February 2005)

Surface Soil Sampling and Analysis Report, Jefferson Orchards, Inc., (Triad Engineering, Inc., July 15, 2003)

TABLES

Table 1. SUMMARY OF 2003 SURFACE SOIL ANALYSIS

Jefferson Orchards (VRP # 06995)

		Metals Concentration (ppm)						Pesticide Concentrations (ppm)							
Sample Location	Sample ID	Arsenic	Barium	Chromium	Lead	Selenium	Mercury	Endo-Sulfan I	Dieldren	4,4-DDE	Endrin	Endo-Sulfan II	4,4-DDD	4,4-DDT	Endrin Ketone
1	MSSS1	31		No concentration at or above the laboratory detection limit.	80			1.8		3.4	2.8	1.3	4.6	0.71	0.79
2	SASS1	34			4700		0.3			5.7	6.1			11	
3	MSSS2	11			68					2.9	1.7			4.5	0.9
4	MSSS3	8.7			54				0.79	4.4	1		1.3	3.6	
5	SASS2	7.9			15	1.4								32	
6	MSSS4	7.1			63					0.5				0.14	
7	SASS3	8			56					1.6				0.44	
8	OOSS1	31			75	1.1				0.014				0.013	
9	OOSS2	43			120	1.1									
10	OOSS3	77			210	1.1				0.58	0.33			0.56	
11	OOSS4	99			260		0.23			1.1				1.3	
12	OOSS5	42			140		0.27			1.6	0.76			1.6	
13	OOSS7	28			88					1				0.43	
14	OSSS6	22			68					1.1				0.41	
15	BGSS4	6.9			25					0.028					
16	BGSS5	6.6			17					0.017					
17	BGSS3	6			21					0.032					
18	BGSS6	4.8			22	1.3				0.087				0.02	
19	BGSS1	6.5			17										
20	DASS1	6.2			22	1.4				0.026				0.018	
21	DASS2	5.7			24	1.3				0.02					
22	DASS3	5.3			20										
23	BGSS2	5.9			23					0.04				0.02	
24	TPSS1	9			35	1.2									
25	YOSS3	8.1			17					0.33					
26	YOSS1	7.8			16	1				0.015					
27	YOSS2	7.1			16	1.1				0.036				0.015	
28	YOSS4	6.7			14										
29	YOSS6	6.5			13					0.84				0.35	
30	YOSS7	6.8			16					0.7				0.2	
31	YOSS5	6.8			19	1									
32	YOSS9	7.6			19	1.1				0.44				0.18	
33	YOSS8	7.7			19					0.39					
34	YOSS10	9.2			14	1.3				0.021					
35	HWGW1	ND	0.11												
36	DWGW1	ND	0.088												
37	DWGW2	ND	0.045												
38	DWGW3	ND	0.075		0.014										
39	PSW1	ND	0.044												
40	PSS1	15				2.6				0.15			0.038		
41	PSS2	<5.8													

Table 2. SAMPLING AND ANALYSIS SUMMARY

Parcel A Site Assessment Work Plan
Jefferson Orchards (VRP # 06995)
Jefferson County, West Virginia

Parcel A Investigation Description	Total Number of Samples to be Collected			
	Pesticides	Metals	PAHs	Metals and Pesticides
Subsurface Soil Samples (1-2' composite)*	16	16	16	16
Subsurface Soil Samples (2-4' composite)*	16	16	16	16
Subsurface Soil Samples (1-4' composite)	16	16	16	16
Sample Location Totals:	**48**	**48**	**48**	**48**

Notes: * Composite samples collected at the 1-2' and 2-4' interval will be held for future referrence. Only the 1-4' composite sample will be submitted for analysis.

Table 3. ANALYTICAL METHODS AND FIELD SAMPLE CONTAINER REQUIREMENTS

Parcel A Site Assessment Work Plan
Jefferson Orchards (VRP # 06995)
Jefferson County, West Virginia

Environmental Media	Analysis	EPA Method	Quantity/Size Container(s)	Preservative	Technical Holding Time
Soil/Sediment	Pesticides	8081A	1 - 4 oz glass	Cool 4°C	14 days until extraction 40 days after extraction
	PAHs	8270C			14 days until extraction 40 days after extraction
	Metals	6010B			6 months

METHOD DETECTION LIMIT REQUIREMENTS

Metals:	mg/Kg
ARSENIC	13*
LEAD	400

* Arsenic compared to the WVVRP Table 2-3 Published Background Maximum Concentration in Soil

PAHs:	ug/Kg
NAPHTHALENE	56,000
ACENAPHTHYLENE	3,700,000
ACENAPHTHENE	3,700,000
FLUORENE	2,600,000
PHENANTHRENE	22,000,000
ANTHRACENE	22,000,000
FLUORANTHENE	2,300,000
PYRENE	2,300,000
BENZO(A)ANTHRACENE	620
CHRYSENE	62,000
BENZO(B)FLUORANTHENE	620
BENZO(K)FLUORANTHENE	6,200
BENZO(A)PYRENE	62
INDENO(1,2,3-CD)PYRENE	620
DIBENZO(A,H)ANTHRACENE	62
BENZO(G,H,I)PERYLENE	2,300,000

Pesticides:	ug/Kg
4,4-DDD	87
4,4-DDE	87
4,4-DDT	87
ALDRIN	29
ALPHA-BHC	66
BETA-BHC	66
DELTA-BHC	66
DIELDRIN	30
ENDOSULFAN I	66
ENDOSULFAN II	130
ENDOSULFAN SULFATE	130
ENDRIN	130
ENDRIN ALDEHYDE	130
ENDRIN KETONE	not available
GAMMA-BHC (LINDANE)	66
HEPTACHLOR	66
HEPTACHLOR EPOXIDE	53
METHOXYCHLOR	180
TECHNICAL CHLORDANE	260
TOXAPHENE	440

Table 4. FIELD AND MATRIX QC SAMPLES

Parcel A Site Assessment Work Plan
Jefferson Orchards (VRP # 06995)
Jefferson County, West Virginia

QC Samples	Number of Samples				Total QC Samples Collected
	Field Samples		QC Samples		
	Aqueous	Soil/ Sediment	Aqueous	Soil/ Sediment	
Field QC Samples:					
a.) Field Duplicate					
- Pesticides	0	16	0	1	1
- PAHs	0	16	0	1	1
- Metals	0	16	0	1	1
Matrix QC Samples					
a.) Matrix Spike and Matrix Spike Duplicate (MS/MSD)					
- Pesticides	0	16	0	1	1
- PAHs	0	16	0	1	1
b.) Matrix Spike and Matrix Duplicate (MS/DUP)					
- Metals	0	16	0	1	1
TOTAL					**6**

Notes:

Number of field QC samples to be collected based on the following:

- Field duplicate based on 1 QC sample per 20 field samples per environmental media.
- Equipment blank based on 1 QC sample per 20 field samples per environmental media per non-disposable equipment.

Number of matrix QC samples to be collected based on the following:

- One pair of MS/MSD or MS/DUP based on 1 QC sample per 20 field samples per environmental media.

1 sample container containing "clean" water will be placed in each cooler as a temperature blank.

Table 5. QC SAMPLING

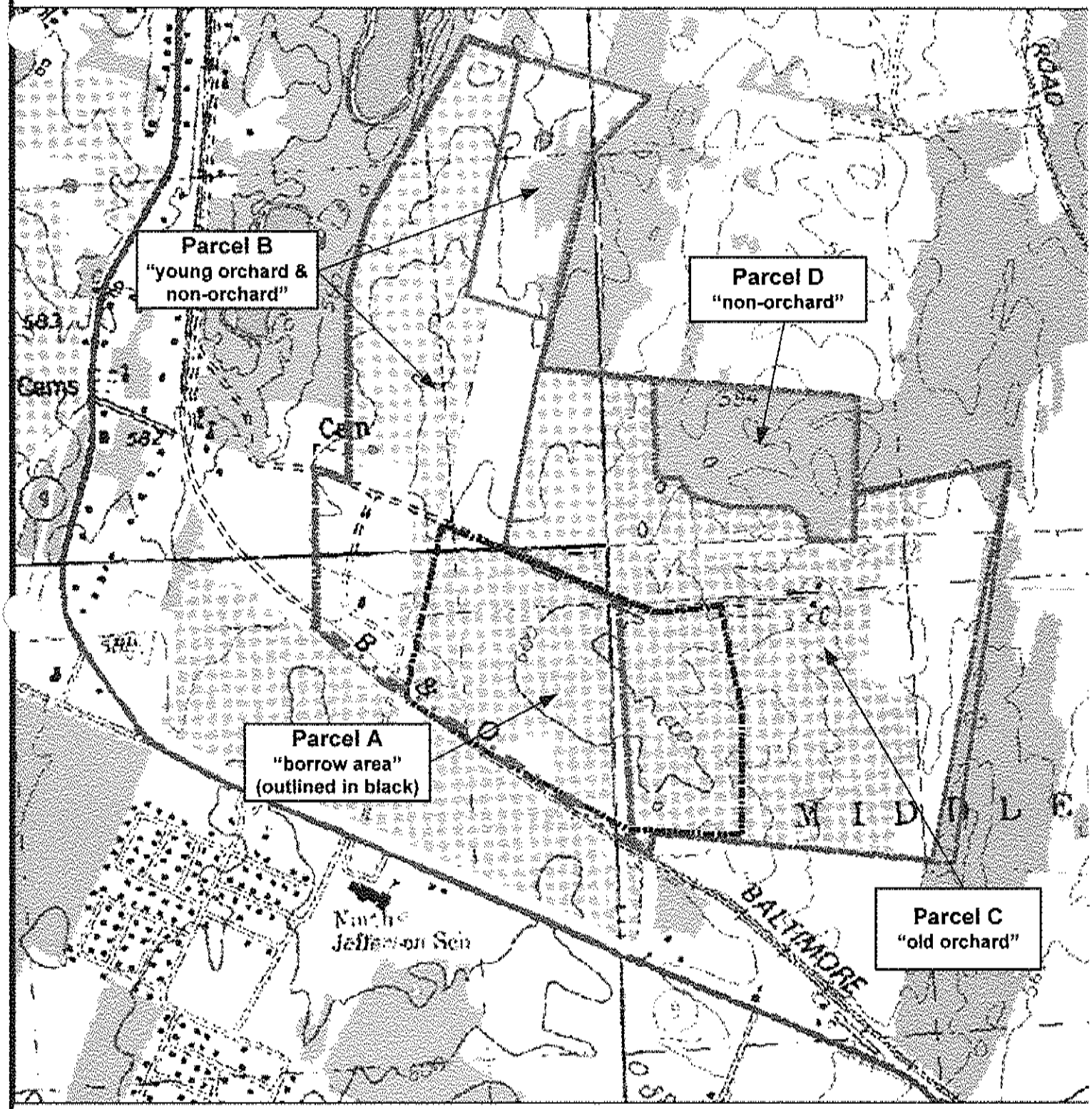
Parcel A Remedial Action Work Plan
Jefferson Orchards (VRP # 06995)
Jefferson County, West Virginia

SampleType	Purpose	Collection	Numbering
Field QC Samples:			
Field Duplicate	To check reproducibility of laboratory and field procedures. To indicate matrix non-homogeneity.	Collect from areas that are known or suspected to be contaminated. Collect one per week or 1 per 20 field samples per matrix, whichever is greater.	Assign two separate (unique) sample numbers (i.e.,one number to the primary sample and one to the duplicate). Submit blind to the lab.
Temperature Blank	To check temperature of the cooler during shipping upon arrival at the lab.	Collect 1 sample per cooler shipped to the lab. Use blank water (water deomonstrated to be organic-free, deionized, or distilled for inorganics).	Do not assign separate sample number. Note as "Temperature Blank" on label .
Matrix QC Samples:			
* Matrix Spike and Matrix Spike Duplicate	Required to check accuracy and precision of organic analyses and matrix effect.	Collect double volume for one water sample per 20 water field samples.	Assign the primary sample, extra volume, matrix spike and matrix spike duplicate the same sample number. Label the extra volume "MS/MSD"
* Matrix Spike and Matrix Duplicate	Required to check accuracy and precision of inorganic analyses and matrix effect.	Collect double volume for one water sample per 20 water field samples.	Assign the primary sample, extra volume, spike and duplicate the same sample number. Label the extra volume "MS/DUP"

Notes:

* No extra volume is required for the soil/sediment matrix; however, the sample to be used for laboratory QC must be designated on the Chain of Custody (COC).

Figure 1
Site Location Map



APPENDICES

Jefferson Orchards – Parcel A
VRP # 06995

Jefferson County, West Virginia

HEALTH AND SAFETY PLAN

TRIAD Project 07-03-0225

Submitted to:

West Virginia Department of Environmental Protection
Division of Land Restoration
Office of Environmental Remediation
131A Peninsula Street
Wheeling, West Virginia 26003

Prepared by:

TRIAD ENGINEERING, INC.
Winchester, Virginia

February 2005

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1.0 PURPOSE AND SCOPE

1.1 Introduction

This *Health and Safety Plan* (*HASP*) describes health and safety procedures to be followed by TRIAD ENGINEERING, INC. (TRIAD) employees and subcontractors for sampling activities to be performed at the Jefferson Orchards, Parcel A Site (VRP # 06995), located in Jefferson County, West Virginia.

This *HASP* has been prepared by the TRIAD Health and Safety Coordinator (HSC) for use by TRIAD, and its designated representatives, including subcontractors. This *HASP* shall not preclude a subcontractor from developing their own *HASP*, as long as the subcontractor's *HASP* is at least as protective as this TRIAD *HASP*. This *HASP* is a dynamic document and is intended to be modified if new or additional information becomes available regarding planned field activities or potential hazards that TRIAD may become aware of during the course of the project. It is the responsibility of the Field Operations Manager (FOM) to communicate any such additional information to the HSC, who will determine the need to modify or addend this *HASP*.

Work to be performed under this *HASP* will include:

- Soil sampling
- Geoprobe® direct-push borings

The objective of the *HASP* is to provide site workers with site-specific information and procedures to be followed to protect the health and safety of all site personnel during field work activities. All work shall be performed in compliance with applicable Federal, State, and local regulations, and in particular with the provisions of the following:

- OSHA 29 CFR 1910, *Occupational Safety and Health Standards for General Industry.*

1.2 Site Background

The Jefferson Orchards Parcel A Site is located in Jefferson County, West Virginia, southeast of Kearneysville. The entire site is approximately three hundred eighty eight (388) acres in size and is accessed from WV State Route 9. This assessment only entails Parcel A, which encompasses approximately sixty (60) acres. The site is currently an operating and active fruit orchard. The location of the Site is depicted on **Figure 1, *Site Location Map***.

Parcel A consists of former orchard soils only. No source areas such as pesticide mixing or storage areas or structures are located at this parcel. During the orchard's operation, pesticides have been applied to the orchard as crop protection. Previous investigations at Jefferson Orchards have indicated the presence of organochlorine pesticides, arsenic, and lead.

2.0 HAZARDS

2.1 PHYSICAL HAZARDS

There are various physical hazards that field personnel may encounter during the project. The following are the hazards potentially associated with this project:

- **Lifting Hazards**
- **Noise Hazards (excess of 85 dBA)**
- **Uneven or Unstable Terrain (slip, trip, and fall hazards)**
- **Ambient Temperature Extremes (heat stress)**
- **Inclement Weather**
- **Drilling Hazards**
- **Pinch and Compression Points**
- **Heavy Machinery**

All physical hazards shall be addressed during the safety meeting prior to job commencement by the HSO and/or the FOM.

2.1.1 Lifting Hazards

The potential exists for workers to become injured while lifting or maneuvering heavy objects during the performance of various tasks. In addition, various tasks may require lifting heavy pieces of equipment. If objects are improperly lifted, debilitating back strain and/or other injuries may result. Site personnel should obtain help from others, employ proper lifting techniques, and use machinery to assist when handling heavy objects.

Six-Step Technique for Lifting:

1. Keep feet parted-one alongside, one behind the object (Lift with the legs)
2. Keep the back straight, nearly vertical.
3. Tuck in your chin.
4. Grip the object with the whole hand.
5. Tuck the elbows and arms in
6. Keep body weight directly over feet.

2.1.2 Noise Hazards (excess of 85 dBA)

Noise exposure exceeding the OSHA Permissible Exposure Limit (PEL) may be encountered during certain phases of the project. Personnel who are repeatedly overexposed could experience a permanent reduction in their ability to hear normal conversation. Appropriate hearing protection shall be worn when in elevated noise levels are present. It shall also be the responsibility of the FOM to ensure the application, use, and maintenance of occupational hearing protection is in accordance with policies established by TRIAD as well as 29 CFR 1910.95.

2.1.3 Uneven/Unstable Terrain

Planned activities described in the scope of work will bring field personnel into areas where this potential hazard exists. These work areas shall be discussed as part of the

safety briefing prior to the commencement of activities in that area. As with all jobs good housekeeping and alertness of job personnel will help eliminate this hazard.

2.1.4 Ambient Temperature Extremes (Heat Stress)

Ambient temperature extremes (hot working environments) may occur during performance of this work. Work performed when the ambient air temperatures exceed 70^0 F may result in varying levels of heat stress (heat rash, heat cramps, heat exhaustion, and heat stroke) depending on environmental factors such as temperature, wind speed, and humidity; physiological factors such as metabolic rate and moisture content of the skin; and other factors such as work load and protective clothing being worn. Please refer to the following **Heat Index Chart**:

%Hum / ^{0}F	40	45	50	55	60	65	70	75	80	85	90	95	100
110	136												
108	130	137											
106	124	130	137										
104	119	124	131	137									
102	114	119	124	130	137								
100	109	114	118	123	129	136							
98	105	109	113	117	123	128	134						
96	101	104	108	112	116	121	126	132					
94	97	100	102	106	110	113	118	124	129	135			
92	94	96	99	101	103	108	112	116	121	126	131		
90	91	93	95	97	100	103	105	109	113	117	122	127	132
88	88	89	91	93	95	98	100	103	108	110	113	117	121
86	85	87	88	89	91	93	95	97	100	102	105	108	112
84	83	84	85	86	88	89	90	92	94	96	98	100	103
82	81	82	83	84	84	85	86	88	89	90	91	93	95
80	80	80	81	81	82	82	83	84	84	85	86	86	87

With Prolonged Exposure and/or Physical Activity, the following may occur (color refers to chart above):

Extreme Danger: Heat Stroke Highly Likely

Danger: Heat Stroke, Heat Exhaustion, Muscle Cramps Likely

Extreme Caution: Heat Stroke, Heat Exhaustion, Muscle Cramps, and Fatigue Possible

Note: Heat Index values are devised for shady light wind conditions, exposure to full sunshine may increase these Heat Index values by 15^0 F.

These conditions can be debilitating or fatal when extreme. An understanding of the importance in preventing heat/cold stress coupled with the worker's awareness of the signs and symptoms of overexposure can significantly reduce the potential for adverse health effects.

2.1.4.1 Signs and Symptoms of Heat Stress

Heat Rash may result from continuous exposure to heat or humid air.

Heat Cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include:

- muscle spasms and
- pain in the hands, feet, and abdomen.

Heat Exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include:

- pale, cool, moist skin,
- heavy sweating,
- dizziness and fainting, and
- nausea.

Heat Stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are:

- Red, hot, usually dry skin,
- Lack of or reduced perspiration,
- Nausea,
- Dizziness and confusion, and
- Strong, rapid pulse, or coma .

Control Measures for Heat Stress:

- Provide adequate liquids to replace body fluids. Personnel must replace water and salt lost from sweating. Personnel must be encouraged to drink more than the amount required to satisfy thirst. Thirst satisfaction is not

an accurate indicator of adequate salt and fluid replacement.

- Replacement fluids can be commercial mixes such as Gatorade (dilute if possible). Maintain water temperature at 50° to 60°F. Have site personnel drink 16 ounces of fluid preferably water before beginning work.
- Establish a work regimen that will provide adequate rest periods for cooling down. This may require additional shifts of workers.
- Cooling devices such as cooling vests may be worn beneath protective garment.
- Breaks are to be taken in a cool rest area.
- Personnel shall remove impermeable protective garments during rest periods.
- Personnel shall not be assigned other tasks during rest periods.

2.1.5 Inclement Weather

As all work will be conducted outdoors, inclement weather may he encountered. As conditions may vary, it will be at the discretion of the FOM to temporarily suspend or terminate activities as conditions dictate.

2.1.6 Drilling Hazards

To minimize the potential associated with any drilling operation (i.e. auguring), safety glasses shall also be worn to minimize potential injuries to the eyes, and steel toe, steel shank boots with metatarsal guards shall be worn by the drilling crew and steel toe boots shall be worn by any support personnel during drilling operations.

2.1.7 Pinch and Compression Points

Pinch and compression points on the Geoprobe® direct-push rig or mobile drilling rig may result in injury. All equipment shall be maintained in proper working order, with machine guarding devices in place where required. Any equipment found to be lacking in these areas shall he removed from service.

2.1.8 Heavy Machinery

Ground personnel shall communicate with the operator before he/she enters and after he/she leaves that operator's work area. Only qualified personnel shall operate heavy equipment.

2.2 CHEMICAL HAZARDS

Based on previous sampling events performed at the Jefferson Orchards, Parcel A Site the following contaminants of potential concern (COPCs) may be associated with the Jefferson Orchards, Parcel A Site:

- Inorganics: metals,
- Organics: organochlorine pesticides

Table 1.0 below identifies potential chemicals that may be present on-site and provides associated industrial hygiene data.

Table 1.0 Contaminants of Potential Concern and Associated Industrial Hygiene Data

CHEMICAL	PHYSICAL DESCRIPTION	EXPOSURE ROUTES	SYMPTOMS OF EXPOSURE.	1ST AID MEASURES	OSHA TWA	IP
Inorganics	Liquid to Solid	Inhalation, Absorption, Ingestion, Injection	Irrit. Eyes, Skin, Throat, Nose, Mouth, Nausea, Vomiting, Coughing	Wash affected area immediately; Give fresh air; Seek Med. Attn.; Flush eyes with water.	0.002 mg/m3 Minimal (Beryillium)	N/A
Organics	Ranging from a liquid to a gas.	Inhalation, Absorption, Ingestion, Injection	Irrit. Eyes, Skin, Throat, Nose, Mouth, Nausea, Vomiting, Coughing, Headache, Dizziness	Wash affected area immediately; Give fresh air; Seek Med. Attn.; Flush eyes with water	1 ppm Minimal (Benzene)	<10.6ev.

To minimize the potential for site workers to encounter chemical hazards, care shall be taken so that no soil or other material is accidentally ingested. The FOM will not permit eating, drinking, or tobacco use in or around work zones. All site personnel will thoroughly wash their hands and faces before eating, drinking, or smoking (NO EXCEPTIONS).

3.0 TRAINING

By signing this *HASP*, all personnel certify that they have completed the training required by OSHA 29 CFR 1910.120, including the annual updates, as necessary. By signing, personnel also certify they have read and understand this *HASP*, and will abide with all of its requirements and provisions. Proper documentation shall be kept on-file by the HSO, and shall be made available for inspection if requested.

4.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE shall be required for various field activities and will be selected to minimize the potential for chemical contamination through the following routes of exposure: inhalation, ingestion, injection, and absorption. Selection of PPE will be determined by the HSO in this *HASP* and may be modified during the course of the work by the FOM only after consultation and approval by the HSO. In addition, PPE will also be selected to minimize exposure to physical hazards. All field personnel shall wear the following PPE:

- Inner Nitrile Gloves (while sampling)
- Work Gloves
- Eye Protection (while sampling)
- Steel Toe Boots with Steel Shanks that extend over the ankle
- Hearing Protection (while working within areas of elevated noise levels)

5.0 MEDICAL SURVEILLANCE

All TRIAD personnel who may come in contact with hazardous materials during field operations shall be medically monitored under the TRIAD medical monitoring program, in accordance with OSHA 29 CFR 1910.120 (f). At no time during field operations may a TRIAD employee or any employee subcontracted by TRIAD on this project he present on-site without current medical monitoring status.

6.0 MONITORING

Periodic monitoring utilizing a Photo Ionization Detector (PID) of sampling locations and samples may be performed to ensure no exposure over OSHA PELs are encountered with respect to volatile or semi-volatile organic compounds. Should PID reading of 3 Parts Per Million (PPM) above background levels be encountered in the breathing zone in sampling locations or while samples are being evaluated site activities shall he terminated and the location re-evaluated with a higher level of protection. TRIAD does not anticipate encountering an oxygen deficient atmosphere during this project.

7.0 SITE CONTROL MEASURES

Only designated and authorized TRIAD personnel or subcontractors shall be permitted to enter the work zone. This shall be regulated by the FOM. All personnel are to be in voice or visual contact with each other at all times.

8.0 DECONTAMINATION

The TRIAD FOM will implement decontamination activities in accordance with the provisions of OSHA 29 CFR 1910.120(k) *Decontamination*. The FOM will establish decontamination procedures in consultation with the TRIAD HSO. Decontamination procedures shall be monitored by the FOM to determine effectiveness. Components of decontamination shall include:

- The number and layout of decontamination stations
- Decontamination equipment needed
- Appropriate decontamination methods

- Methods to minimize site personnel contact with contaminants during removal of PPE.

Decontamination procedures shall be revised whenever the type of PPE or equipment changes, the site conditions change, or the site hazards are reassessed based on new information.

Decontamination zones will be located so as to minimize the potential for contamination. The location of these zones shall be determined based on site reconnaissance performed by the FOM.

All field equipment and non-disposable PPE will be decontaminated before personnel exit the site.

9.0 EMERGENCY RESPONSE PLAN

In the event of a serious injury, fire, or other emergency, TRIAD shall notify emergency services by calling **911.** In the event that an injury is serious enough to require transport to the nearest hospital by ambulance, this need will be coordinated by the FOM. **All injuries of a serious or non-serious nature will immediately be reported to the PM and/or the HSC.**

The following is a list of phone numbers to be used in the event of an emergency:

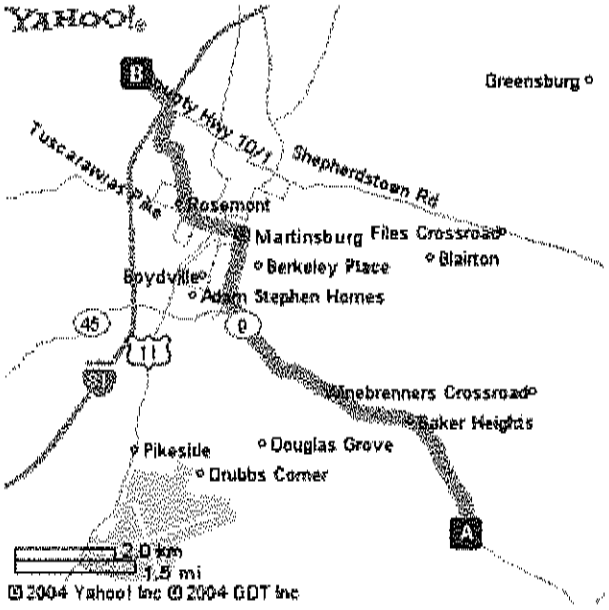
Fire	911	
Ambulance	911	
Off-site TRIAD Contact	Jeffrey Mitchell	Work: 540-667-9300
HSC	Lloyd C. Winters	Mobile: 540-539-0691
FOM	Dave Duncan	Mobile: 540-454-4742

The nearest hospital is City Hospital located at the intersection of Dry Run Road and Tavern Road in Martinsburg, WV (304-264-1000). A secondary hospital is Jefferson Memorial Hospital, which is located at 300 South Preston Street in Ranson, WV (304-728-1600).

Driving directions and maps to both hospitals are provided on the following pages:

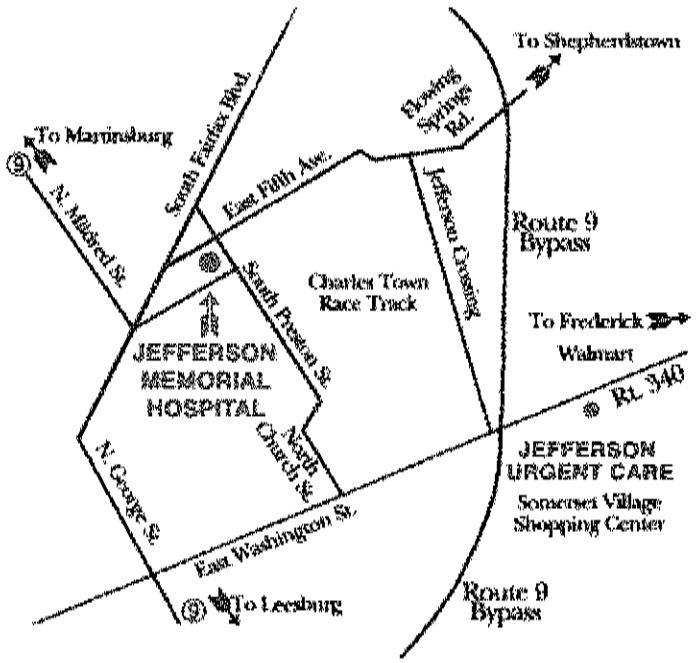
Directions to City Hospital, Martinsburg, WV:

1. Exit Site and turn R on **COUNTY HWY 9** - go **3.9** mi
2. Continue on **APPLE HARVEST DR** - go **0.3** mi
3. Continue on **HACK WILSON WAY** - go **0.4** mi
4. Turn R on **S QUEEN ST** - go **0.8** mi
5. Turn L on **W KING ST** - go **0.7** mi
6. Turn R on **S TENNESSEE AVE** - go **0.1** mi
7. Continue on **N TENNESSEE AVE** - go **0.9** mi
8. Turn R on **DRY RUN RD** - go **1.1** mi
9. Arrive at **DRY RUN RD, MARTINSBURG**



Directions to Jefferson Memorial Hospital, Ranson, WV:

1. Exit Site and turn (L) on **STATE RT. 9**
2. Continue East on **STATE RT. 9** to Ranson- go @ **5** m
3. Follow blue hospital sign and **Exit** at the **Charles Town Race Track**
4. Turn (R) at the four-way stop onto **East 5th Ave** past the back gate of the Charles Town Race Track (.1 mile).
5. Turn (L) (South) onto **South Preston Street** (.1 mile).
6. **Hospital** is on the Corner at: **300 S. Preston Street**



10.0 CONFINED SPACE ENTRY

There will be no Confined Space Entry on this project.

11.0 SPILL CONTAINMENT

The only probable spill will be from water used for decontamination procedures.

12.0 ACKNOWLEDGMENT

I hereby acknowledge that I have read this *Health and Safety Plan*, that I understand it, and that I agree to comply with its provisions.

NAME	SIGNATURE	DATE

Triad Phase II Environmental Site Assessment (July 2003)

P.O. Box 2397
Winchester, VA 22604
Phone 540-667-9300
FAX 540-667-2260

TRIAD

July 15, 2003

Jefferson Orchards, Inc.
c/o
Mr. David Ralston
1703 Red Oak Circle
Reston, VA 20190

Jefferson Orchards, Inc.
55-0471930

RE: Report of Sampling and Analysis for the Eight (8) RCRA Metals and Pesticides
Approximate 513-Acre Jefferson Orchards, Inc. Property
Jefferson County, West Virginia
TRIAD Project No. 07-03-0225

Dear Mr. Ralston:

In response to your request, Triad Engineering, Inc. (TRIAD) has completed the activities associated with groundwater, surface water, sediment, and surface soil sampling and laboratory testing for the eight (8) Resource Conservation and Recovery Act (RCRA) metals and pesticides at the above-referenced project site. The purpose of this investigation was to provide a limited assessment of the potential presence of contaminants of concern (COCs); specifically those associated with the historical use of the property as an orchard.

SAMPLING AND LABORATORY ANALYSIS

Our investigation included the collection of 41 samples at the subject site on June 11 and 12, 2003. These samples were collected in general accordance with U.S. EPA guidelines and were shipped to a West Virginia Department of Environmental Quality (WVDEP) certified laboratory for analytical testing of the eight RCRA metals and pesticides in accordance with EPA Methods SW6010B/SW7471A and SW8081A, respectively. The types and locations of these samples are listed as follows:

- Four (4) groundwater samples from the three deep wells (DW) and one shallow hand dug well (HW),
- One (1) surface water sample (PSW) and two (2) sediment samples (PSS) from the office/packing plant pond,
- Three (3) soil samples from the dump area (DA),
- Seven (7) surface soil samples from the four former/current pesticide mixing stations (MS) and three former/current pesticide storage areas (SA),
- Seven (7) surface soil samples from the old orchard areas (OO),
- Ten (10) surface soil samples from the young orchard areas (YO),
- Six (6) surface soil samples from non-orchard wooded areas for purposes of assessing background levels (BG), and
- One (1) surface soil sample, which was collected from a tire pile area (TP) in the non-orchard wooded area, and tested only for eight RCRA metals in accordance with EPA Methods SW6010B/SW7471A.

The approximate sample locations are illustrated on Plate A-1 of Appendix A to this report. These approximate locations are based on global positioning system (GPS) coordinates which are tabulated in Appendix B to this report. A copy of the laboratory analysis report is included as Appendix C to this report.

GROUNDWATER & SURFACE WATER RESULTS

Groundwater samples were collected from one (1) hand dug water well and three (3) deep groundwater wells on site. The hand dug well and one of the three deep wells (DW-GW1) were located adjacent to the residential structure on site. The hand dug well (HW-GW1) had a diameter of approximately 4 feet and a depth to groundwater of approximately 32.25 feet. DW-GW1, which was the only accessible wellhead of the three deep wells, had a depth to groundwater of approximately 40.2 feet with a 6-inch steel casing stick up of approximately 1 foot. According to information on the well cap, the well:

- was drilled in November 1981 by L.L. Brannon, Jr. of Inwood, West Virginia (304-229-5528/8511),
- to a depth of 210 feet with 42 feet of casing,
- and exhibited a yield of 4 gallons per minute.

The subject site contains a pond located northwest of the office/packing plant which previously received discharge from washing of fruit when the packing plant was in operation. One surface water sample was collected from this pond (PSW-1) for laboratory analysis.

The results of the laboratory analyses performed on the groundwater samples and the pond surface water sample did not identify detectable levels of pesticides. In regard to the metals analysis, Barium was detected in all four wells and the pond, but at very low levels as illustrated in Table - 1. The only other metal detected was Lead which was present at 0.014 part per million (ppm) in the water well (DW-GW3) located adjacent to the office/packing plant structure on site. This concentration is only slightly lower than the drinking water standard of 0.015 ppm. The sample was collected from a piping outlet and not directly from the well. Therefore it is possible that piping and/or solder could be a contributing source of the Lead.

TABLE - 1 GROUNDWATER & SURFACE WATER ANALYTICAL RESULTS

COC	MCL	Laboratory RLimit	SAMPLE IDENTIFICATION				
			DW-GW1	DW-GW2	DW-GW3	HW-GW1	PSW-1
Barium	2	0.0010	0.088	0.045	0.075	0.11	0.044[A]
Lead	0.015	0.0050			0.014		

All results are expressed in milligrams per liter (mg/L) or parts per million (ppm).
COC - Contaminant of Concern
MCL - U.S. EPA established Maximum Contaminant Level (MCL) for drinking water as listed on U.S. EPA Ground Water & Drinking Water website, accessed July 8, 2003.
Blank square indicates that the COC was not detected at the laboratory established Reporting Limit (RLimit).
A - According to the State of West Virginia Requirements Governing Water Quality Standards (46CSR1), a surface water quality standard based on the applicable water use category for the pond is not available per Table 1, Appendix E, 46CSR1.

SURFACE SOIL & POND SEDIMENT RESULTS

Risk Screening

Under the Voluntary Remediation and Redevelopment Rule (60CSR30), the State of West Virginia has established human health De Minimis risk-based standards which are considered protective of human health. As stated in the West Virginia Voluntary Remediation and Redevelopment Act (VRRA) guidance manual, "the De Minimis Standards apply to chemicals for which the primary exposure routes will be the ingestion from soil, or ingestion or inhalation from groundwater. For soil, the De Minimis Standard will be either the risk-based concentrations (RBCs) (found in Table 60-3B of the Rule and reproduced in Appendix C of the guidance manual) or the natural background levels of the contaminant, **whichever is higher**. RBC Standards are provided for both residential and industrial land use scenarios. For groundwater, the De Minimis will be the higher of the two, either the value from Appendix C of the guidance manual or the natural background concentration. No De Minimis Standards are available for surface water or sediments."

Table - 2 provides a comparison of the West Virginia De Minimis Levels Table, revised July 2001, to the concentrations of the 8 RCRA metals and pesticides identified within the soil and sediment samples. Comparison of the laboratory results to the De Minimis levels indicates the following:

- The Arsenic concentrations in all soil and sediment samples exceed the residential land use De Minimis level.
- The Arsenic concentrations in all old orchard soil samples exceed the industrial land use De Minimis level.
- The Arsenic concentrations for the Mixing Station 1& Storage Area 1 soil samples, MS-SS1 and SA-SS1, respectively, which were collected at the mixing station currently in use at the former packing shed in the eastern portion of the site, exceed the industrial land use De Minimis level.
- The concentration of Lead for the Storage Area 1 soil sample (SA-SS1) exceeds the industrial land use De Minimis level.
- All of the pesticide mixing station/storage area locations exhibited pesticide concentrations that exceed the residential land use De Minimis levels except for the mixing station/storage area location north/northwest of the residential structure on site (MS-SS4/SA-SS-3).

FINDINGS

- The portions of the site identified as the old orchard; the pesticide mixing station/storage area # 1 currently in use (former packing shed in the eastern portion of the site); and the pond located northwest of the office/packing plant contain elevated levels of Arsenic and/or pesticides in the soil which exceed the De Minimis values for residential or industrial land use as specified in West Virginia Voluntary Remediation and Redevelopment Act (VRRA) guidance manual.

- All other pesticide mixing station/storage area locations exhibited pesticide concentrations that exceed the residential land use De Minimis levels except for the pesticide mixing station/storage area location north/northwest of the residential structure on site (MS-SS4/SA-SS-3).

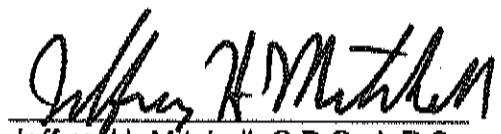
- The portions of the site identified as the young orchard and the wooded area containing the dump and tire pile did not have exceedances for either the residential or industrial land De Minimis values for any of the laboratory tested Contaminants of Concern (COCs) except for Arsenic. However, all of the Arsenic concentrations are lower than the maximum natural background level of 13 ppm and the mean natural background level of 8.64 ppm except for YO-SS10 at a level of 9.2 ppm.

- None of the groundwater samples from the water wells on site exhibited levels of COCs which exceed the U.S. EPA established Maximum Contaminant Levels (MCLs) for drinking water. However, Lead was present at 0.014 part per million (ppm) in the water well (DW-GW3) located adjacent to the office/packing plant on site. This concentration is only slightly lower than the drinking water standard of 0.015 ppm. The sample was collected from a piping outlet and not directly from the well. Therefore it is possible that piping and/or solder could be a contributing source of the Lead.

We appreciate the opportunity to have been involved in this project and will be available to answer any questions or respond to any comments you may have been concerning our investigation.

Sincerely,

TRIAD ENGINEERING, INC.



Jeffrey H. Mitchell, C.P.G., L.R.S.
Environmental Division Manager
Vice President

Attachments:

Appendix A - PLATE A-1 (SITE VICINITY/SAMPLE LOCATION MAP)
Appendix A - GPS COORDINATE TABLE
Appendix C - LABORATORY ANALYSIS REPORT

Background Screening

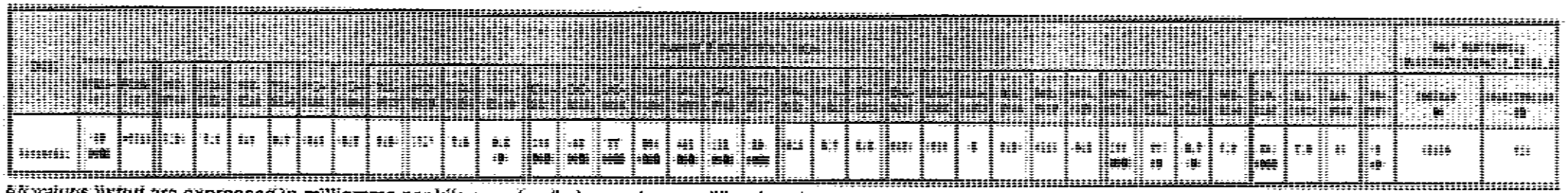
Table - 3 shows a comparison of the identified levels of Arsenic in the on-site soil samples to background levels in soils in Table 2.3, Natural Levels of Inorganics in Soils in West Virginia and Surrounding Areas, as presented in the West Virginia VRRA guidance manual, Version 1.0.

A comparison of the laboratory results to the natural background levels indicates the following:

- All soil samples collected from the young orchard (YO) exhibited Arsenic concentrations that are lower than the maximum of 13 ppm and the mean of 8.64 ppm except for YO-SS10 at a level of 9.2 ppm.

- All soil samples collected from the old orchard (OO), the Mixing Station #1 (MS-SS1) & Storage Area 1 (SA-SS1) location, which were collected at the mixing station currently in use at the former packing shed in the eastern portion of the site, and one of the sediment samples from the pond located northwest of the office/packing plant, exhibited Arsenic concentrations that exceed the maximum of 13 ppm.

TABLE - 3 ARSENIC BACKGROUND SCREENING



All values listed are expressed in milligrams per kilogram (mg/kg) or parts per million (ppm).
COC - Contaminant of Concern
PSS - Pond Sediment Sample
YOSS - Young Orchard Soil Sample
OOSS - Old Orchard Soil Sample
DASS - Dump Area Soil Sample
BGSS - Background Soil Sample obtained from the wooded area.
MSSS - Pesticide Mixing Station Soil Sample
SASS - Pesticide Storage Area Soil Sample
TPSS - Tire Pile Soil Sample obtained from the wooded area.
● - Concentration exceeds the mean background level.
■ - Concentration exceeds the maximum background level.

Table - 2 WV DE MINIMIS VALUE RISK SCREENING

COC	SAMPLE IDENTIFICATION																																			WV DE MINIMIS VALUES	
	PSS-1	PSS-2	YO-SS1	YO-SS2	YO-SS3	YO-SS4	YO-SS5	YO-SS6	YO-SS7	YO-SS8	YO-SS9	YO-SS10	OO-SS1	OO-SS2	OO-SS3	OO-SS4	OO-SS5	OO-SS6	OO-SS7	DA-SS1	DA-SS2	DA-SS3	BG-SS1	BG-SS2	BG-SS3	BG-SS4	BG-SS5	BG-SS6	MS-SS1	MS-SS2	MS-SS3	MS-SS4	SA-SS1	SA-SS2	SA-SS3	TP-SS1	RES. ●	IND. ■
Arsenic	15 ●	<5.8 ●	7.8 ●	7.1 ●	8.1 ●	6.7 ●	6.8 ●	6.5 ●	6.8 ●	7.7 ●	7.6 ●	9.2 ●	31 ●■	43 ●■	77 ●■	99 ●■	42 ●■	22 ●	28 ●■	6.2 ●	5.7 ●	5.3 ●	6.5 ●	5.9 ●	6 ●	6.9 ●	6.6 ●	4.8 ●	31 ●■	11 ●	8.7 ●	7.1 ●	34 ●■	7.9 ●	8 ●	9 ●	0.39	27
Barium	NO CONCENTRATIONS AT OR ABOVE THE RESIDENTIAL DE MINIMIS VALUE FOR ANY OF THE SAMPLES.																																				5400	130000
Chromium	NO CONCENTRATIONS AT OR ABOVE THE RESIDENTIAL DE MINIMIS VALUE FOR ANY OF THE SAMPLES.																																				31	660
Lead	32	58	16	16	17	14	19	13	16	19	19	14	75	120	210	260	140	58	55	22	24	20	17	23	21	25	17	22	89	68	54	63	4700 ●■	15	58	35	400	1000
Selenium	2.6		1	1.1	1.1		1				1.1	1.3	1.1	1.1	1.1					1.4	1.3							1.3						1.4		1.2	390	10000
Mercury																0.23	0.27																8.3				23	610
Endo-sulfan I																													1.8							NT	370*	5300*
Dieldren																															0.79 ●					NT	0.03	1.5
4,4-DDE	0.150		0.015	0.036	0.33			0.84	0.7	0.39	0.44	0.021	0.014		0.58	1.1	1.6	1.1	1	0.026	0.02			0.04	0.032	0.028	0.017	0.087	3.4 ●	2.9 ●	4.4 ●	0.5	5.7 ●		1.6	NT	1.7	120
Endrin															0.33		0.76												2.8	1.7	1		6.1			NT	18	260
Endo-Sulfan II																													1.3							NT	370*	5300*
4,4-DDD	0.038																												4.6		1.3					NT	2.4	170
4,4-DDT				0.015				0.35	0.2		0.18		0.013		0.56	1.3	1.6	0.41	0.43	0.018				0.02				0.02	0.71	4.5 ●	3.6 ●	0.14	11 ●	32 ●	0.44	NT	1.7	120
Endrin Ketone																													0.79	0.9						NT	NL	NL

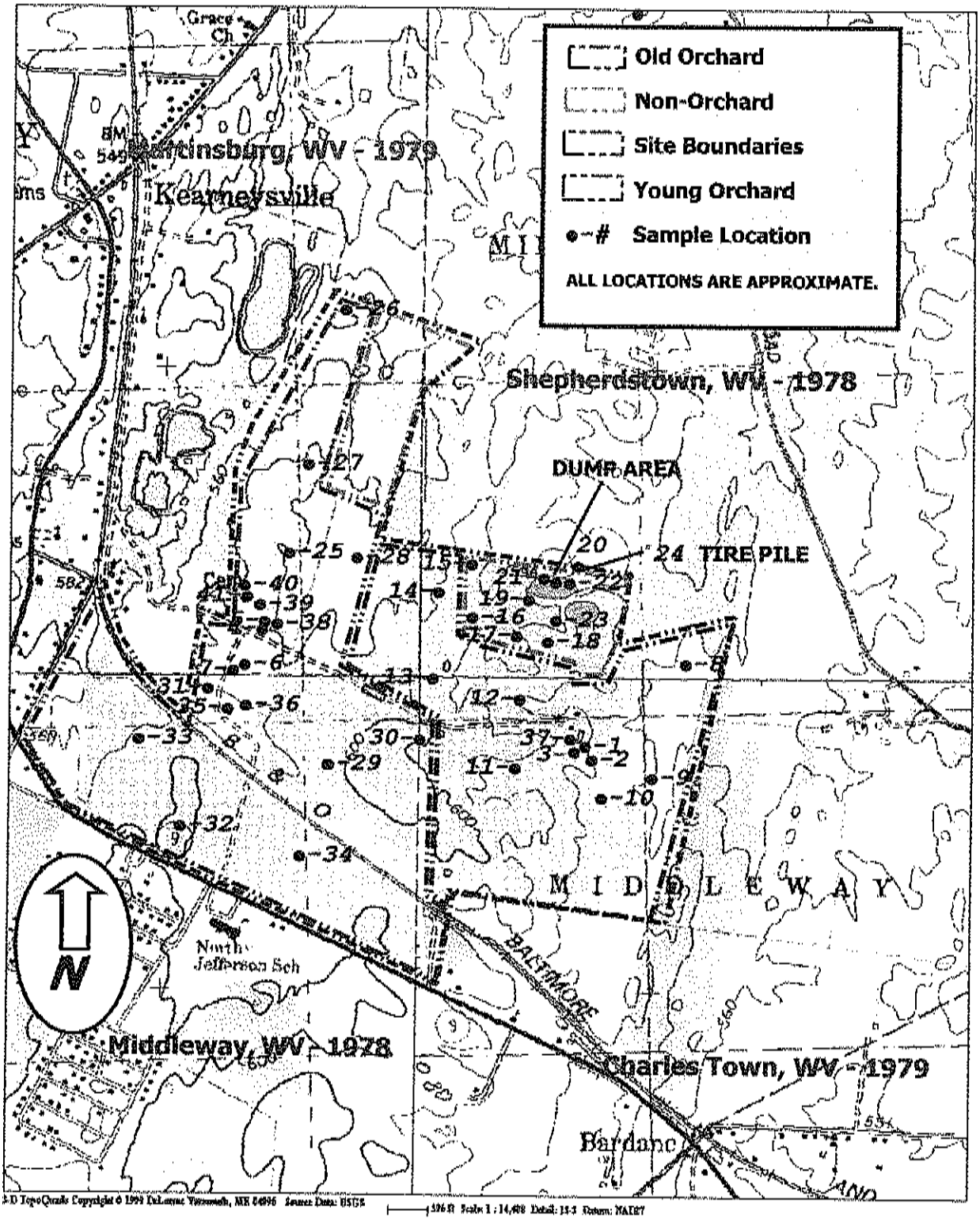
All values listed are expressed in milligrams per kilogram (mg/kg) or parts per million (ppm).
Blank square indicates that the Contaminant of Concern (COC) was not detected at the laboratory established Reporting Limit (RLimit).
Please note that the RLimits for some COCs were higher than the WV residential De Minimis values in samples YO-SS2 & SS6 - SS9; OO-SS3 - SS7; MS-SS-1 - SS-4; and SA-SS1 - SS-3 as a result of the dilution factors.

PSS - Pond Sediment sample
YOSS - Young Orchard Soil Sample
OOSS - Old Orchard Soil Sample
DASS - Dump Area Soil Sample
BGSS - Background Soil Sample obtained from the wooded area.
MSSS - Pesticide Mixing Station Soil Sample
SASS - Pesticide Storage Area Soil Sample
TPSS - Tire Pile Soil Sample obtained from the wooded area.

RES. - Residential Land Use
IND. - Industrial Land Use
● - Concentration exceeds the residential West Virginia De Minimis value.
■ - Concentration exceeds the industrial West Virginia De Minimis value.
NT - Not Tested
NL - Not Listed
* - Value listed is that of Endosulfan.

Appendix A

PLATE A-1



7.5-MINUTE SERIES (TOPOGRAPHIC)

ERAD	SITE VICINITY MAP	PLATE NO. A-1

Appendix B

GPS COORDINATE TABLE

513-ACRE JEFFERSON ORCHARDS, INC. PROPERTY SAMPLE LOCATIONS (June 2003)

PLATE A-1 ID	SAMPLE ID	NORTHING	WESTING
1	MSSS1	39°22'24"	77°52'09"
2	SASS1	39°22'24"	77°52'09"
3	MSSS2	39°22'25"	77°52'10"
4	MSSS3	39°22'34"	77°52'46"
5	SASS2	39°22'33"	77°52'46"
6	MSSS4	39°22'31"	77°52'51"
7	SASS3	39°22'31"	77°52'51"
8	OOSS1	39°22'32"	77°51'57"
9	OOSS2	39°22'17"	77°52'00"
10	OOSS3	39°22'18"	77°52'06"
11	OOSS4	39°22'21"	77°52'18"
12	OOSS5	39°22'28"	77°52'16"
13	OOSS7	39°22'30"	77°52'28"
14	OOSS6	39°22'39"	77°52'27"
15	BGSS4	39°22'40"	77°52'22"
16	BGSS5	39°22'37"	77°52'22"
17	BGSS3	39°22'35"	77°52'18"
18	BGSS6	39°22'33"	77°52'13"
19	BGSS1	39°22'37"	77°52'15"
20	DASS1	39°22'38"	77°52'13"
21	DASS2	39°22'38"	77°52'13"
22	DASS3	39°22'38"	77°52'12"
23	BGSS2	39°22'35"	77°52'13"
24	TPSS1	39°22'34"	77°52'11"
25	YOSS3	39°22'42"	77°52'46"
26	YOSS1	39°23'04"	77°52'39"
27	YOSS2	39°22'50"	77°52'43"
28	YOSS4	39°22'40"	77°52'38"
29	YOSS6	39°22'21"	77°52'41"
30	YOSS7	39°22'23"	77°52'30"
31	YOSS5	39°22'30"	77°52'57"
32	YOSS9	39°22'16"	77°52'57"
33	YOSS8	39°22'24"	77°53'03"
34	YOSS10	39°22'14"	77°52'44"
35	HWGW1	39°22'27"	77°52'52"
36	DWGW1	39°22'28"	77°52'51"
37	DWGW2	39°22'25"	77°52'10"
38	DWGW3	39°22'34"	77°52'46"
39	PSW1	39°22'38"	77°52'50"
40	PSS1	39°22'38"	77°52'50"
41	PSS2	39°22'37"	77°52'50"

Appendix C

LABORATORY ANALYSIS REPORT

Laboratory Analysis Report

TRIAD ENGINEERING INC
JEFFERSON ORCHARD
CT&E Laboratory Delivery Group Number: TA3-F0-P335 Page 1

DATE: 07/01/03 COC:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in an attached case narrative. Release of the data contained in the hard copy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

A case narrative is not required.

Reference	Sample Description	Sampled	Laboratory Number
DW-GW1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-001
DW-GW2	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-002
DW-GW3	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-003
HW-GW1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-004
PSW-1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-005
PSS-1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-006
PSS-2	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-007
YO-SS1	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-008
YO-SS2	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-009
YO-SS3	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-010
YO-SS4	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-011
YO-SS5	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-012
YO-SS6	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-013
YO-SS7	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-014
YO-SS8	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-015
YO-SS9	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-016
YO-SS10	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-017

Submitted by,

Darris J. Holcomb

Project Manager

Laboratory Analysis Report

TRIAD ENGINEERING INC
JEFFERSON ORCHARD
CT&E Laboratory Delivery Group Number: TA3-F0-P335 Page 2

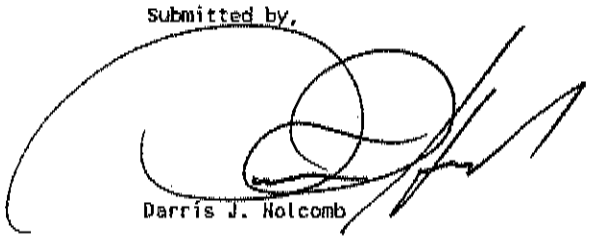
DATE: 07/01/03 COC:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in an attached case narrative. Release of the data contained in the hard copy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

A case narrative is not required.

Reference	Sample Description	Sampled	Laboratory Number
OO-SS1	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-018
OO-SS2	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-019
OO-SS3	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-020
OO-SS4	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-021
OO-SS5	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-022
OO-SS6	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-023
OO-SS7	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-024
DA-SS1	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-025
DA-SS2	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-026
DA-SS3	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-027
BG-SS1	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-028
BG-SS2	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-029
BG-SS3	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-030
BG-SS4	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-031
BG-SS5	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-032
BG-SS6	07-03-0225 GRAB	06/11/2003	TA3-F0-P335-033
MS-SS1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-034

Submitted by,



Darris J. Nolcomb

Project Manager

Laboratory Analysis Report

TRIAD ENGINEERING INC
JEFFERSON ORCHARD
CT&E Laboratory Delivery Group Number: TA3-F0-P335 Page 3

DATE: 07/01/03

COC:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in an attached case narrative. Release of the data contained in the hard copy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

A case narrative is not required.

Reference	Sample Description	Sampled	Laboratory Number
MS-SS2	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-035
MS-SS3	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-036
MS-SS4	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-037
SA-SS1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-038
SA-SS2	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-039
SA-SS3	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-040
TP-SS1	07-03-0225 GRAB	06/12/2003	TA3-F0-P335-041

Submitted by,

Darris J. Nothomb

Project Manager

This report includes a total of 46 pages.

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-001 Page 1

DW-GW1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 14:50
Date Received 06/14/03 10:15

Type F Matrix WATER
Sampled by CLIENT

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
ARSENIC	7440-38-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
BARIUM	7440-39-3	0.088		0.0010	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.0010	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
CHROMIUM	7440-47-3	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
LEAD	7439-92-1	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:47 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.00020	mg/L	SW7470A	06/23/03 02:02 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
BETA-BHC	319-85-7	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
DELTA-BHC	319-86-8	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
GAMMA-BHC	58-89-9	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
HEPTACHLOR	76-44-8	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ALDRIN	309-00-2	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ENDOSULFAN I	959-98-8	ND	U	0.015	ug/L	SW8081A	06/27/03 13:41 tep	1.0
DIELDRIN	60-57-1	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
4,4-DDE	72-55-9	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ENDRIN	72-20-8	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ENDOSULFAN II	33213-65-9	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
4,4-DDD	72-54-8	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ENDOSULFAN SULFATE	1031-07-8	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
4,4-DDT	50-29-3	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
METHOXYCHLOR	72-43-5	ND	U	0.15	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ENDRIN KETONE	53494-70-5	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
ENDRIN ALDEHYDE	7421-93-4	ND	U	0.030	ug/L	SW8081A	06/27/03 13:41 tep	1.0
TECHNICAL CHLORDANE	57-74-9	ND	U	0.15	ug/L	SW8081A	06/27/03 13:41 tep	1.0
TOXAPHENE	8001-35-2	ND	U	0.15	ug/L	SW8081A	06/27/03 13:41 tep	1.0
SURROGATE RESULTS								
TETRACHLORO-M-XYLENE	877-09-8	0.066		0.0038	ug/L	SW8081A	06/27/03 13:41 tep	1.0
TETRACHLORO-M-XYLENE	877-09-8	106			% REC	SW8081A	06/27/03 13:41 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	0.065		0.0038	ug/L	SW8081A	06/27/03 13:41 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	104			% REC	SW8081A	06/27/03 13:41 tep	1.0

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-002 Page 1

DW-GW2
07-03-0225 GRAB

COC
Date Sampled 06/12/03 15:10
Date Received 06/14/03 10:15

Type F Matrix WATER
Sampled by CLIENT

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
ARSENIC	7440-38-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
BARIUM	7440-39-3	0.045		0.0010	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.0010	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
CHROMIUM	7440-47-3	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
LEAD	7439-92-1	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 15:55 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.00020	mg/L	SW747DA	06/23/03 02:05 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
BETA-BHC	319-85-7	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
DELTA-BHC	319-86-8	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
GAMMA-BHC	58-89-9	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
HEPTACHLOR	76-44-8	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ALDRIN	309-00-2	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ENDOSULFAN I	959-98-8	ND	U	0.015	ug/L	SW8081A	06/27/03 14:16 tep	1.0
DIELDRIN	60-57-1	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
4,4-DDE	72-55-9	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ENDRIN	72-20-8	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ENDOSULFAN II	33213-65-9	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
4,4-DDD	72-54-8	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ENDOSULFAN SULFATE	1031-07-8	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
4,4-DDT	50-29-3	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
METHOXYCHLOR	72-43-5	ND	U	0.15	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ENDRIN KETONE	53494-70-5	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
ENDRIN ALDEHYDE	7421-93-4	ND	U	0.030	ug/L	SW8081A	06/27/03 14:16 tep	1.0
TECHNICAL CHLORDANE	57-74-9	ND	U	0.15	ug/L	SW8081A	06/27/03 14:16 tep	1.0
TOXAPHENE	8001-35-2	ND	U	0.15	ug/L	SW8081A	06/27/03 14:16 tep	1.0
SURROGATE RESULTS								
TETRACHLORO-M-XYLENE	877-09-8	0.063		0.0038	ug/L	SW8081A	06/27/03 14:16 tep	1.0
TRACHLORO-M-XYLENE	877-09-8	101			% REC	SW8081A	06/27/03 14:16 tep	1.0
CACHLOROBIPHENYL	2051-24-3	0.071		0.0038	ug/L	SW8081A	06/27/03 14:16 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	113			% REC	SW8081A	06/27/03 14:16 tep	1.0

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FO-P335-003

DW-GW3
07-03-0225 GRAB

COC
Date Sampled 06/12/03 15:25
Date Received 06/14/03 10:15

Type F Matrix WATER
Sampled by CLIENT

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
ARSENIC	7440-38-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
BARIUM	7440-39-3	0.075		0.0010	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.0010	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
CHROMIUM	7440-47-3	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
LEAD	7439-92-1	0.014		0.0050	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:13 JWJ	1.0
...CURY, TOTAL	7439-97-6	ND	U	0.00020	mg/L	SW7470A	06/22/03 22:34 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
BETA-BHC	319-85-7	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
DELTA-BHC	319-86-8	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
GAMMA-BHC	58-89-9	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
HEPTACHLOR	76-44-8	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ALDRIN	309-00-2	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ENDOSULFAN I	959-98-8	ND	U	0.015	ug/L	SW8081A	06/27/03 14:52 tep	1.0
DIELDRIN	60-57-1	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
4,4-DDE	72-55-9	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ENDRIN	72-20-8	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ENDOSULFAN II	33213-65-9	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
4,4-DDD	72-54-8	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ENDOSULFAN SULFATE	1031-07-8	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
4,4-DDT	50-29-3	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
METHOXYCHLOR	72-43-5	ND	U	0.15	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ENDRIN KETONE	53494-70-5	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
ENDRIN ALDEHYDE	7421-93-4	ND	U	0.030	ug/L	SW8081A	06/27/03 14:52 tep	1.0
TECHNICAL CHLORDANE	57-74-9	ND	U	0.15	ug/L	SW8081A	06/27/03 14:52 tep	1.0
TOXAPHENE	8001-35-2	ND	U	0.15	ug/L	SW8081A	06/27/03 14:52 tep	1.0
SURROGATE RESULTS								
TETRACHLORO-M-XYLENE	877-09-8	0.045		0.0038	ug/L	SW8081A	06/27/03 14:52 tep	1.0
...TRACHLORO-M-XYLENE	877-09-8	72			% REC	SW8081A	06/27/03 14:52 tep	1.0
...ACHLOROBIPHENYL	2051-24-3	0.069		0.0038	ug/L	SW8081A	06/27/03 14:52 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	110			% REC	SW8081A	06/27/03 14:52 tep	1.0

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-006 Page 1

PSS-1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 15:40
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 40

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ani	Dilf
SILVER	7440-22-4	ND	U	1.9	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
ARSENIC	7440-38-2	15		1.9	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
BARIUM	7440-39-3	39		0.38	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.38	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
CHROMIUM	7440-47-3	38		1.9	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
LEAD	7439-92-1	32		1.9	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
SELENIUM	7782-49-2	2.6		1.9	mg/Kg	Y	SW6010B	06/20/03 17:04 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.25	mg/kg	Y	SW7471A	06/18/03 16:04 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
BETA-BHC	319-85-7	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
DELTA-BHC	319-86-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
HEPTACHLOR	76-44-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ALDRIN	309-00-2	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ENDOSULFAN I	959-98-8	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
DIELDRIN	60-57-1	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
4,4-DDE	72-55-9	150		25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ENDRIN	72-20-8	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ENDOSULFAN II	33213-65-9	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
4,4-DDD	72-54-8	38		25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
4,4-DDT	50-29-3	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
METHOXYCHLOR	72-43-5	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ENDRIN KETONE	53494-70-5	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	25	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	210	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
TOXAPHENE	8001-35-2	ND	U	430	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/27/03 20:49 tep	10
CACHLOROBIPHENYL	2051-24-3	0.0	D	12	ug/Kg	Y	SW8081A	06/27/03 20:49 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/27/03 20:49 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-007 Page 1

PSS-2
07-03-0225 GRAB

COC
Date Sampled 06/12/03 15:45
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 13

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	5.8	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
ARSENIC	7440-38-2	ND	U	5.8	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
BARIUM	7440-39-3	57		1.2	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
CADMIUM	7440-43-9	1.7		1.2	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
CHROMIUM	7440-47-3	28		5.8	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
LEAD	7439-92-1	58		5.8	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
SELENIUM	7782-49-2	ND	U	5.8	mg/Kg	Y	SW6010B	06/20/03 17:12 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.77	mg/kg	Y	SW7471A	06/18/03 16:05 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
BETA-BHC	319-85-7	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
DELTA-BHC	319-86-8	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
HEPTACHLOR	76-44-8	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ALDRIN	309-00-2	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	13	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ENDOSULFAN I	959-98-8	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
DIELDRIN	60-57-1	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
4,4-DDE	72-55-9	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ENDRIN	72-20-8	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ENDOSULFAN II	33213-65-9	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
4,4-DDD	72-54-8	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
4,4-DDT	50-29-3	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
METHOXYCHLOR	72-43-5	ND	U	130	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ENDRIN KETONE	53494-70-5	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	25	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	24	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
TOXAPHENE	8001-35-2	ND	U	1300	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	1.4	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/27/03 21:24 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	1.4	ug/L	Y	SW8081A	06/27/03 21:24 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/27/03 21:24 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-008 Page 1

YO-S61
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:55
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 87

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.86	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
ARSENIC	7440-38-2	7.8		0.86	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
BARIUM	7440-39-3	23		0.17	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.17	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
CHROMIUM	7440-47-3	19		0.86	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
LEAD	7439-92-1	16		0.86	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
SELENIUM	7782-49-2	1.0		0.86	mg/Kg	Y	SW6010B	06/20/03 17:19 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.11	mg/kg	Y	SW7471A	06/18/03 16:09 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
BETA-BHC	319-85-7	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
DELTA-BHC	319-86-8	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
HEPTACHLOR	76-44-8	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ALDRIN	309-00-2	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ENDOSULFAN I	959-98-8	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
DIELDRIN	60-57-1	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
4,4-DDE	72-55-9	15		11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ENDRIN	72-20-8	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ENDOSULFAN II	33213-65-9	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
4,4-DDD	72-54-8	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
4,4-DDT	50-29-3	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
METHOXYCHLOR	72-43-5	ND	U	57	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ENDRIN KETONE	53494-70-5	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	11	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	95	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
TOXAPHENE	8001-35-2	ND	U	190	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/27/03 22:00 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	5.7	ug/Kg	Y	SW8081A	06/27/03 22:00 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/27/03 22:00 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-009 Page 1

YO-SSZ
07-03-0225 GRAB

COC
Date Sampled 06/11/03 16:05
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 84

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.89	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
ARSENIC	7440-38-2	7.1		0.89	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
BARIUM	7440-39-3	62		0.18	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
CHROMIUM	7440-47-3	14		0.89	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
LEAD	7439-92-1	16		0.89	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
SELENIUM	7782-49-2	1.1		0.89	mg/Kg	Y	SW6010B	06/20/03 17:26 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:10 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
BETA-BHC	319-85-7	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
DELTA-BHC	319-86-8	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
HEPTACHLOR	76-44-8	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ALDRIN	309-00-2	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ENDOSULFAN I	959-98-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
DIELDRIN	60-57-1	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
4,4-DDE	72-55-9	36		12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ENDRIN	72-20-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ENDOSULFAN II	33213-65-9	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
4,4-DDD	72-54-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
4,4-DDT	50-29-3	15		12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
METHOXYCHLOR	72-43-5	ND	U	59	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ENDRIN KETONE	53494-70-5	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	99	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
TOXAPHENE	8001-35-2	ND	U	200	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
RACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/27/03 22:35 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	5.9	ug/Kg	Y	SW8081A	06/27/03 22:35 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/27/03 22:35 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-010 Page 1

YO-SS3
07-03-0225 GRAB

COC
Date Sampled 06/11/03 16:15
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 82

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.91	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
ARSENIC	7440-38-2	8.1		0.91	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
BARIUM	7440-39-3	90		0.18	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
CHROMIUM	7440-47-3	15		0.91	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
LEAD	7439-92-1	17		0.91	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
SELENIUM	7782-49-2	1.1		0.91	mg/Kg	Y	SW6010B	06/20/03 18:37 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:11 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
BETA-BHC	319-85-7	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
DELTA-BHC	319-86-8	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
HEPTACHLOR	76-44-8	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ALDRIN	309-00-2	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ENDOSULFAN I	959-98-8	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
DIELDRIN	60-57-1	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
4,4-DDE	72-55-9	330		120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ENDRIN	72-20-8	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ENDOSULFAN II	33213-65-9	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
4,4-DDD	72-54-8	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
4,4-DDT	50-29-3	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
METHOXYCHLOR	72-43-5	ND	U	610	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ENDRIN KETONE	53494-70-5	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	120	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1000	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
TOXAPHENE	8001-35-2	ND	U	1000	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/27/03 23:11 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	61	ug/Kg	Y	SW8081A	06/27/03 23:11 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/27/03 23:11 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-011 Page 1

YO-S54
07-03-0225 GRAB

COC
Date Sampled 06/11/03 16:25
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 85

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.88	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
ARSENIC	7440-38-2	6.7		0.88	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
BARIUM	7440-39-3	60		0.18	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
CHROMIUM	7440-47-3	13		0.88	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
LEAD	7439-92-1	14		0.88	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.88	mg/Kg	Y	SW6010B	06/20/03 18:44 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:15 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
BETA-BHC	319-85-7	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
DELTA-BHC	319-86-8	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
HEPTACHLOR	76-44-8	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ALDRIN	309-00-2	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ENDOSULFAN I	959-98-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
DIELDRIN	60-57-1	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
4,4-DDE	72-55-9	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ENDRIN	72-20-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ENDOSULFAN II	33213-65-9	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
4,4-DDD	72-54-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
4,4-DDT	50-29-3	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
METHOXYCHLOR	72-43-5	ND	U	58	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ENDRIN KETONE	53494-70-5	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	12	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	97	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
TOXAPHENE	8001-35-2	ND	U	200	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/27/03 23:46 tep	10
CACHLOROBIPHENYL	2051-24-3	0.0	D	5.8	ug/Kg	Y	SW8081A	06/27/03 23:46 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/27/03 23:46 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-012 Page 1

YO-SS5
07-03-0225 GRAB

COC
Date Sampled 06/11/03 16:40
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 81

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.92	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
ARSENIC	7440-38-2	6.8		0.92	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
BARIUM	7440-39-3	72		0.18	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
CHROMIUM	7440-47-3	15		0.92	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
LEAD	7439-92-1	19		0.92	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
SELENIUM	7782-49-2	1.0		0.92	mg/Kg	Y	SW6010B	06/20/03 18:51 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:16 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
BETA-BHC	319-85-7	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
DELTA-BHC	319-86-8	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
HEPTACHLOR	76-44-8	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ALDRIN	309-00-2	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ENDOSULFAN I	959-98-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
DIELDRIN	60-57-1	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
4,4-DDE	72-55-9	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ENDRIN	72-20-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ENDOSULFAN II	33213-65-9	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
4,4-DDD	72-54-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
4,4-DDT	50-29-3	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
METHOXYCHLOR	72-43-5	ND	U	61	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ENDRIN KETONE	53494-70-5	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	100	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
TOXAPHENE	8001-35-2	ND	U	210	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 00:22 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	6.1	ug/Kg	Y	SW8081A	06/28/03 00:22 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 00:22 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FD-P335-013 Page 1

YD-SS6
07-03-0225 GRAB

COC
Date Sampled 06/11/03 16:50
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 78

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.96	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
ARSENIC	7440-38-2	6.5		0.96	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
BARIUM	7440-39-3	70		0.19	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.19	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
CHROMIUM	7440-47-3	12		0.96	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
LEAD	7439-92-1	13		0.96	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.96	mg/Kg	Y	SW6010B	06/20/03 18:58 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 16:18 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
BETA-BHC	319-85-7	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
DELTA-BHC	319-86-8	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
HEPTACHLOR	76-44-8	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ALDRIN	309-00-2	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ENDOSULFAN I	959-98-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
DIELDRIN	60-57-1	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
4,4-DDE	72-55-9	840		130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ENDRIN	72-20-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ENDOSULFAN II	33213-65-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
4,4-DDD	72-54-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
4,4-DDT	50-29-3	350		130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
METHOXYCHLOR	72-43-5	ND	U	640	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ENDRIN KETONE	53494-70-5	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
TOXAPHENE	8001-35-2	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 00:57 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	64	ug/Kg	Y	SW8081A	06/28/03 00:57 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 00:57 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-014

YO-S57
07-03-0225 GRAB

COC
Date Sampled 06/11/03 17:05
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 84

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ani	DilF
SILVER	7440-22-4	ND	U	0.90	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
ARSENIC	7440-38-2	6.8		0.90	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
BARIUM	7440-39-3	99		0.18	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
CHROMIUM	7440-47-3	23		0.90	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
LEAD	7439-92-1	16		0.90	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.90	mg/Kg	Y	SW6010B	06/20/03 19:06 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:19 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
BETA-BHC	319-85-7	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
DELTA-BHC	319-86-8	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
HEPTACHLOR	76-44-8	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ALDRIN	309-00-2	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ENDOSULFAN I	959-98-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
DIELDRIN	60-57-1	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
4,4-DDE	72-55-9	700		120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ENDRIN	72-20-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ENDOSULFAN II	33213-65-9	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
4,4-DDD	72-54-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
4,4-DDT	50-29-3	200		120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
METHOXYCHLOR	72-43-5	ND	U	600	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ENDRIN KETONE	53494-70-5	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1000	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
TOXAPHENE	8001-35-2	ND	U	1000	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 01:32 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	60	ug/Kg	Y	SW8081A	06/28/03 01:32 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 01:32 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FO-P335-015 Page 1

YO-SS8
07-03-0225 GRAB

COC
Date Sampled 06/11/03 17:25
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 80

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.94	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
ARSENIC	7440-38-2	7.7		0.94	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
BARIUM	7440-39-3	73		0.19	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.19	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
CHROMIUM	7440-47-3	14		0.94	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
LEAD	7439-92-1	19		0.94	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.94	mg/Kg	Y	SW6010B	06/20/03 19:13 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:20 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
BETA-BHC	319-85-7	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
DELTA-BHC	319-86-8	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
HEPTACHLOR	76-44-8	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ALDRIN	309-00-2	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ENDOSULFAN I	959-98-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
DIELDRIN	60-57-1	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
4,4-DDE	72-55-9	390		120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ENDRIN	72-20-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ENDOSULFAN II	33213-65-9	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
4,4-DDD	72-54-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
4,4-DDT	50-29-3	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
METHOXYCHLOR	72-43-5	ND	U	620	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ENDRIN KETONE	53494-70-5	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1000	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
TOXAPHENE	8001-35-2	ND	U	1000	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 06:16 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	62	ug/Kg	Y	SW8081A	06/28/03 06:16 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 06:16 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-016

YO-SS9
07-03-0225 GRAB

COC
Date Sampled 06/11/03 17:35
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 80

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.94	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
ARSENIC	7440-38-2	7.6		0.94	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
BARIUM	7440-39-3	54		0.19	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.19	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
CHROMIUM	7440-47-3	11		0.94	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
LEAD	7439-92-1	19		0.94	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
SELENIUM	7782-49-2	1.1		0.94	mg/Kg	Y	SW6010B	06/20/03 19:20 JWJ	1.0
RCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:21 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
BETA-BHC	319-85-7	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
DELTA-BHC	319-86-8	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
HEPTACHLOR	76-44-8	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ALDRIN	309-00-2	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ENDOSULFAN I	959-98-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
DIELDRIN	60-57-1	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
4,4-DDE	72-55-9	440		120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ENDRIN	72-20-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ENDOSULFAN II	33213-65-9	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
4,4-DDD	72-54-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
4,4-DDT	50-29-3	180		120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
METHOXYCHLOR	72-43-5	ND	U	620	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ENDRIN KETONE	53494-70-5	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1000	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
TOXAPHENE	8001-35-2	ND	U	1000	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 06:51 tep	100
ACHLOROBIPHENYL	2051-24-3	0.0	D	62	ug/Kg	Y	SW8081A	06/28/03 06:51 tep	100
CACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 06:51 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FO-P335-017

YO-S$10
07-03-0225 GRAB

COC
Date Sampled 06/11/03 17:45
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 85

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.88	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
ARSENIC	7440-38-2	9.2		0.88	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
BARIUM	7440-39-3	38		0.18	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
CHROMIUM	7440-47-3	21		0.88	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
LEAD	7439-92-1	14		0.88	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
SELENIUM	7782-49-2	1.3		0.88	mg/Kg	Y	SW6010B	06/20/03 19:28 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:22 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
BETA-BHC	319-85-7	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
DELTA-BHC	319-86-8	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
HEPTACHLOR	76-44-8	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ALDRIN	309-00-2	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ENDOSULFAN I	959-98-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
DIELDRIN	60-57-1	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
4,4-DDE	72-55-9	21		12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ENDRIN	72-20-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ENDOSULFAN II	33213-65-9	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
4,4-DDD	72-54-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
4,4-DDT	50-29-3	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
METHOXYCHLOR	72-43-5	ND	U	59	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ENDRIN KETONE	53494-70-5	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	98	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
TOXAPHENE	8001-35-2	ND	U	200	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	6.0		5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
TETRACHLORO-M-XYLENE	877-09-8	152	*		% REC	Y	SW8081A	06/28/03 07:27 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	5.9	ug/Kg	Y	SW8081A	06/28/03 07:27 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 07:27 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-018 Page 1

00-SS1
07-03-0225 GRAB

COC
Date Sampled 06/11/03 14:15
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 82

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.91	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
ARSENIC	7440-38-2	31		0.91	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
BARIUM	7440-39-3	72		0.18	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
CHROMIUM	7440-47-3	20		0.91	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
LEAD	7439-92-1	75		0.91	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
SELENIUM	7782-49-2	1.1		0.91	mg/Kg	Y	SW6010B	06/20/03 19:35 JWJ	1.0
ERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:24 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
BETA-BHC	319-85-7	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
DELTA-BHC	319-86-8	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
HEPTACHLOR	76-44-8	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ALDRIN	309-00-2	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ENDOSULFAN I	959-98-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
DIELDRIN	60-57-1	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
4,4-DDE	72-55-9	14		12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ENDRIN	72-20-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ENDOSULFAN II	33213-65-9	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
4,4-DDD	72-54-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
4,4-DDT	50-29-3	13		12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
METHOXYCHLOR	72-43-5	ND	U	61	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ENDRIN KETONE	53494-70-5	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	12	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	100	Ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
TOXAPHENE	8001-35-2	ND	U	210	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
ETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 08:02 tep	10
CACHLOROBIPHENYL	2051-24-3	0.0	D	6.1	ug/Kg	Y	SW8081A	06/28/03 08:02 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 08:02 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-019 Page 1

00-SS2
07-03-0225 GRAB

COC
Date Sampled 06/11/03 14:25
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 78

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ani	Dilf
SILVER	7440-22-4	ND	U	0.96	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
ARSENIC	7440-38-2	43		0.96	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
BARIUM	7440-39-3	87		0.19	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.19	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
CHROMIUM	7440-47-3	26		0.96	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
LEAD	7439-92-1	120		0.96	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
SELENIUM	7782-49-2	1.1		0.96	mg/Kg	Y	SW6010B	06/20/03 20:04 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 16:25 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
BETA-BHC	319-85-7	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
DELTA-BHC	319-86-8	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
HEPTACHLOR	76-44-8	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ALDRIN	309-00-2	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ENDOSULFAN I	959-98-8	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
DIELDRIN	60-57-1	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
4,4-DDE	72-55-9	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ENDRIN	72-20-8	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ENDOSULFAN II	33213-65-9	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
4,4-DDD	72-54-8	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
4,4-DDT	50-29-3	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
METHOXYCHLOR	72-43-5	ND	U	64	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ENDRIN KETONE	53494-70-5	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	13	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	110	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
TOXAPHENE	8001-35-2	ND	U	220	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 08:38 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	6.4	ug/Kg	Y	SW8081A	06/28/03 08:38 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 08:38 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-020

00-SS3
07-03-0225 GRAB

COC
Date Sampled 06/11/03 14:50
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 76

070103 DB45 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.98	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
ARSENIC	7440-38-2	77		0.98	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
BARIUM	7440-39-3	64		0.20	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.20	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
CHROMIUM	7440-47-3	20		0.98	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
LEAD	7439-92-1	210		0.98	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
SELENIUM	7782-49-2	1.1		0.98	mg/Kg	Y	SW6010B	06/20/03 20:11 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 16:26 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
BETA-BHC	319-85-7	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
DELTA-BHC	319-86-8	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
HEPTACHLOR	76-44-8	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ALDRIN	309-00-2	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ENDOSULFAN I	959-98-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
DIELDRIN	60-57-1	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
4,4-DDE	72-55-9	580		130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ENDRIN	72-20-8	330		130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ENDOSULFAN II	33213-65-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
4,4-DDD	72-54-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
4,4-DDT	50-29-3	560		130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
METHOXYCHLOR	72-43-5	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ENDRIN KETONE	53494-70-5	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
TOXAPHENE	8001-35-2	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 09:13 tep	100
..CACHLOROBIPHENYL	2051-24-3	0.0	D	66	ug/Kg	Y	SW8081A	06/28/03 09:13 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 09:13 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-021 Page 1

00-SS4
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:00
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 74

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.0	mg/Kg	Y	SW6010B	06/20/03 20:10 JWJ	1.0
ARSENIC	7440-38-2	99		1.0	mg/Kg	Y	SW6010B	06/20/03 20:18 JWJ	1.0
BARIUM	7440-39-3	47		0.20	mg/Kg	Y	SW6010B	06/20/03 20:18 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.20	mg/Kg	Y	SW6010B	06/20/03 20:18 JWJ	1.0
CHROMIUM	7440-47-3	12		1.0	mg/Kg	Y	SW6010B	06/20/03 20:18 JWJ	1.0
LEAD	7439-92-1	260		1.0	mg/Kg	Y	SW6010B	06/20/03 20:18 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.0	mg/Kg	Y	SW6010B	06/20/03 20:18 JWJ	1.0
MERCURY, TOTAL	7439-97-6	0.23		0.13	mg/kg	Y	SW7471A	06/18/03 16:30 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
BETA-BHC	319-85-7	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
DELTA-BHC	319-86-8	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
HEPTACHLOR	76-44-8	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ALDRIN	309-00-2	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ENDOSULFAN I	959-98-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
DIELDRIN	60-57-1	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
4,4-DDE	72-55-9	1100		670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ENDRIN	72-20-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ENDOSULFAN II	33213-65-9	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
4,4-DDD	72-54-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
4,4-DDT	50-29-3	1300		670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
METHOXYCHLOR	72-43-5	ND	U	3400	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ENDRIN KETONE	53494-70-5	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5600	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
TOXAPHENE	8001-35-2	ND	U	5600	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 21:21 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D	340	ug/Kg	Y	SW8081A	06/28/03 21:21 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 21:21 tep	500

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FO-P335-022 Page 1

00-SS5
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:05
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 76

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.98	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
ARSENIC	7440-38-2	42		0.98	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
BARIUM	7440-39-3	69		0.20	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.20	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
CHROMIUM	7440-47-3	12		0.98	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
LEAD	7439-92-1	140		0.98	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.98	mg/Kg	Y	SW6010B	06/20/03 20:26 JWJ	1.0
.CURY, TOTAL	7439-97-6	0.27		0.13	mg/kg	Y	SW7471A	06/18/03 16:31 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
BETA-BHC	319-85-7	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
DELTA-BHC	319-86-8	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
HEPTACHLOR	76-44-8	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ALDRIN	309-00-2	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ENDOSULFAN I	959-98-8	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
DIELDRIN	60-57-1	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
4,4-DDE	72-55-9	1600		660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ENDRIN	72-20-8	760		660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ENDOSULFAN II	33213-65-9	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
4,4-DDD	72-54-8	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
4,4-DDT	50-29-3	1600		660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
METHOXYCHLOR	72-43-5	ND	U	3300	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ENDRIN KETONE	53494-70-5	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5500	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
TOXAPHENE	8001-35-2	ND	U	5500	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
""TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 21:56 tep	500
.ACHLOROBIPHENYL	2051-24-3	0.0	D	330	ug/Kg	Y	SW8081A	06/28/03 21:56 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 21:56 tep	500

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FD-P335-023 Page 1

00-SS6
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:20
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 75

070105 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.0	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
ARSENIC	7440-38-2	22		1.0	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
BARIUM	7440-39-3	77		0.20	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.20	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
CHROMIUM	7440-47-3	7.3		1.0	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
LEAD	7439-92-1	68		1.0	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.0	mg/Kg	Y	SW6010B	06/20/03 20:33 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 16:33 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
BETA-BHC	319-85-7	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
DELTA-BHC	319-86-8	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
HEPTACHLOR	76-44-8	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ALDRIN	309-00-2	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ENDOSULFAN I	959-98-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
DIELDRIN	60-57-1	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
4,4-DDE	72-55-9	1100		670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ENDRIN	72-20-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ENDOSULFAN II	33213-65-9	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
4,4-DDD	72-54-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
4,4-DDT	50-29-3	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
METHOXYCHLOR	72-43-5	ND	U	3300	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ENDRIN KETONE	53494-70-5	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5600	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
TOXAPHENE	8001-35-2	ND	U	5600	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 22:32 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D	330	ug/Kg	Y	SW8081A	06/28/03 22:32 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 22:32 tep	500
ALPHA-BHC	319-84-6	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FD-P335-023 Page 2

00-SS6
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:20
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 75

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
BETA-BHC	319-85-7	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
DELTA-BHC	319-86-8	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
HEPTACHLOR	76-44-8	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ALDRIN	309-00-2	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ENDOSULFAN I	959-98-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
DRIN	60-57-1	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
,4-DDE	72-55-9	1000		130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ENDRIN	72-20-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ENDOSULFAN II	33213-65-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
4,4-DDD	72-54-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
4,4-DDT	50-29-3	410		130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
METHOXYCHLOR	72-43-5	ND	U	670	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ENDRIN KETONE	53494-70-5	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
TOXAPHENE	8001-35-2	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 09:48 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	67	ug/Kg	Y	SW8081A	06/28/03 09:48 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 09:48 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FO-P335-024 Page 1

OO-SS7
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:25
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 69

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
ARSENIC	7440-38-2	28		1.1	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
BARIUM	7440-39-3	72		0.22	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.22	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
CHROMIUM	7440-47-3	9.7		1.1	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
LEAD	7439-92-1	88		1.1	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 20:40 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.14	mg/kg	Y	SW7471A	06/18/03 16:34 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
BETA-BHC	319-85-7	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
DELTA-BHC	319-86-8	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
HEPTACHLOR	76-44-8	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ALDRIN	309-00-2	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ENDOSULFAN I	959-98-8	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
DIELDRIN	60-57-1	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
4,4-DDE	72-55-9	1000		720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ENDRIN	72-20-8	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ENDOSULFAN II	33213-65-9	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
4,4-DDD	72-54-8	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
4,4-DDT	50-29-3	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
METHOXYCHLOR	72-43-5	ND	U	3600	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ENDRIN KETONE	53494-70-5	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	6000	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
TOXAPHENE	8001-35-2	ND	U	6000	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 23:07 tep	500
CACHLOROBIPHENYL	2051-24-3	0.0	D	360	ug/Kg	Y	SW8081A	06/28/03 23:07 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 23:07 tep	500
ALPHA-BHC	319-84-6	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-024

00-557
07-03-0225 GRAB

COC
Date Sampled 06/11/03 15:25
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 69

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
BETA-BHC	319-85-7	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
DELTA-BHC	319-86-8	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
HEPTACHLOR	76-44-8	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ALDRIN	309-00-2	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ENDOSULFAN I	959-98-8	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
DRIN	60-57-1	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
,4-DDE	72-55-9	1000		140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ENDRIN	72-20-8	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ENDOSULFAN II	33213-65-9	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
4,4-DDD	72-54-8	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
4,4-DDT	50-29-3	430		140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
METHOXYCHLOR	72-43-5	ND	U	720	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ENDRIN KETONE	53494-70-5	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1200	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
TOXAPHENE	8001-35-2	ND	U	1200	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 10:24 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	72	ug/Kg	Y	SW8081A	06/28/03 10:24 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 10:24 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-025

DA-SS1
07-03-0225 GRAB

COC
Date Sampled 06/11/03 11:30
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 59

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	1.3	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
ARSENIC	7440-38-2	6.2		1.3	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
BARIUM	7440-39-3	75		0.25	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.25	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
CHROMIUM	7440-47-3	13		1.3	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
LEAD	7439-92-1	22		1.3	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
SELENIUM	7782-49-2	1.4		1.3	mg/Kg	Y	SW6010B	06/20/03 21:46 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.17	mg/kg	Y	SW7471A	06/18/03 16:39 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
BETA-BHC	319-85-7	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
DELTA-BHC	319-86-8	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
HEPTACHLOR	76-44-8	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ALDRIN	309-00-2	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ENDOSULFAN I	959-98-8	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
DIELDRIN	60-57-1	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
4,4-DDE	72-55-9	26		17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ENDRIN	72-20-8	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ENDOSULFAN II	33213-65-9	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
4,4-DDD	72-54-8	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
4,4-DDT	50-29-3	18		17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
METHOXYCHLOR	72-43-5	ND	U	84	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ENDRIN KETONE	53494-70-5	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	17	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
TOXAPHENE	8001-35-2	ND	U	290	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 10:59 tep	10
...CACHLOROBIPHENYL	2051-24-3	0.0	D	8.4	ug/Kg	Y	SW8081A	06/28/03 10:59 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 10:59 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-026 Page 1

DA-552
07-03-0225 GRAB

COC
Date Sampled 06/11/03 11:45
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 62

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
ARSENIC	7440-38-2	5.7		1.2	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
BARIUM	7440-39-3	110		0.24	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.24	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
CHROMIUM	7440-47-3	10		1.2	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
LEAD	7439-92-1	24		1.2	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
SELENIUM	7782-49-2	1.3		1.2	mg/Kg	Y	SW6010B	06/20/03 21:53 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.16	mg/kg	Y	SW7471A	06/18/03 16:40 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
BETA-BHC	319-85-7	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
DELTA-BHC	319-86-8	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
HEPTACHLOR	76-44-8	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ALDRIN	309-00-2	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ENDOSULFAN I	959-98-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
DIELDRIN	60-57-1	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
4,4-DDE	72-55-9	20		16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ENDRIN	72-20-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ENDOSULFAN II	33213-65-9	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
4,4-DDD	72-54-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
4,4-DDT	50-29-3	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
METHOXYCHLOR	72-43-5	ND	U	81	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ENDRIN KETONE	53494-70-5	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
TOXAPHENE	8001-35-2	ND	U	280	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 11:35 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	8.1	ug/Kg	Y	SW8081A	06/28/03 11:35 tep	10
DECACNLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 11:35 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-027 Page 1

DA-SS3
07-03-0225 GRAB

COC
Date Sampled 06/11/03 11:50
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 64

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
ARSENIC	7440-38-2	5.3		1.2	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
BARIUM	7440-39-3	66		0.23	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.23	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
CHROMIUM	7440-47-3	9.4		1.2	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
LEAD	7439-92-1	20		1.2	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 22:00 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.16	mg/kg	Y	SW7471A	06/18/03 16:41 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
BETA-BHC	319-85-7	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
DELTA-BHC	319-86-8	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
HEPTACHLOR	76-44-8	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ALDRIN	309-00-2	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ENDOSULFAN I	959-98-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
DIELDRIN	60-57-1	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
4,4-DDE	72-55-9	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ENDRIN	72-20-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ENDOSULFAN II	33213-65-9	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
4,4-DDD	72-54-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
4,4-DDT	50-29-3	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
METHOXYCHLOR	72-43-5	ND	U	78	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ENDRIN KETONE	53494-70-5	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
TOXAPHENE	8001-35-2	ND	U	260	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 12:10 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	7.8	ug/Kg	Y	SW8081A	06/28/03 12:10 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 12:10 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-005 Page 1

PSW-1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 15:35
Date Received 06/14/03 10:15

Type F Matrix WATER
Sampled by CLIENT

0701D3 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S Method	Date/Time/Ana	Dilf
SILVER	7440-22-4	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
ARSENIC	7440-38-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
BARIUM	7440-39-3	0.044		0.0010	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.0010	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
CHROMIUM	7440-47-3	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
LEAD	7439-92-1	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:31 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.00020	mg/L	SW7470A	06/22/03 22:37 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
BETA-BHC	319-85-7	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
DELTA-BHC	319-86-8	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
GAMMA-BHC	58-89-9	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
HEPTACHLOR	76-44-8	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ALDRIN	309-00-2	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ENDOSULFAN I	959-98-8	ND	U	0.015	ug/L	SW8081A	06/27/03 20:13 tep	1.0
DIELDRIN	60-57-1	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
4,4-DDE	72-55-9	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ENDRIN	72-20-8	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ENDOSULFAN II	33213-65-9	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
4,4-DDD	72-54-8	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ENDOSULFAN SULFATE	1031-07-8	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
4,4-DDT	50-29-3	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
METHOXYCHLOR	72-43-5	ND	U	0.15	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ENDRIN KETONE	53494-70-5	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
ENDRIN ALDEHYDE	7421-93-4	ND	U	0.030	ug/L	SW8081A	06/27/03 20:13 tep	1.0
TECHNICAL CHLORDANE	57-74-9	ND	U	0.15	ug/L	SW8081A	06/27/03 20:13 tep	1.0
TOXAPHENE	8001-35-2	ND	U	0.15	ug/L	SW8081A	06/27/03 20:13 tep	1.0
SURROGATE RESULTS								
TETRACHLORO-M-XYLENE	877-09-8	0.096		0.0038	ug/L	SW8081A	06/27/03 20:13 tep	1.0
TETRACHLORO-M-XYLENE	877-09-8	154	*		% REC	SW8081A	06/27/03 20:13 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	0.070		0.0038	ug/L	SW8081A	06/27/03 20:13 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	113			% REC	SW8081A	06/27/03 20:13 tep	1.0

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number YA3-F0-P335-004 Page 1

HW-GW1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 14:40
Date Received 06/14/03 10:15

Type F Matrix WATER
Sampled by CLIENT

07D103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
ARSENIC	7440-38-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
BARIUM	7440-39-3	0.11		0.0010	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.0010	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
CHROMIUM	7440-47-3	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
LEAD	7439-92-1	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.0050	mg/L	SW6010B	06/23/03 17:22 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.00020	mg/L	SW7470A	06/22/03 22:35 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
BETA-BHC	319-85-7	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
DELTA-BHC	319-86-8	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
GAMMA-BHC	58-89-9	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
HEPTACHLOR	76-44-8	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ALDRIN	309-00-2	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ENDOSULFAN I	959-98-8	ND	U	0.015	ug/L	SW8081A	06/27/03 19:38 tep	1.0
DIELDRIN	60-57-1	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
4,4-DDE	72-55-9	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ENDRIN	72-20-8	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ENDOSULFAN II	33213-65-9	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
4,4-DDD	72-54-8	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ENDOSULFAN SULFATE	1031-07-8	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
4,4-DDT	50-29-3	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
METHOXYCHLOR	72-43-5	ND	U	0.15	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ENDRIN KETONE	53494-70-5	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
ENDRIN ALDEHYDE	7421-93-4	ND	U	0.030	ug/L	SW8081A	06/27/03 19:38 tep	1.0
TECHNICAL CHLORDANE	57-74-9	ND	U	0.15	ug/L	SW8081A	06/27/03 19:38 tep	1.0
TOXAPHENE	8001-35-2	ND	U	0.15	ug/L	SW8081A	06/27/03 19:38 tep	1.0
SURROGATE RESULTS								
TETRACHLORO-M-XYLENE	877-09-8	0.049		0.0038	ug/L	SW8081A	06/27/03 19:38 tep	1.0
TRACHLORO-M-XYLENE	877-09-8	78			% REC	SW8081A	06/27/03 19:38 tep	1.0
CACHLOROBIPHENYL	2051-24-3	0.063		0.0038	ug/L	SW8081A	06/27/03 19:38 tep	1.0
DECACHLOROBIPHENYL	2051-24-3	101			% REC	SW8081A	06/27/03 19:38 tep	1.0

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FO-P335-028 Page 1

BG-SS1
07-03-0225 GRAB

COC
Date Sampled 06/11/03 11:10
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 70

070103 DB45 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
ARSENIC	7440-38-2	6.5		1.1	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
BARIUM	7440-39-3	100		0.21	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.21	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
CHROMIUM	7440-47-3	6.4		1.1	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
LEAD	7439-92-1	17		1.1	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:07 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.14	mg/kg	Y	SW7471A	06/18/03 16:45 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
BETA-BHC	319-85-7	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
DELTA-BHC	319-86-8	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
HEPTACHLOR	76-44-8	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ALDRIN	309-00-2	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ENDOSULFAN I	959-98-8	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
DIELDRIN	60-57-1	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
4,4-DDE	72-55-9	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ENDRIN	72-20-8	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ENDOSULFAN II	33213-65-9	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
4,4-DDD	72-54-8	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
4,4-DDT	50-29-3	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
METHOXYCHLOR	72-43-5	ND	U	71	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ENDRIN KETONE	53494-70-5	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	14	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
TOXAPHENE	8001-35-2	ND	U	240	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 12:46 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	7.1	ug/Kg	Y	SW8081A	06/28/03 12:46 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 12:46 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-029 Page 1

BG-SS2
07-03-0225 GRAB

COC
Date Sampled 06/11/03 12:00
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 64

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
ARSENIC	7440-38-2	5.9		1.2	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
BARIUM	7440-39-3	76		0.23	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.23	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
CHROMIUM	7440-47-3	7.4		1.2	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
LEAD	7439-92-1	23		1.2	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 22:15 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.16	mg/kg	Y	SW7471A	06/18/03 16:46 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
BETA-BHC	319-85-7	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
DELTA-BHC	319-86-8	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
HEPTACHLOR	76-44-8	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ALDRIN	309-00-2	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ENDOSULFAN I	959-98-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
DIELDRIN	60-57-1	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
4,4-DDE	72-55-9	40		16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ENDRIN	72-20-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ENDOSULFAN II	33213-65-9	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
4,4-DDD	72-54-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
4,4-DDT	50-29-3	20		16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
METHOXYCHLOR	72-43-5	ND	U	78	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ENDRIN KETONE	53494-70-5	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
TOXAPHENE	8001-35-2	ND	U	260	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 17:48 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	7.8	ug/Kg	Y	SW8081A	06/28/03 17:48 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 17:48 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FD-P335-030

BG-SS3
07-03-0225 GRAB

COC
Date Sampled 06/11/03 12:20
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 61

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
ARSENIC	7440-38-2	6.0		1.2	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
BARIUM	7440-39-3	80		0.25	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.25	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
CHROMIUM	7440-47-3	7.6		1.2	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
LEAD	7439-92-1	21		1.2	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.2	mg/Kg	Y	SW6010B	06/20/03 22:22 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.16	mg/kg	Y	SW7471A	06/18/03 16:47 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
BETA-BHC	319-85-7	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
DELTA-BHC	319-86-8	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
HEPTACHLOR	76-44-8	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ALDRIN	309-00-2	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ENDOSULFAN I	959-98-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
DIELDRIN	60-57-1	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
4,4-DDE	72-55-9	32		16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ENDRIN	72-20-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ENDOSULFAN II	33213-65-9	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
4,4-DDD	72-54-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
4,4-DDT	50-29-3	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
METHOXYCHLOR	72-43-5	ND	U	82	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ENDRIN KETONE	53494-70-5	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	16	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	140	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
TOXAPHENE	8001-35-2	ND	U	280	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 18:24 tep	10
CACHLOROBIPHENYL	2051-24-3	0.0	D	8.2	ug/Kg	Y	SW8081A	06/28/03 18:24 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 18:24 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-031

BG-SS4
07-03-0225 GRAB

COC
Date Sampled 06/11/03 12:30
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 68

07D103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
ARSENIC	7440-38-2	6.9		1.1	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
BARIUM	7440-39-3	71		0.22	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.22	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
CHROMIUM	7440-47-3	12		1.1	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
LEAD	7439-92-1	25		1.1	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:29 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.15	mg/kg	Y	SW7471A	06/18/03 16:51 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
BETA-BHC	319-85-7	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
DELTA-BHC	319-86-8	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
HEPTACHLOR	76-44-8	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ALDRIN	309-00-2	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ENDOSULFAN I	959-98-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
DIELDRIN	60-57-1	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
4,4-DDE	72-55-9	28		15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ENDRIN	72-20-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ENDOSULFAN II	33213-65-9	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
4,4-DDD	72-54-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
4,4-DDT	50-29-3	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
METHOXYCHLOR	72-43-5	ND	U	73	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ENDRIN KETONE	53494-70-5	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	120	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
TOXAPHENE	8001-35-2	ND	U	250	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 18:59 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	7.3	ug/Kg	Y	SW8081A	06/28/03 18:59 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 18:59 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-FD-P335-032 Page 1

BG-SS5
07-03-0225 GRAB

COC
Date Sampled 06/11/03 12:55
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 66

070103 D845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
ARSENIC	7440-38-2	6.6		1.1	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
BARIUM	7440-39-3	68		0.23	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.23	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
CHROMIUM	7440-47-3	16		1.1	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
LEAD	7439-92-1	17		1.1	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:36 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.15	mg/kg	Y	SW7471A	06/18/03 16:52 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
BETA-BHC	319-85-7	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
DELTA-BHC	319-86-8	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
HEPTACHLOR	76-44-8	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ALDRIN	309-00-2	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ENDOSULFAN I	959-98-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
DIELDRIN	60-57-1	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
4,4-DDE	72-55-9	17		15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ENDRIN	72-20-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ENDOSULFAN II	33213-65-9	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
4,4-DDD	72-54-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
4,4-DDT	50-29-3	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
METHOXYCHLOR	72-43-5	ND	U	76	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ENDRIN KETONE	53494-70-5	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
TOXAPHENE	8001-35-2	ND	U	260	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 19:34 tep	10
ECACHLOROBIPHENYL	2051-24-3	0.0	D	7.6	ug/Kg	Y	SW8081A	06/28/03 19:34 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 19:34 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-033 Page 1

BG-S56
07-03-0225 GRAB

COC
Date Sampled 06/11/03 13:15
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 66

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
ARSENIC	7440-38-2	4.8		1.1	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
BARIUM	7440-39-3	51		0.23	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.23	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
CHROMIUM	7440-47-3	7.2		1.1	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
LEAD	7439-92-1	22		1.1	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
SELENIUM	7782-49-2	1.3		1.1	mg/Kg	Y	SW6010B	06/20/03 22:44 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.15	mg/kg	Y	SW7471A	06/18/03 16:53 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
BETA-BHC	319-85-7	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
DELTA-BHC	319-86-8	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
GAMMA-BHC (LINDANE)	58-89-9	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
HEPTACHLOR	76-44-8	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ALDRIN	309-00-2	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ENDOSULFAN I	959-98-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
DIELDRIN	60-57-1	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
4,4-DDE	72-55-9	87		15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ENDRIN	72-20-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ENDOSULFAN II	33213-65-9	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
4,4-DDD	72-54-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ENDOSULFAN SULFATE	1031-07-8	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
4,4-DDT	50-29-3	20		15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
METHOXYCHLOR	72-43-5	ND	U	76	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ENDRIN KETONE	53494-70-5	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
ENDRIN ALDEHYDE	7421-93-4	ND	U	15	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
TECHNICAL CHLORDANE	57-74-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
TOXAPHENE	8001-35-2	ND	U	260	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 20:10 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D	7.6	ug/Kg	Y	SW8081A	06/28/03 20:10 tep	10
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 20:10 tep	10

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-034

MS-SS1
07-03-0225 GRAB

CDC
Date Sampled 06/12/03 10:00
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 76

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.99	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
ARSENIC	7440-38-2	31		0.99	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
BARIUM	7440-39-3	68		0.20	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.20	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
CHROMIUM	7440-47-3	9.7		0.99	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
LEAD	7439-92-1	80		0.99	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.99	mg/Kg	Y	SW6010B	06/20/03 23:13 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 16:55 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
BETA-BHC	319-85-7	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
DELTA-BHC	319-86-8	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
GAMMA-BHC (LINDANE)	58-89-9	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
HEPTACHLOR	76-44-8	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ALDRIN	309-00-2	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ENDOSULFAN I	959-98-8	1800		1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
DIELDRIN	60-57-1	ND	U	1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
4,4-DDE	72-55-9	3400		1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ENDRIN	72-20-8	2800		1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ENDOSULFAN II	33213-65-9	ND	U	1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
4,4-DDD	72-54-8	4600		1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ENDOSULFAN SULFATE	1031-07-8	ND	U	1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
4,4-DDT	50-29-3	ND	U	1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
METHOXYCHLOR	72-43-5	ND	U	6600	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ENDRIN KETONE	53494-70-5	ND	U	1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
ENDRIN ALDEHYDE	7421-93-4	ND	U	1300	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
TECHNICAL CHLORDANE	57-74-9	ND	U	11000	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
TOXAPHENE	8001-35-2	ND	U	11000	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 23:42 tep	1000
DECACHLOROBIPHENYL	2051-24-3	0.0	D	660	ug/Kg	Y	SW8081A	06/28/03 23:42 tep	1000
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 23:42 tep	1000
ALPHA-BHC	319-84-6	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-034

MS-SS1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 10:00
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 76

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ant	DilF
BETA-BHC	319-85-7	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
DELTA-BHC	319-86-8	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
HEPTACHLOR	76-44-8	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ALDRIN	309-00-2	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ENDOSULFAN I	959-98-8	1700		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
LDRIN	60-57-1	ND	U	660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
4,4-DDE	72-55-9	3300		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ENDRIN	72-20-8	2800		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ENDOSULFAN II	33213-65-9	1300		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
4,4-DDD	72-54-8	4600		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
4,4-DDT	50-29-3	710		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
METHOXYCHLOR	72-43-5	ND	U	3300	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ENDRIN KETONE	53494-70-5	790		660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	660	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5500	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
TOXAPHENE	8001-35-2	ND	U	5500	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 04:26 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D	330	ug/Kg	Y	SW8081A	06/29/03 04:26 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 04:26 tep	500

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-035 Page 1

MS-SS2
07-03-0225 GRAB

COC
Date Sampled 06/12/03 10:25
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 80

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.94	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
ARSENIC	7440-38-2	11		0.94	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
BARIUM	7440-39-3	65		0.19	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
CADMIUM	7440-43-9	0.56		0.19	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
CHROMIUM	7440-47-3	14		0.94	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
LEAD	7439-92-1	68		0.94	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.94	mg/Kg	Y	SW6010B	06/20/03 23:20 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 16:56 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
BETA-BHC	319-85-7	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
DELTA-BHC	319-86-8	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
HEPTACHLOR	76-44-8	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ALDRIN	309-00-2	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ENDOSULFAN I	959-98-8	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
DIELDRIN	60-57-1	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
4,4-DDE	72-55-9	2900		630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ENDRIN	72-20-8	1700		630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ENDOSULFAN II	33213-65-9	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
4,4-DDD	72-54-8	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
4,4-DDT	50-29-3	4500		630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
METHOXYCHLOR	72-43-5	ND	U	3100	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ENDRIN KETONE	53494-70-5	900		630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5200	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
TOXAPHENE	8001-35-2	ND	U	5200	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 05:01 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D	310	ug/Kg	Y	SW8081A	06/29/03 05:01 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 05:01 tep	500

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-036 Page 1

MS-SS3
07-03-0225 GRAB

COC
Date Sampled 06/12/03 10:45
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 79

D70103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	Dilf
SILVER	7440-22-4	ND	U	0.95	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
ARSENIC	7440-38-2	8.7		0.95	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
BARIUM	7440-39-3	65		0.19	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.19	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
CHROMIUM	7440-47-3	15		0.95	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
LEAD	7439-92-1	54		0.95	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.95	mg/Kg	Y	SW6010B	06/20/03 23:27 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 19:46 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
BETA-BHC	319-85-7	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
DELTA-BHC	319-86-8	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
HEPTACHLOR	76-44-8	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ALDRIN	309-00-2	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ENDOSULFAN I	959-98-8	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
DIELDRIN	60-57-1	790		630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
4,4-DDE	72-55-9	4400		630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ENDRIN	72-20-8	1000		630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ENDOSULFAN II	33213-65-9	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
4,4-DDD	72-54-8	1300		630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
4,4-DDT	50-29-3	3600		630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
METHOXYCHLOR	72-43-5	ND	U	3200	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ENDRIN KETONE	53494-70-5	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	630	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5300	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
TOXAPHENE	8001-35-2	ND	U	5300	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 05:37 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D	320	ug/Kg	Y	SW8081A	06/29/03 05:37 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 05:37 tep	500

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-037 Page 1

MS-SS4
07-03-0225 GRAB

COC
Date Sampled 06/12/03 11:15
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 77

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ani	DILF
SILVER	7440-22-4	ND	U	0.97	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
ARSENIC	7440-38-2	7.1		0.97	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
BARIUM	7440-39-3	63		0.19	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.19	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
CHROMIUM	7440-47-3	12		0.97	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
LEAD	7439-92-1	63		0.97	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
SELENIUM	7782-49-2	ND	U	0.97	mg/Kg	Y	SW6010B	06/20/03 23:35 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.13	mg/kg	Y	SW7471A	06/18/03 19:47 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
BETA-BHC	319-85-7	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
DELTA-BHC	319-86-8	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
HEPTACHLOR	76-44-8	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ALDRIN	309-00-2	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ENDOSULFAN I	959-98-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
DIELDRIN	60-57-1	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
4,4-DDE	72-55-9	500		130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ENDRIN	72-20-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ENDOSULFAN II	33213-65-9	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
4,4-DDD	72-54-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
4,4-DDT	50-29-3	140		130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
METHOXYCHLOR	72-43-5	ND	U	650	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ENDRIN KETONE	53494-70-5	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	130	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
TOXAPHENE	8001-35-2	ND	U	1100	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/28/03 20:45 tep	100
ACHLOROBIPHENYL	2051-24-3	0.0	D	65	ug/Kg	Y	SW8081A	06/28/03 20:45 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/28/03 20:45 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-038 Page 1

SA-SS1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 10:10
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 68

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 23:42 JWJ	1.0
ARSENIC	7440-38-2	34		1.1	mg/Kg	Y	SW6010B	06/20/03 23:42 JWJ	1.0
BARIUM	7440-39-3	190		0.22	mg/Kg	Y	SW6010B	06/20/03 23:42 JWJ	1.0
CADMIUM	7440-43-9	4.3		0.22	mg/Kg	Y	SW6010B	06/20/03 23:42 JWJ	1.0
CHROMIUM	7440-47-3	20		1.1	mg/Kg	Y	SW6010B	06/20/03 23:42 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 23:42 JWJ	1.0
D	7439-92-1	4700		11	mg/Kg	Y	SW6010B	06/24/03 15:07 JWJ	10
MERCURY, TOTAL	7439-97-6	0.30		0.15	mg/kg	Y	SW7471A	06/18/03 19:48 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
BETA-BHC	319-85-7	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
DELTA-BHC	319-86-8	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
GAMMA-BHC (LINDANE)	58-89-9	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
HEPTACHLOR	76-44-8	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ALDRIN	309-00-2	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ENDOSULFAN I	959-98-8	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
DIELDRIN	60-57-1	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
4,4-DDE	72-55-9	5700		1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ENDRIN	72-20-8	6100		1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ENDOSULFAN II	33213-65-9	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
4,4-DDD	72-54-8	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ENDOSULFAN SULFATE	1031-07-8	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
4,4-DDT	50-29-3	11000		1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
METHOXYCHLOR	72-43-5	ND	U	7300	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ENDRIN KETONE	53494-70-5	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
ENDRIN ALDEHYDE	7421-93-4	ND	U	1500	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
TECHNICAL CHLORDANE	57-74-9	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
TOXAPHENE	8001-35-2	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
SURROGATE RESULTS									
TRACHLORO-M-XYLENE	877-09-8	0.0	D	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 06:12 tep	1000
DECACHLOROBIPHENYL	2051-24-3	0.0	D	730	ug/Kg	Y	SW8081A	06/29/03 06:12 tep	1000
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 06:12 tep	1000

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-039 Page 1

SA-552
07-03-0225 GRAB

COC
Date Sampled 06/12/03 10:55
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 83

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Anl	DilF
SILVER	7440-22-4	ND	U	0.91	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
ARSENIC	7440-38-2	7.9		0.91	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
BARIUM	7440-39-3	30		0.18	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.18	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
CHROMIUM	7440-47-3	30		0.91	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
LEAD	7439-92-1	15		0.91	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
SELENIUM	7782-49-2	1.4		0.91	mg/Kg	Y	SW6010B	06/20/03 23:49 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.12	mg/kg	Y	SW7471A	06/18/03 19:49 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
BETA-BHC	319-85-7	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
DELTA-BHC	319-86-8	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
GAMMA-BHC (LINDANE)	58-89-9	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
HEPTACHLOR	76-44-8	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ALDRIN	309-00-2	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ENDOSULFAN I	959-98-8	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
DIELDRIN	60-57-1	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
4,4-DDE	72-55-9	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ENDRIN	72-20-8	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ENDOSULFAN II	33213-65-9	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
4,4-DDD	72-54-8	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ENDOSULFAN SULFATE	1031-07-8	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
4,4-DDT	50-29-3	32000		12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
METHOXYCHLOR	72-43-5	ND	U	60000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ENDRIN KETONE	53494-70-5	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
ENDRIN ALDEHYDE	7421-93-4	ND	U	12000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
TECHNICAL CHLORDANE	57-74-9	ND	U	100000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
TOXAPHENE	8001-35-2	ND	U	100000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 07:23 tep	10000
DECACHLOROBIPHENYL	2051-24-3	0.0	D	6000	ug/Kg	Y	SW8081A	06/29/03 07:23 tep	10000
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 07:23 tep	10000

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-040 Page 1

SA-SS3
07-03-0225 GRAB

COC
Date Sampled 06/12/03 11:20
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 70

070103 0845 ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ani	Dil F
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
ARSENIC	7440-38-2	8.0		1.1	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
BARIUM	7440-39-3	87		0.21	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.21	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
CHROMIUM	7440-47-3	15		1.1	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
LEAD	7439-92-1	56		1.1	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
SELENIUM	7782-49-2	ND	U	1.1	mg/Kg	Y	SW6010B	06/20/03 23:56 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.14	mg/kg	Y	SW7471A	06/18/03 19:51 RSS	1.0
ALPHA-BHC	319-84-6	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
BETA-BHC	319-85-7	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
DELTA-BHC	319-86-8	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
GAMMA-BHC (LINDANE)	58-89-9	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
HEPTACHLOR	76-44-8	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ALDRIN	309-00-2	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ENDOSULFAN I	959-98-8	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
DIELDRIN	60-57-1	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
4,4-DDE	72-55-9	1600		710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ENDRIN	72-20-8	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ENDOSULFAN II	33213-65-9	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
4,4-DDD	72-54-8	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ENDOSULFAN SULFATE	1031-07-8	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
4,4-DDT	50-29-3	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
METHOXYCHLOR	72-43-5	ND	U	3600	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ENDRIN KETONE	53494-70-5	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
ENDRIN ALDEHYDE	7421-93-4	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
TECHNICAL CHLORDANE	57-74-9	ND	U	5900	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
TOXAPHENE	8001-35-2	ND	U	5900	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
TRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 08:34 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D	360	ug/Kg	Y	SW8081A	06/29/03 08:34 tep	500
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 08:34 tep	500
ALPHA-BHC	319-84-6	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-040 Page 2

SA-SS3
07-03-0225 GRAB

COC
Date Sampled 06/12/03 11:20
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 70

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ant	Dilf
BETA-BHC	319-85-7	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
DELTA-BHC	319-86-8	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
GAMMA-BHC (LINDANE)	58-89-9	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
HEPTACHLOR	76-44-8	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ALDRIN	309-00-2	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
HEPTACHLOR EPOXIDE	1024-57-3	ND	U	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ENDOSULFAN I	959-98-8	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
DRIN	60-57-1	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
4,4-DDE	72-55-9	1600		140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ENDRIN	72-20-8	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ENDOSULFAN II	33213-65-9	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
4,4-DDD	72-54-8	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ENDOSULFAN SULFATE	1031-07-8	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
4,4-DDT	50-29-3	440		140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
METHOXYCHLOR	72-43-5	ND	U	710	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ENDRIN KETONE	53494-70-5	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
ENDRIN ALDEHYDE	7421-93-4	ND	U	140	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
TECHNICAL CHLORDANE	57-74-9	ND	U	1200	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
TOXAPHENE	8001-35-2	ND	U	1200	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
SURROGATE RESULTS									
TETRACHLORO-M-XYLENE	877-09-8	0.0	D	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
TETRACHLORO-M-XYLENE	877-09-8	0.0	D		% REC	Y	SW8081A	06/29/03 09:09 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D	71	ug/Kg	Y	SW8081A	06/29/03 09:09 tep	100
DECACHLOROBIPHENYL	2051-24-3	0.0	D		% REC	Y	SW8081A	06/29/03 09:09 tep	100

CT&E Environmental Services Inc.
Laboratory Division: Charleston Laboratory

Jeffrey Mitchell
TRIAD ENGINEERING INC

Laboratory Number TA3-F0-P335-041 Page 1

TP-SS1
07-03-0225 GRAB

COC
Date Sampled 06/12/03 13:00
Date Received 06/14/03 10:15

Type F Matrix SOIL
Sampled by CLIENT

% Solids 70

070103 0845 Ver. 4.0.198

ANALYSIS FOR REQUESTED PARAMETERS

Analyzed Parameter	CAS No.	Result	Flg	RLimit	Units	S	Method	Date/Time/Ani	DilF
SILVER	7440-22-4	ND	U	1.1	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
ARSENIC	7440-38-2	9.0		1.1	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
BARIUM	7440-39-3	72		0.21	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
CADMIUM	7440-43-9	ND	U	0.21	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
CHROMIUM	7440-47-3	10		1.1	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
LEAD	7439-92-1	35		1.1	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
SELENIUM	7782-49-2	1.2		1.1	mg/Kg	Y	SW6010B	06/21/03 00:04 JWJ	1.0
MERCURY, TOTAL	7439-97-6	ND	U	0.14	mg/kg	Y	SW7471A	06/18/03 19:52 RSS	1.0

TRIAD ENGINEERING, INC.

200 A[illegible]on Drive
P.O. Box 2397
Winchester, VA 22604
(540) 667-9300
(540) 667-2260 FAX

TA3-FO-P335-1/10

CHAIN OF CUSTODY RECORD

CONTACT: JEFF MITCHELL
SITE: JEFFERSON ORCHARD
PROJECT NO.: 07-03-0225

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	NO. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservative Used		HNO3		ICE							REMARKS
							Analysis Required	PESTICIDES	METALS	PESTICIDES	METALS							
1	DW - GW 1	6/12/03	1450	WATER	2	G	X	X										DOM WELL
2	DW - GW 2		1510				X	X										↓
3	DW - GW 3		1525				X	X										
4	HW - GW 1		1440				X	X										HAND DUG WELL
5	PSW - 1	↓	1535	↓	↓	↓	X	X										POND SURFACE WATER
6	PSS - 1	6/12/03	1540	SOIL	2	G			X	X								POND SEDIMENT
7	PSS - 2	6/12/03	1545	SOIL					X	X								POND SEDIMENT
8	YO - SS1	6/11/03	1555						X	X								SOIL SAMPLE
9	YO - SS2	6/11/03	1605						X	X								YOUNG ORCHARD
10	YO - SS3	6/11/03	1615	↓	↓	↓			X	X								↓

Collected/Relinquished By: (1) [signature]	Date 6/13/03	Time 1300	Received By:	Shipping Carrier: UPS SATURDAY
Relinquished By: (2)	Date	Time	Received By:	Shipping Ticket No.:
Relinquished By: (3)	Date	Time	Received By:	Requested Turnaround Time: NORMAL
Relinquished By: (4)	Date 6-14-03	Time 10:15	Received For Laboratory By: Robin Hambrick	Comments:

Samples Received Cold? (Circle) (YES) NO
5.4 °C

Chain of Custody Seal: (Circle)
(INTACT) BROKEN ABSENT

1A3-FO-P335 4/20

TRIAD ENGINEERING, INC.

-- 200 A[illegible]on Drive
P.O. Box 2397
Winchester, VA 22604
(540) 667-9300
(540) 667-2260 FAX

CHAIN OF CUSTODY RECORD

CONTACT: JEFF MITCHELL
SITE: JEFFERSON ORCHARD
PROJECT NO.: 07-03-0225

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	NO. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservative Used: ICE / Analysis Required: PESTICIDES	ICE / METALS	REMARKS
11	YO-SS4	6/11/03	1625	SOIL	2	G	X	X	YOUNG ORCHARD
12	YO-SS5		1640						
13	YO-SS6		1650						
14	YO-SS7		1705						
15	YO-SS8		1725						
16	YO-SS9		1735						
17	YO-SS10		1745						
18	OO-SS1		1415						OLD ORCHARD
19	OO-SS2		1425						
20	OO-SS3		1450						

Collected/Relinquished By: (1) [signature]	Date 6/13/03	Time 1300	Received By:	Shipping Carrier: UPS SATURDAY	Samples Received Cold? (Circle) YES NO 5.4°C
Relinquished By: (2)	Date	Time	Received By:	Shipping Ticket No.:	Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Relinquished By: (3)	Date	Time	Received By:	Requested Turnaround Time: NORMAL	
Relinquished By: (4)	Date 6-14-03	Time 10:15	Received For Laboratory By: Robin Hambrick	Comments:	

White - Sent to Laboratory [illegible]

TRIAD ENGINEERING, INC.

200 Advance Drive
P.O. Box 2397
Winchester, VA 22604
(540) 667-9300
(540) 667-2260 FAX

TAS-FO-F335 - 2430

CHAIN OF CUSTODY RECORD

CONTACT: JEFF MITCHELL
SITE: JEFFERSON ORCHARD
PROJECT NO.: 07-03-0225

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	NO. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservative Used: ICE / Analysis Required: PESTICIDES	ICE / METALS	REMARKS
21	00-554	6/11/03	1500	SOIL	2	G	X	X	OLD ORCHARD
22	00-555		1505						
23	00-556		1520						
24	00-557		1525						
24	DA-551		1130						DUMP AREA
26	DA-552		1145						
27	DA-553		1150						
28	BG-551		1110						BACKGROUND SOILS
29	BG-552		1200						
30	BG-553		1220						

Collected/Relinquished By: (1) Mike Sleet	Date 6/13/03	Time 1300	Received By:	Shipping Carrier: UPS SATURDAY
Relinquished By: (2)	Date	Time	Received By:	Shipping Ticket No.:
Relinquished By: (3)	Date	Time	Received By:	Requested Turnaround Time: Normal
Relinquished By: (4)	Date 6/14/03	Time 10:15	Received For Laboratory By: Robin Hambrick	Comments:

Samples Received Cold? (Circle) YES NO 5.4°C

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

White - Sent to Laboratory Yellow - Retained by Triad

…-31/41

TRIAD ENGINEERING, INC.

200 A… on Drive
P.O. Box 2397
Winchester, VA 22604
(540) 667-9300
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CHAIN OF CUSTODY RECORD

CONTACT: JEFF MITCHELL

SITE: JEFFERSON ORCHARD

PROJECT NO.: 07-03-0225

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	NO. CONTAINERS	SAMPLE TYPE (C= COMP, G= GRAB)	PESTICIDES (Preservative Used: ice)	METALS (Preservative Used: ice)	REMARKS
31	BG-SS4	6/11/03	1230	SOIL	2	G	X	X	
32	BG-SS5	↓	1255	↓	↓	↓	↓	↓	BACKGROUND SOIL
33	BG-SS6	↓	1315	↓ 1	↓ RDH	↓	↓	↓	* REC. 1 JAR BROKEN RDH ↓
34	MS-SS1	6/12/03	1000	SOIL	2	G	X	X	
35	MS-SS2	↓	1025	↓	↓	↓	↓	↓	MIXING STATION SOIL
36	MS-SS3	↓	1045	↓	↓	↓	↓	↓	↓
37	MS-SS4	↓	1115	↓	↓	↓	↓	↓	↓
38	SA-SS1	6/12/03	1010	SOIL	2	G	X	X	
39	SA-SS2	↓	1055	↓	↓	↓	↓	↓	STORAGE AREA SOIL
40	SA-SS3	↓	1120	↓	↓	↓	↓	↓	↓
41	TP-SS1	6/12/03	1300	SOIL	1	G		X	TIRE PILE

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	6/13/03	1300	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 6-14-03	Time 10:15	Received For Laboratory By: Robin Hambrick

Shipping Carrier: UPS SATURDAY

Shipping Ticket No.:

Samples Received Cold? (Circle) YES NO 5.4 °C

Chain of Custody Seal: (Circle) **(INTACT)** BROKEN ABSENT

Requested Turnaround Time: NORMAL

Comments:

White – Sent to Laborat…

SGS Environmental Services

A national network of environmental laboratories

www.sgsenvironmental.com tel: 304.346.0725 fax: 304.346.0761

SGS Certifications (Please contact us for additional certifications)

State of West Virginia, Dept. of Environmental Protection, certification number 020
State of West Virginia, Dept. of Health (Drinking Water), certification number 00202C
State of Colorado
State of Delaware
Sate of Georgia, certification number NELAP-NY 11720
Commonwealth of Kentucky, certification number 90032
State of Louisiana, certification number 04029
State of Maryland, certification number 211
Commonwealth of Massachusetts, certification number M-WV032
State of Michigan, certification number9904
State of New Jersey – NELAP, certification number 88001
State of New York – NELAP, certification number 11720
Commonwealth of Virginia, certification number 00336

Abbreviation	Method Reference
SW	*Test Methods for Evaluating Solid Waste Physical/Chemical Methods* (SW846) Third Edition, December 1996.
EPA	*Methods for Chemical Analysis of Water and Waste*
ASTM	American Society for Testing and Materials, Part 26
SM	*Standard Methods for the Examination of Water and Waste*
Drinking Water	*Methods for the Determination of Organic Compounds in Drinking Water*
NIOSH	National Institute of Occupational Safety and Health

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