Howard County Health Department

Howard MDE inspector Jim Richman

Bureau of Environmental Health
7178 Gateway Drive Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

Dr. Peter Beilenson, M.D., M.P.H., Health Officer

Tax ID
05 384419

DEMOLITION REQUEST FORM

(Please fill in all blanks)

Information of Property to be Demolished:

Jeanne Hoddinott c/o Sang Oh — Current Owner's Name

6166 Guilford Road, Clarksville, MD 21029 — Property Address

Subdivision (if applicable)

Lot #

All Prior Owners' Names (if requested or known)

0034 — Tax Map

0097 — Parcel #

Tax ID #

Property to be redeveloped

Purpose/Reason for Demolition

Property to be redeveloped as part of F-15-110

Future plans of property after demo (i.e. subdivision, parking lot, re-build new house, etc…)

If a subdivision, SDP# _____ Has the structure(s) been deemed unsafe by DILP ___ YES _X_ NO

UTILITY RECORDS:

Property currently connected to public water ____ YES _X_ NO

Property currently connected to public sewer ____ YES _X_ NO

Does the property currently have any wells and/or septic systems ____ YES _X_ NO

→Explain: Well has been abandoned and septic tank pumped and

*Note: Any wells and/or septic systems that are to remain may require an approved percolation certification plan under *Howard County Code Sec. 3.805*

*Note: Any septic systems that are to be abandoned must be done by a septic contractor with documentation of the process.

*Note: All abandoned wells are to be sealed by a well driller licensed by the Maryland State Board of Well Drillers *COMAR Sec 26.04.04.11 Abandonment Standards D (3)*

COMMENTS:

Tara Labosky — Applicant's Name (please print)

443-415-7901 — Applicant's Phone #

tara@rutterpm.com — Applicant's Email

Tara Labosky — Applicant's Signature

Applicant's Fax #

12/5/16 — Date

JW/KW 02/17/2011

Howard County Health Department

Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
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www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

MEMORANDUM

Sent via email to tara@rutterpm.com *on 12/14/2016*

TO: Tara Labosky

FROM: Ryan Rappaport, *LEHS*
Well & Septic Program

DATE: December 14, 2016

RE: **6166 Guilford Rd.**
Clarksville, MD. 21029
Map: 34, Grid: 18, Parcel 97
(Demolition of existing structure – rebuild new subdivision)

This is to advise that the Howard County Health Department recommends issuance of the demolition permit for the above referenced property.

The existing drilled well (Tag unknown) that was utilized for the above referenced property has been located and sealed according to *COMAR 26.04.04.34.* An abandonment report was submitted by Robert Copsey (MSD 161) to this office which confirms well abandonment completion. This process was completed on 9/29/2016.

The existing septic system on this property was located by Hatfield's Equipment and Dedication Services, Inc. Documentation on letterhead was submitted to this office for record of compliance stating that the 1500 gallon tank was pumped out and then crushed and filled in place on 9/29/2016.

According to utility records, this property has access to public water and sewer. If you plan to re-build on this parcel, you will need to connect to public water and sewer per Howard County specifications and regulations

IF ANY WELL OR SEPTIC COMPONENTS ARE FOUND DURING SITE WORK, YOU MUST NOTIFY THIS OFFICE IMMEDIATELY.

RR
Cc: File

MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION
1800 Washington Blvd., Baltimore, Maryland 21230 (410) 537-3784

****

WATER WELL ABANDONMENT-SEALING REPORT FORM

****

SUBMIT COPIES OF COMPLETED FORM TO:
* COUNTY ENVIRONMENTAL AGENCY (contact MDE, WMA if address needed)
* WELL OWNER
* MDE, WATER MANAGEMENT ADMINISTRATION, WELL PROGRAM

DATE WELL ABANDONED: 9/29/16 (m'onth/day/year)

* PERMIT NUMBER OF ABANDONED WELL (if any) ____ — ____

* PERMIT NUMBER OF REPLACEMENT WELL: ____ — ____

* PERSON ABANDONING WELL: Robert Copsey (Jeanne Hoddinott, c/o) WELL DRILLER'S LICENSE NUMBER: 161

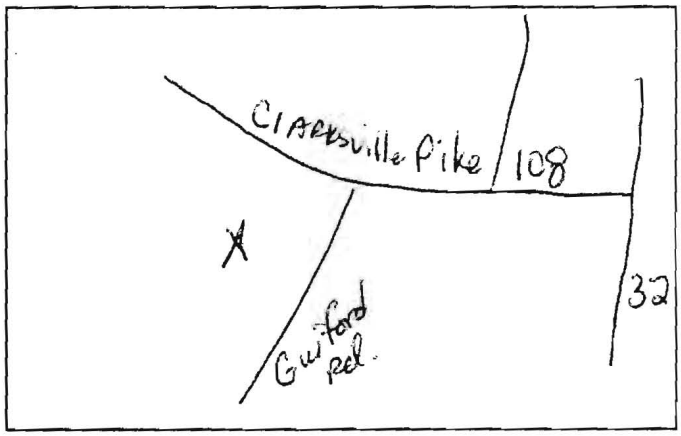
* OWNER'S NAME: SANG W OH CIRCLE: MWD / MSD / MGD

* WELL LOCATION:
COUNTY: Howard
NEAREST TOWN: Clarksville
TAX MAP 0034 BLOCK ____ PARCEL 0097
SUBDIVISION: ____
SECTION: ____ LOT: ____
STREET ADDRESS: 6166 Guilford Road, Clarksville, MD 21029

LATITUDE 39.120143

LONGITUDE 76.563102

SITE LOCATION MAP



* TYPE OF WELL BEING ABANDONED:
✓ DRILLED ____ JETTED
____ BORED ____ HAND DUG
____ OTHER (specify) ____

* USE CODE:
✓ DOMESTIC ____ MUNICIPAL/PUBLIC
____ IRRIGATION ____ INDUSTRIAL
____ TEST/OBSERVATION ____ GEOTHERMAL

* TYPE OF CASING:
✓ STEEL ____ PLASTIC
____ CONCRETE ____ OTHER (specify)

SIZE OF CASING: 6" INCHES IN DIAMETER

DEPTH OF WELL: 75' FEET DEEP

WAS ANY CASING REMOVED? ✓ YES ____ NO
If yes, length removed, in feet: 5

WAS CASING RIPPED OR PERFORATED? ____ YES ✓ NO

LOG OF SEALING MATERIAL

MATERIAL	FEET FROM	FEET TO
100 lbs Bentonite clay	75	5
fill	5	0

VOLUME OF MATERIAL USED

100 lbs Bentonite clay.

Robert Copsey — 161 — MWD / MSD / MGS — 9/29/16
SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN LICENSE# CIRCLE ONE DATE

ORIGINAL

Hatfield's Equipment and Dedication Services, Inc.

P.O. Box 519 • Annapolis Junction, MD 20701-0519
Office: 301-490-4289 / 888-490-4289 • Fax: 301-490-5794

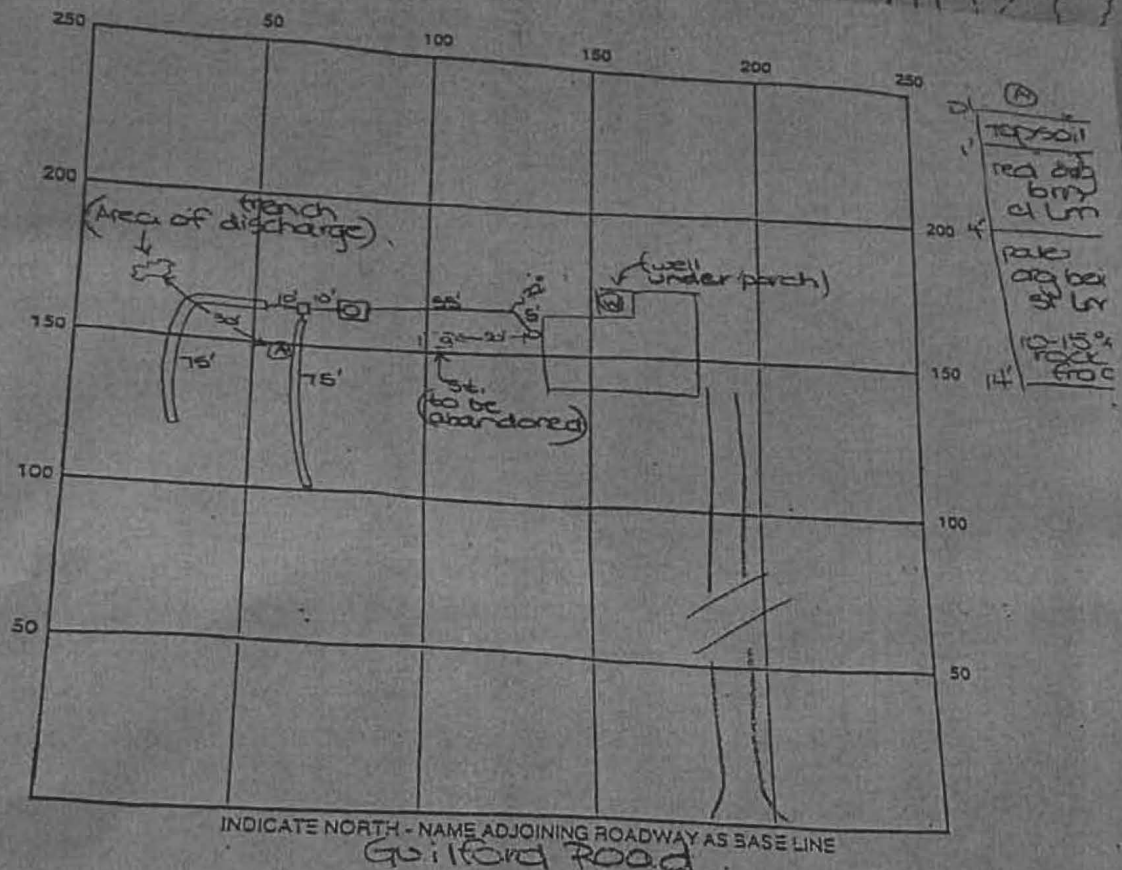
Rutter Project Management
PO Box 126
Lisbon, MD 21765

Re: 6166 Guilford Road
Clarksville, MD 21029
Sang W. Oh
Howard County

Hatfields has completed the work to abandon the septic system on 9/29/16. We removed the sewage from the 1,500 gallon tank, crushed and filled in place.
See drawing.

Thank You,

Ken Hatfield, president



INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE

Guilford Road

TIC TANK LEVEL ok - 1500 gal CLEANOUTS manhole on s.t., c.o. at ho

RIBUTION BOX LEVEL ok

N FIELD/TITLE DEPTH 10 FT. TRENCH WIDTH 2 FT. INLET DEPTH 4 FT.

CTIVE GRAVEL DEPTH 6 FT. TOTAL LENGTH 2x75 FT. → 150

NUMBER OF TRENCHES 2 ~~ONE SIDEWALL~~ BOTTOM AREA 900 SQ. FT.

LL INSIDE DIAMETER — FT. EFFECTIVE DEPTH BELOW INLET — FT.

ABSORBENT AREA — SQ. FT.

S: 12/23/98 ok to install replacement system as cribed. DKS

-/98 FINAL INSP - OK to cover all septic work. ginal septic tank to be abandoned.) DKS

EM APPROVED 12/24/98 INSPECTOR DKS

Real Property Data Search (w3) **Guide to searching the database**

Search Result for HOWARD COUNTY

View Map | View GroundRent Redemption | View GroundRent Registration

Account Identifier: **District - 05 Account Number - 384419**

Owner Information

Owner Name:	HODDINOTT JEANNE C	**Use:**	RESIDENTIAL
		Principal Residence:	YES
Mailing Address:	PO BOX 166 CLARKSVILLE MD 21029-0166	**Deed Reference:**	/00854/ 00298

Location & Structure Information

Premises Address:	6166 ROUTE 32 CLARKSVILLE 21029-0000	**Legal Description:**	1.000 AR 6166 ROUTE 32 CLARKSVILLE

Map:	Grid:	Parcel:	Sub District:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0034	0018	0097		0000				2017	Plat Ref:

Special Tax Areas:		**Town:**	NONE
		Ad Valorem:	100
		Tax Class:	

Primary Structure Built	Above Grade Enclosed Area	Finished Basement Area	Property Land Area	County Use
1965	2,142 SF		1.0000 AC	

Stories	Basement	Type	Exterior	Full/Half Bath	Garage	Last Major Renovation
1	YES	STANDARD UNIT	FRAME	1 full/ 1 half	1 Attached	

Value Information

	Base Value	Value As of 01/01/2014	Phase-in Assessments As of 07/01/2016	As of 07/01/2017
Land:	225,000	225,000		
Improvements	177,300	177,300		
Total:	402,300	402,300	402,300	
Preferential Land:	0			

Transfer Information

Seller:	**Date:**	**Price:**
Type:	**Deed1:**	**Deed2:**
Seller:	**Date:**	**Price:**
Type:	**Deed1:**	**Deed2:**
Seller:	**Date:**	**Price:**
Type:	**Deed1:**	**Deed2:**

Exemption Information

Partial Exempt Assessments:	Class	07/01/2016	07/01/2017
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00|	0.00|

Tax Exempt:	**Special Tax Recapture:**
Exempt Class:	NONE

Homestead Application Information

Homestead Application Status: No Application

1. [illegible] while we have confidence in

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard, Suite 620 • Baltimore Maryland 21230-1719
(410) 537-3442 • 1-800-633-6101 • http:// www.mde.maryland.gov

LAND MANAGEMENT ADMINISTRATION
Oil Control Program

Case #: 17-0180HO
☒INITIAL / ☐FOLLOW-UP

Tank Removal / Abandonment

Site Name: HODDINOTT RESIDENCE
Address: 6166 Guilford Road Clarksville

Date: 9/28/2016
Facility ID #:

1. (a) 2 Number of UST's removed (b) 0 Number of UST's abandoned-in-place (c) 0 Number of UST's remaining on-site.
2. Has an environmental assessment been completed? ☒YES ☐NO

Tank	Product	Age (years)	Size (gallons)	Tank Construction	Perforations		Piping Construction	Disposal Site
					Tank	Piping		
1	**Diesel**	50+	500	**Bare Steel**	Yes ☐ No ☒	Yes ☐ No ☒	**Bare Steel**	scrap
2	**Heating Oil**	50+	500	**Bare Steel**	Yes ☒ No ☐	Yes ☐ No ☒	**Sleeved Copper**	scrap
					Yes ☐ No ☐	Yes ☐ No ☐		
					Yes ☐ No ☐	Yes ☐ No ☐		
					Yes ☐ No ☐	Yes ☐ No ☐		
					Yes ☐ No ☐	Yes ☐ No ☐		

3. Has piping been properly abandoned? ☒YES ☐NO ☐UNKNOWN
4. Has vent risers been removed? ☒YES ☐NO
5. Has all liquid been removed from UST(s)? ☒YES ☐NO
6. Is explosion meter on site? ☒YES ☐NO
7. Have UST(s) been purged of explosive or combustible vapors? ☒YES ☐NO
   (must confirm less than 10% LEL with explosion meter)
8. Is groundwater contaminated? ☐YES ☐NO ☒NOT DETECTABLE AT THIS TIME
9. Is soil contaminated? (if yes, type of product:**#2 fuel oil**) ☒YES ☐NO ☐NOT DETECTABLE AT THIS TIME
10. Were contaminated soils removed? ☒YES ☐NO
    (If YES, complete *Contaminated Soil Removal Form*; If NO, describe in item 18)
11. Was soil field screened? ☐YES ☐NO
    Tank: max. units 384 at ____ Piping: max. units ____ at ____
12. Are domestic well(s) on site? ☒YES ☐NO
    Is sampling required? (If YES, list EPA method in item 14) ☒YES ☐NO
13. **ACTIONS REQUIRED, IMMEDIATELY, OF THE OWNER BY THIS ADMINISTRATION:**
    ☐STOP OPERATIONS ☐PUMP OUT LIQUIDS ☐CONTAIN AND CLEAN UP SPILL
    ☐OTHER: ____

14. **ACTIONS REQUIRED, WITHIN 45 DAYS, OF THE OWNER BY THIS ADMINISTRATION:**
    ☒SUBMIT ALL TANK REMOVAL/ABANDONMENT DOCUMENTATION INCLUDING: a comprehensive UST closure report which includes documentation for the disposal of the removed tanks, disposal of the residual liquids, and the disposal of petroleum impacted soils. Also include the analytical results of the post-excavation soil sampling, and an amended facility registration.
    ☐PROPERLY ABANDON PIPING IN COMPLIANCE WITH COMAR 26.10.10.02 B.(2) (removed unless otherwise directed)
    ☐REMOVE VENT PIPE RISER (S)
    ☐____ MONITORING WELL (S) REQUIRED IN PETROLEUM IMPACTED AREA (S) DESCRIBED IN ITEM 18
    ☐COMPLETE AN ENVIRONMENTAL ASSESSMENT IN COMPLIANCE WITH COMAR 26.10.____(submit two copies)
    ☒SUBMIT SOIL ANALYTICAL RESULTS:
    EPA METHOD: ☒8015B GRO/DRO ☐8270 (SVOCs) ☒8260 (VOCs)
    ☐OTHER:____
    ☒SUBMIT GROUNDWATER ANALYTICAL RESULTS:
    EPA METHOD ☐8015B GRO/DRO ☐8270 (SVOCs) ☐8260 (VOCs) ☒524.2 (VOCs)
    ☐OTHER ____
    ☒SUBMIT SOIL DISPOSAL RECEIPT
    ☒SUBMIT TANK DISPOSAL RECEIPT

Date: 9/28/16
Case No.: 17-0180HO
Facility No.:

14. (continued)
☒AMEND REGISTRATION: ☐Notification form provided to contact person
☒Owner/Representative informed case file may remain open until notification form is received by MDE
☐ Completed on site.

☐OTHER: ____

15. Has inspector completed: site sketch? ☐YES ☒NO site photographs? ☒YES ☐NO
16. Were tank(s) labeled? (If YES, describe: 0180) ☒YES ☐NO
17. Is follow-up required by this Administration? ☐YES ☒NO

18.COMMENTS:Oil Control Program Geologist Jim Richmond was on-site with personnel from ACE Environmental Services, Inc., and Hillis-Carnes Associates to observe the removal of two 500-gallon, steel, UST systems, and the associated piping at the former residential property. Tank #1 was likely used to store diesel fuel (pump attached). There were no perforations observed in Tank #1, and the surrounding soils did not show evidence of a petroleum release. Two post excavation soil samples were collected to characterize subsurface conditons near to Tank #1.. Tank #2 was likley used to store heating oil. Several perforations were observed in Tank #2. The surrounding soils had an odor of petroleum and indicated a petroleum release had occurred. The soils also had a sewerage odor. Impacted soils in the vicinity of Tank #2 were removed until the PID meter indicated decreasing trends. Two post excavation soil samples were collected from the bottom of the excavation for Tank #2. All soil samples are to be analyzed for full suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 8260 and for TPH-DRO and TPH-GRO using EPA Method 8015. Groundwater was not encountered during the UST removal. The vacant property has an individual supply well located inside an underground vault.. The electricity has been disconnected. Access to the well was not possible from the exterior of the vacant dwelling, therefore a groundwater sample could not be collected on this date. The property will likley be redeveloped and the on-site contractor was not sure if any new homes would be supplied by individual wells or instead municipal water. If the supply well for this vacant residence is to be used for consumptive purposes, the Department requires that a representative sample from the supply well be analyzed for full suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 524.2. Otherwise the supply well must be properly abandoned in accordacne with Code of Maryland Regualtions 26.04.04.

Jim Richmond
Inspector's Name

Inspector's Signature

Contact Person's Name (printed) | Contact Person's Signature | Contact Person's Telephone No.

Contractor's Name (Printed) | Contractor's Signature | Contractor's Telephone No.

George Cooper
Technician/Remover Name (printed)

MDIC-2015-2151(R)
Certification Number

May 1, 2017
Expiration Date

Modified on 8/3/2015

Rappaport, Ryan

From: Jim Richmond -MDE- <jim.richmond@maryland.gov>
Sent: Wednesday, January 18, 2017 2:12 PM
To: Rappaport, Ryan
Subject: Re: 6166 Guilford Rd
Attachments: Enclave at Tierney Farm UST Removals (1).pdf

see attached closure report with the soil sampling data. Initially some some soils were removed in October 2016 and additional soils were removed in December 2016. The results of the samples collected after the soil removal in December are below the Department's regulatory standards.
Please call if you have any questions

On Tue, Jan 17, 2017 at 10:55 AM, Rappaport, Ryan <RRappaport@howardcountymd.gov> wrote:

Jim,

I thought I'd touch base with you after our conversation last week. When you have a free moment can you forward those soil sample results. It'll be much appreciated.

NOTES

* 5 tons of soil initially removed which had slightly elevated test results.
* Then: An additional 230 tons of soil removed from the site and the test results were undetectable

pp
1/19/17

Ryan Rappaport, LEHS

Howard County Health Department

Bureau of Environmental Health

8930 Stanford Blvd.

Columbia, MD. 21045

Phone 410-313-1781

Fax 410-313-2648

rrappaport@howardcountymd.gov

www.co.ho.md.us

HILLIS-CARNES
ENGINEERING ASSOCIATES

Underground Storage Tank Removals
Hoddinott Property (Future Enclave at Tierney Farm Development)
6166 Guilford Road
Clarksville, Maryland 21029
Hillis-Carnes Project Number 16497A
MDE OCP Case Number 2017-0180HO

Prepared For:

Enclave Development, LLC
c/o Land Design and Development
8318 Forrest Street, Suite 200
Ellicott City, Maryland 21043
Attn: Don Reuwer

Submitted To:
Maryland Department of the Environment – Oil Control Program
1800 Washington Boulevard, Suite 620
Baltimore, Maryland 21230
Attn: Mr. Jim Richmond

Prepared By:

Hillis-Carnes Engineering Associates, Inc.
10975 Guilford Road, Suite A
Annapolis Junction, Maryland 20701

December 29, 2016

HILLIS-CARNES

ENGINEERING ASSOCIATES

10975 Guilford Road, Suite A
Annapolis Junction, MD 20701
Phone 410-880-4788
Fax 410-880-4098
www.hcea.com

December 29, 2016

Mr. Don Reuwer
Enclave Development, LLC
c/o Land Design and Development
8318 Forrest Street, Suite 200
Ellicott City, Maryland 21043

RE: Underground Storage Tank Removals
Hoddinott Property (Future Enclave at Tierney Farm Development)
6166 Guilford Road
Clarksville, Maryland 21029
Hillis-Carnes Project Number 16497A
MDE OCP Case Number 2017-0180HO

Dear Mr. Reuwer:

Hillis-Carnes Engineering Associates, Inc. (HCEA) was retained by Enclave Development, LLC, c/o Land Design and Development (Client) to provide oversight of the removal of two underground storage tanks (USTs) at the above-referenced property, hereafter referred to as the "Site".

The Site is located on the southwestern side of Guilford Road and the eastern side of Clarksville Pike in Clarksville, Howard County, Maryland. According to information obtained from the State Department of Assessments and Taxation (SDAT) website, the address for the Site is 6166 Guilford Road. The Site consists of two continuous parcels of land totaling 89.95 acres. According to the SDAT website, the on-site parcels are identified as Parcels 0088 and 0097 on Howard County Tax Map No. 0034. The Tax Account Numbers of the parcels are 05-369622 and 05-384419. The Site is improved by a vacant residence and a dilapidated shed. The remaining portions of the Site generally include agricultural and wooded land. An unimproved driveway provides access to the vacant residence via the southeastern side of Guilford Road.

- **Background Information**

HCEA was provided with a Phase I Environmental Site Assessment for the Site dated May 2005 prepared by Geo-Technology Associates, Inc. (GTA). During the assessment, GTA observed evidence of two underground storage tanks (USTs) along the exterior of the residence. Specifically, GTA observed a fill pipe, a vent pipe, and a hand pump on the northwestern side of the residence. In addition, GTA observed a fill pipe on the northeastern side of the residence. Granular sorbent material was observed by GTA on the ground surface in the vicinity of the fill pipe along the northeastern exterior of the residence.

GTA concluded that the presence of the two USTs was a Recognized Environmental Condition (REC) and recommended that the USTs be removed from the Site. According to the Client, future development plans for the Site include the demolition of the vacant residence and the construction of a community comprised of single-family homes. The vacant residence formerly utilized a private water supply well that was reportedly properly closed. According to the Client, the future residences will utilize public water and sewer utilities.

- **Oversight of Underground Storage Tank Removal (September 28, 2016)**

HCEA observed a vent pipe, a fill pipe, and a hand pump beneath a medium-sized diameter tree on the northwestern side of the residence. In addition, HCEA observed a fill pipe in the grass-covered area on the northeastern side of the residence. The associated vent pipe was observed within a wall cut-out of the northeastern wall of the residence. Further, two remote fills (one for each tank) were observed along the northwestern wall of the residence. Refer to the attached Site Layout Sketch for the locations of the USTs and associated vent/fill pipes.

On September 28, 2016, ACE Environmental, Inc. (the company contracted by HCEA to physically remove the USTs) cut and removed the tree to gain access to the UST located on the northwestern side of the residence. ACE then excavated soil from around the fill caps (located directly above the USTs) and from the tops of the USTs. The excavated soil was stockpiled adjacent to the sides of the UST excavations. The stockpiled soils were inspected for evidence of environmental impact (e.g., staining and petroleum odors). In addition, the excavated soils were field screened for volatile organic compounds (VOCs) utilizing a photoionization detector (PID). No evidence of impact was detected and elevated PID readings were not detected in the soils excavated from around the fill cap and above the UST.

An opening was cut into the tops of the USTs and approximately 64 gallons of liquid/sludge was pumped from the tanks into a vacuum truck. A non-hazardous waste manifest for the product is attached to this letter report. Absorbent pads were used to absorb the remaining product/sludge and to clean the interiors of the tanks. The pads containing product/sludge were disposed into plastic trash bags.

Upon removal of the liquid/sludge, it was determined that the UST located on the northwestern side of the residence contained diesel fuel and the UST located on the northeastern side of the residence contained #2 heating oil.

<u>Diesel UST and Remote Fill Pipes</u>

ACE continued excavating around the diesel UST and removed the UST and associated vent pipe, fill pipe, and hand pump from the ground. No evidence of staining, petroleum odors, or elevated PID readings (i.e., readings above 10 units) was detected from the soils excavated from around the diesel UST. The UST was approximately 500 gallons

in size. Upon removal of the tank from the ground, external tank surfaces were photographed and inspected for evidence of leakage (e.g., corrosion, pitting, and perforations). No evidence of corrosion, pitting, or perforation were observed on the external tank surfaces.

The tank excavation was photographed and inspected for evidence of contamination. No evidence of stained soils or free product was observed in the bottom of the excavation or on the sidewalls/endwalls of the excavation. Groundwater was not encountered during the tank removal activity.

Mr. Jim Richmond with the Oil Control Program (OCP) of the Maryland Department of the Environment (MDE) was on-site during the removal of the UST. A copy of the MDE's Tank Removal/Abandonment Form is attached to this letter report. Per the request of Mr. Richmond and requirements of the MDE, one soil sample (identified by HCEA as T-1-1) was collected from the bottom of the diesel UST excavation.
With regard to the soil sample collection procedure, using the bucket of the backhoe, the soils in the bottom of the excavation (i.e., approximately two feet below the bottom of the UST) were accessed and were brought to the surface for sample collection. Using gloved hands, HCEA collected a soil sample from the bucket and the soil was placed in clean, labeled glass containers which were placed on ice in a cooler. Relatively minor petroleum hydrocarbon odors and a PID reading as high as 12 ppm were detected in the soil sample collected from the bottom of the diesel tank excavation.

ACE removed the two remote fill pipes that were located along the northwestern wall of the residence. The fill pipes were connected via shallow underground steel piping to both USTs. ACE also removed the underground piping. The remote fill pipes were held in place by an approximate 4-inch thick piece of concrete. After the remote fill pipes and concrete were removed, HCEA inspected the soils below the concrete and fill pipes for evidence of contamination. No evidence of staining, petroleum odors, or elevated PID readings (i.e., readings above 10 units) was detected from the soils below the remote fill pipes. Per the request of Mr. Richmond, one soil sample (identified by HCEA as T-1-2) was collected from approximately 6-inches below the remote fill pipes. The sample locations are illustrated on the Site Layout Sketch attached to this report.

Per the MDE's requirement, the two soil samples (T-1-1 collected from the diesel UST excavation and T-1-2 collected from below the remote fill pipes) were laboratory analyzed for Total Petroleum Hydrocarbons - Gasoline Range Organics (TPH-GRO), Total Petroleum Hydrocarbons - Diesel Range Organics (TPH-DRO), and Volatile Organic Compounds (VOCs), including oxygenates. A copy of the laboratory report is attached to this letter report.

Based on the laboratory analytical results, TPH-GRO and VOCs were not detected at concentrations exceeding the laboratory's practical quantitation limit in the soil samples collected from T-1-1 and T-1-2. Concentrations of TPH-DRO were detected in both T-1-1 (180 ppm) and T-1-2 (38 ppm). However, the detected

concentrations are below the MDE's Residential Cleanup Standard for TPH-DRO (230 ppm).

The UST was removed from the Site by ACE and was transported to Baltimore Scrap Corporation for proper disposal (refer to the attached receipt). In addition, the vent pipe, fill pipe, hand pump, and remote fill (including the associated piping) were loaded onto a truck and removed from the Site. The MDE inspector allowed the tank excavation to be backfilled using the original soils. In addition, ACE backfilled the excavation with soils obtained from an off-site borrow source to complete the excavation to original grade.

Heating Oil UST

ACE continued excavating around the heating oil UST and removed the UST and associated fill pipe from the ground. No evidence of staining, petroleum odors, or elevated PID readings (i.e., readings above 10 units) was detected from the soils excavated from around the heating oil UST. The UST was approximately 500 gallons in size. Upon removal of the tank from the ground, external tank surfaces were photographed and inspected for evidence of leakage (e.g., corrosion, pitting, and perforations). Several perforations were observed on the external tank surfaces.

The tank excavation was photographed and inspected for evidence of contamination. Apparent staining was observed in the bottom of the excavation. In addition, soils brought to the surface from the bottom of the excavation exhibited relatively strong petroleum hydrocarbon odors and a PID reading as high as 384 ppm. No evidence of free product was observed in the bottom of the excavation and groundwater was not encountered during the tank removal activity.

Due to the presence of stained soil, odors, and elevated PID readings, ACE excavated and removed soils from the bottom of the excavation. The soils were stockpiled on plastic adjacent to the excavation. Soils were excavated to a depth of approximately 9 feet bgs. Soils brought to the surface from this depth exhibited relatively minor petroleum hydrocarbon odors and a PID reading as high as 96 ppm. Due to the inability of the mini-excavator to reach greater depths, and due to a decreasing trend in both odors and PID readings, additional soils were not excavated at that time.

Mr. Richmond was on-site during the removal of the heating oil UST. A copy of the MDE's Tank Removal/Abandonment Form is attached to this letter report. Per the request of Mr. Richmond and requirements of the MDE, two soil samples (identified by HCEA as T-2-1 and T-2-2) were collected from the bottom of the heating oil UST excavation.

With regard to the soil sample collection procedure, using the bucket of the backhoe, the soils in the bottom of the excavation (i.e., approximately 9 feet bgs) were accessed and were brought to the surface for sample collection. Using gloved hands, HCEA collected a soil sample from the bucket and the soil was placed in clean, labeled glass

containers which were placed on ice in a cooler. Relatively minor petroleum hydrocarbons and a PID reading as high as 96 ppm were detected in the soil samples collected from the bottom of the heating oil tank excavation.

Per the MDE's requirement, the two soil samples were laboratory analyzed for TPH-DRO, TPH-GRO, and VOCs, including oxygenates. A copy of the laboratory report is attached to this letter report. Table 1 summarizes the analytical results.

Table 1
Soil Sampling Results – Heating Oil UST
Results are reported in milligrams per kilogram or parts per million (ppm)

	T-2-1	T-2-2	Residential Soil Cleanup Standards
TPH-DRO	***25,000***	***6,600***	230
TPH-GRO	58	7.6	230
VOCs			
Benzene	0.2	ND	12
Cyclohexane	0.69	ND	NS
Ethylbenzene	3.1	0.026	780
Isopropylbenzene	0.83	0.012	780
Methylcyclohexane	2.7	ND	NS
Naphthalene	4.8	0.11	160
Toluene	4.7	0.013	630
m,p-Xylenes	11	0.120	1,600(1)
o-Xylenes	5.9	0.078	1,600(1)
Remaining VOCs	NA	ND	Varies

Concentrations in ***bold*** and ***italicized*** exceed the MDE's Residential Cleanup Standard for that analyte

ND = Not detected at a concentration greater than or equal to the laboratory practical quantitation limit

NS = The MDE's Residential Soil Cleanup Standard does not include a standard for Cyclohexane and Methylcyclohexane

(1) The MDE's Residential Soil Cleanup Standards does not include a standard for m,p-Xylenes or o-Xylenes; therefore, the MDE's cleanup standard to Total Xylenes was used for comparison purposes

As seen in Table 1, concentrations of TPH-DRO exceeded that MDE's Residential Cleanup Standard for TPH-DRO in both soil samples. Based on the laboratory analytical results, the concentrations of TPH-GRO and VOCs detected in the soil samples did not exceed the MDE's Residential Cleanup Standards for those constituents.

The UST was removed from the Site by ACE and was transported to Baltimore Scrap Corporation for proper disposal (refer to the attached receipt). In addition, the vent pipe was loaded onto a truck and removed from the Site. The MDE inspector allowed the tank excavation to be backfilled using the original soils from the top and sides of the UST that did not exhibit evidence of contamination. In addition, ACE backfilled the excavation with soils obtained from an off-site borrow source to complete the excavation

to original grade. Since the vent pipe was located within the wall of the residence, the vent pipe was not removed from the Site.

One composite soil sample consisting of six grab samples, designated WC-1, was collected from the stockpiled soils for laboratory analysis. The soil sample was collected using a gloved hand, and was placed in clean, labeled glass containers which were placed on ice in a cooler. The sample was transported to a local certified laboratory on the same day as sample collection. The sample was laboratory analyzed for waste characterization purposes per the requirements of the soil disposal facility (Soil Safe). Specifically, the soil sample was analyzed for TPH-DRO and Benzene, Toluene, Ethylene and Total Xylenes (BTEX). A copy of the laboratory report is attached to this letter report.

- **Soil Removal (October 20, 2016)**

On October 20, 2016, the stockpiled soil generated during the heating oil UST removal was removed from the Site by ACE. A total of 5.7 tons of soil was transported to Soil Safe, Inc. for proper disposal (refer to the attached receipt).

- **Additional Soil Removal (December 8, 2016)**

On December 8, 2016, a larger excavator was mobilized at the Site to excavate and remove contaminated soils from the vicinity of the former heating oil UST. Soils exhibiting staining, petroleum hydrocarbon odors, or elevated PID readings were excavated and stockpiled on plastic adjacent to the excavation. In general, all sidewalls were over-excavated. Following the removal of stained soil, the backhoe bucket was utilized to bring soils to the surface for inspection. Additional soil was excavated and stockpiled if hydrocarbon odors and/or elevated PID readings were detected. Soils were excavated and stockpiled until no petroleum odors or elevated PID readings were detected from the sidewalls or bottom of the excavation. It should be noted that petroleum hydrocarbon odors were detected in soils from the southwestern wall of the excavation. Relatively small amounts of soil could not be removed from the southwestern wall due to the threat of compromising the structural integrity of the residence. In general, the excavation measured approximately 22 feet by 25 feet in length and width and ranging from approximately 20-22 feet in depth.

Following the excavation, two post-excavation soil samples (identified by HCEA as PE-1 and PE-2) were collected from the bottom of the heating oil excavation. Soils were brought to the surface for sample collection using the bucket of the backhoe. No staining, odors, or elevated PID readings were detected in the soil samples collected from the bottom of the excavation. The samples were collected using gloved hands and were placed in clean, labeled glass containers which were placed on ice in a cooler.

The two post-excavation soil samples were laboratory analyzed for TPH-DRO, TPH-GRO, and VOCs, including oxygenates. A copy of the laboratory report is attached to this letter report. **Based on the laboratory analytical results, TPH-DRO and TPH-GRO were not detected at concentrations exceeding the laboratory's practical quantitation limit in the post-excavation soil samples (PE-1 and PE-2). Certain VOCs (acetone, benzene, 2-butanone, ethylbenzene, isopropylbenzene, methylcyclohexane, naphthalene, and m,p-xylenes) were detected in one of the post-excavation soil samples (PE-2); however, the detected concentrations of those VOCs are significantly below the MDE's Residential Cleanup Standard for those VOCs.**

- **Soil Removal (December 16, 2016)**

On December 16, 2016, the stockpiled soil generated during the over-excavation for the heating oil UST was removed from the Site. A total of 232.99 tons of soil was transported to Soil Safe, Inc. for proper disposal (refer to the attached receipts).

- **Request for Case Closure**

Based on the activities described in this report, it is HCEA's opinion that additional actions with regard to the removal activities are not warranted and HCEA is requesting on behalf of the Client that the Maryland Department of the Environment provide a Site Status Letter indicating that additional actions are not required for the two UST removals. HCEA is providing a copy of this Tank Removal Report to the MDE's Oil Control Program.

- **Qualifications and Limitations**

HCEA's professional services have been performed, findings obtained, and conclusions prepared in accordance with standard industry practices in the fields of environmental science and engineering. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated for this project.

The samples delivered to the analytical laboratory for this project will be retained by the laboratory for thirty (30) days from the date that the sample was delivered to the laboratory. After 30 days, the laboratory will dispose of the samples. Therefore, if analyses in addition to those presented in this report are desired, a request for the additional analyses must be made prior to the expiration of the laboratory's 30-day sample retention policy. Further, although the laboratory retains samples for 30 days, it should be noted that regulatory "holding times" for certain laboratory analyses are less than 30 days and may have already been exceeded.

This report has been prepared and is intended for the sole use of the Client and the Maryland Department of the Environment. The scope of services performed in execution of this project is not necessarily appropriate to satisfy the needs of other users, and use of this report or the findings and conclusions contained herein is at the risk of said user.

If you have any questions in regard to this letter report, please feel free to contact us at (410) 880-4788.

Very truly yours,
HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

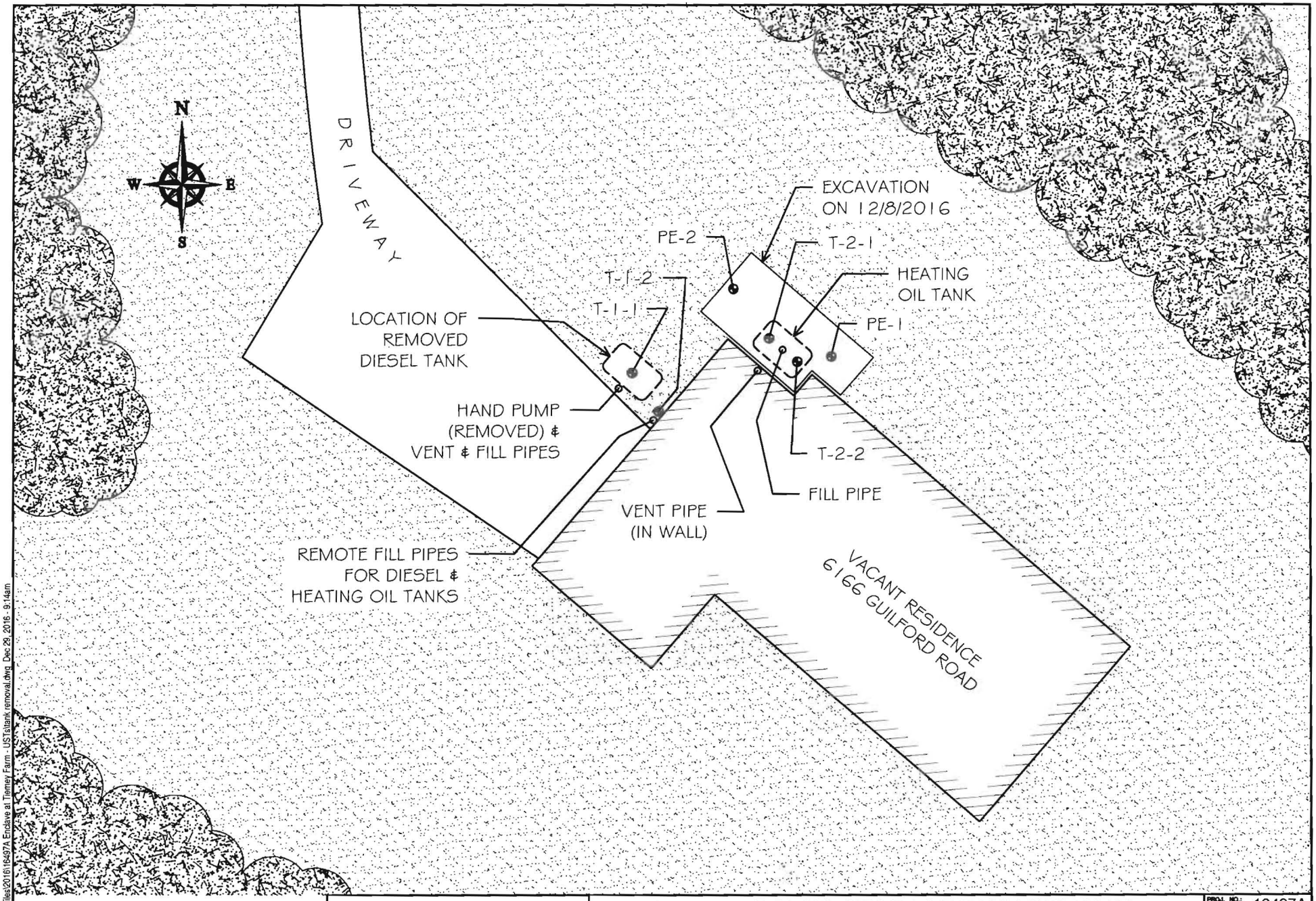
Keith M. Progin
Senior Environmental Project Manager
kprogin@hcea.com

Gina L. Galimberti, REM
Environmental Services Manager
ggalimberti@hcea.com

Figures: Figure 1 – Site Layout Sketch

Appendices: Photographs
Non-Hazardous Waste Manifests (Liquids and Sludge)
MDE Tank Removal/Abandonment Form
Laboratory Reports and Chain-of-Custody Forms
Non-Hazardous Waste Manifests (Contaminated Soil)
Tank Disposal Receipt

Cc : Mr. Jim Richmond – Maryland Department of the Environment



KEY:

SAMPLE LOCATIONS

HILLIS-CARNES
ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A Annapolis Junction, Maryland
(410) 880-4788 WWW.HCEA.COM Fax. (410) 880-4098

UNDERGROUND STORAGE TANK REMOVAL

HODDINOTT PROPERTY (FUTURE ENCLAVE AT TIERNY FARM)

6166 GUILFORD ROAD CLARKSVILLE, MARYLAND

PROJ. NO.:	16497A
DATE:	12/29/16
SCALE:	NTS
DRAWN BY:	AM
CHECKED BY:	KP

\\terra\VOL1\AJ Project Files\2016\16497A Enclave At Tierney Farm - USTs\tank Removal.dwg - 12/29/2016 - 9:14am

\\terra\VOL1\AJ Project Files\2016\16497A Enclave at Tierney Farm - USTs\tank removal.dwg, Dec 29, 2016 - 9:14am

Photograph 1
Diesel UST located on the northwestern side of the residence

Photograph 2
Diesel UST being removed from the ground

Photograph 3
Bottom of the diesel UST following removal

Photograph 4
Remote fill location

Photograph 3
Bottom of the diesel UST following removal

Photograph 4
Remote fill location

Photograph 5
Bottom of remote fill following removal

Photograph 6
Heating oil UST location on the northeastern side of the residence

Photograph 7
Vent pipe for the heating oil UST in the wall of the residence

Photograph 8
Heating oil UST following removal

Photograph 9
Bottom of the heating oil UST excavation following removal

Photograph 10
Soil removal on 12-8-16

Photograph 11
Soil removal on 12-8-16

Photograph 12
Covered stockpile from soil excavation on 12-8-16

ACE ENVIRONMENTAL

NON-HAZARDOUS WASTE MANIFEST

Manifest: # No. 7379

Generator: Hills Corners
16100 Guilford Rd
Clarksville, MD

Date: 9/28/2016
Phone:
Contact:

Describe process of generating waste material: Pump + clean #2 oil tank

The Generator hereby requests and warrants that this material is properly classified and does not contain Polychlorinated Biphenyls (PCB's) or any other hazardous waste. To the best of my knowledge this material has not been mixed combined or blended with any other material defined as a hazardous waste under applicable law. Generator/Shipper agrees to indemnify and hold ACE Environmental Services, LLC and its owner/members harmless for any damages arising from or in any way relating to a breach of this.

Generator:
Print: X Keith Progis Sign: X [signature] Date: 9/28/16
Sample Retained ☐YES ☐NO
Customer's Initials: _____

Description of Waste	Form Liquid / Sludge /Solid	Quantity	% Percent Sludge
Non Hazardous Petroleum Contaminated water (#2 Fuel Oil or Diesel Fuel)			
Non Hazardous waste oil (Engine oil, Hydraulic oil, Transmission oil)			
Non Hazardous #2, #4, #6 oils			
Non Hazardous oil, water, sludge (tank bottoms, separator cleaning)	Liquid	60	10%
Non Hazardous Non-Regulated waste water			
Non Hazardous spill debris (sorbents, sta-dri, fiber purl)			
Non Hazardous Petroleum contaminated soil. (#2 fuel oil, diesel fuel, waste oil, #4 or # 6 oils)			
Gas/Water for Recycling			

Check One: ☒ Gallons ☐ Tons ☐ Pounds Container: ☒ Vacuum Truck ☐ Tanker ☐ Drums ☐ Roll-Off ☐ Dump Truck ☐ Bags

Transporter: ACE Environmental Services, LLC 3512 Fairfield Road Baltimore Maryland 21226 Phone: 410-354-8030

I certify that the above specified waste is being transported in the above vehicle to the Disposal/Recycling facility below.

Print: X Bennie Crowder Sign: X [signature] Date: 9/28/16
Truck / Unit #: 10

☒ **ACE Facility:** ACE Environmental Services, LLC 3512 Fairfield Road Baltimore Maryland 21226 Phone: 410-354-8030

☐ **Other Facility:** _____

The load described above is accepted at this facility.
Print: Mark Smith Sign: [signature] Date: 9/28/16

Unloaded into tank # ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ OTHER _____

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard, Suite 620 • Baltimore Maryland 21230-1719
(410) 537-3442 • 1-800-633-6101 • http:// www.mde.maryland.gov

LAND MANAGEMENT ADMINISTRATION
Oil Control Program

Case #: 17-0180HO
☒INITIAL / ☐FOLLOW-UP

Tank Removal / Abandonment

Site Name: HODDINOTT RESIDENCE
Address: 6166 Guilford Road Clarksville

Date: 9/28/2016
Facility ID #:

1. (a) 2 Number of UST's removed (b) 0 Number of UST's abandoned-in-place (c) 0 Number of UST's remaining on-site.
2. Has an environmental assessment been completed? ☒YES ☐NO

Tank	Product	Age (years)	Size (gallons)	Tank Construction	Perforations		Piping Construction	Disposal Site
					Tank	Piping		
1	Diesel	50+	500	Bare Steel	Yes ☐ No ☒	Yes ☐ No ☒	Bare Steel	scrap
2	Heating Oil	50+	500	Bare Steel	Yes ☒ No ☐	Yes ☐ No ☒	Sleeved Copper	scrap
					Yes ☐ No ☐	Yes ☐ No ☐		
					Yes ☐ No ☐	Yes ☐ No ☐		
					Yes ☐ No ☐	Yes ☐ No ☐		
					Yes ☐ No ☐	Yes ☐ No ☐		

3. Has piping been properly abandoned? ☒YES ☐NO ☐UNKNOWN
4. Has vent risers been removed? ☒YES ☐NO
5. Has all liquid been removed from UST(s)? ☒YES ☐NO
6. Is explosion meter on site? ☒YES ☐NO
7. Have UST(s) been purged of explosive or combustible vapors? ☒YES ☐NO
   (must confirm less than 10% LEL with explosion meter)
8. Is groundwater contaminated? ☐YES ☐NO ☒NOT DETECTABLE AT THIS TIME
9. Is soil contaminated? (if yes, type of product:#2 fuel oil) ☒YES ☐NO ☐NOT DETECTABLE AT THIS TIME
10. Were contaminated soils removed? ☒YES ☐NO
    (If YES, complete *Contaminated Soil Removal Form*; If NO, describe in item 18)
11. Was soil field screened? ☐YES ☐NO
    Tank: max. units 384 at _____ Piping: max. units _____ at _____
12. Are domestic well(s) on site? ☒YES ☐NO
    Is sampling required? (If YES, list EPA method in item 14) ☒YES ☐NO
13. **ACTIONS REQUIRED, IMMEDIATELY, OF THE OWNER BY THIS ADMINISTRATION:**
    ☐STOP OPERATIONS ☐PUMP OUT LIQUIDS ☐CONTAIN AND CLEAN UP SPILL
    ☐OTHER: _____

14. **ACTIONS REQUIRED, WITHIN 45 DAYS, OF THE OWNER BY THIS ADMINISTRATION:**
    ☒SUBMIT ALL TANK REMOVAL/ABANDONMENT DOCUMENTATION INCLUDING: a comprehensive UST closure report which includes documentation for the disposal of the removed tanks, disposal of the residual liquids, and the disposal of petroleum impacted soils. Also include the analytical results of the post-excavation soil sampling, and an amended facility registration.
    ☐PROPERLY ABANDON PIPING IN COMPLIANCE WITH COMAR 26.10.10.02 B.(2) (removed unless otherwise directed)
    ☐REMOVE VENT PIPE RISER (S)
    ☐_____ MONITORING WELL (S) REQUIRED IN PETROLEUM IMPACTED AREA (S) DESCRIBED IN ITEM 18
    ☐COMPLETE AN ENVIRONMENTAL ASSESSMENT IN COMPLIANCE WITH COMAR 26.10._____(submit two copies)
    ☒SUBMIT SOIL ANALYTICAL RESULTS:
    EPA METHOD: ☒8015B GRO/DRO ☐8270 (SVOCs) ☒8260 (VOCs)
    ☐OTHER:_____
    ☒SUBMIT GROUNDWATER ANALYTICAL RESULTS:
    EPA METHOD ☐8015B GRO/DRO ☐8270 (SVOCs) ☐8260 (VOCs) ☒524.2 (VOCs)
    ☐OTHER _____
    ☒SUBMIT SOIL DISPOSAL RECEIPT
    ☒SUBMIT TANK DISPOSAL RECEIPT

Date: 9/28/16
Case No.: 17-0180HO
Facility No.:

14. (continued)
☒AMEND REGISTRATION: ☐Notification form provided to contact person
☒Owner/Representative informed case file may remain open until notification form is received by MDE
☐ Completed on site.

☐OTHER: ____

15. Has inspector completed: site sketch? ☐YES ☒NO site photographs? ☒YES ☐NO
16. Were tank(s) labeled? (If YES, describe: 0180) ☒YES ☐NO
17. Is follow-up required by this Administration? ☐YES ☒NO

18.COMMENTS:Oil Control Program Geologist Jim Richmond was on-site with personnel from ACE Environmental Services, Inc., and Hillis-Carnes Associates to observe the removal of two 500-gallon, steel, UST systems, and the associated piping at the former residential property. Tank #1 was likely used to store diesel fuel (pump attached). There were no perforations observed in Tank #1, and the surrounding soils did not show evidence of a petroleum release. Two post excavation soil samples were collected to characterize subsurface conditons near to Tank #1.. Tank #2 was likley used to store heating oil. Several perforations were observed in Tank #2. The surrounding soils had an odor of petroleum and indicated a petroleum release had occurred. The soils also had a sewerage odor. Impacted soils in the vicinity of Tank #2 were removed until the PID meter indicated decreasing trends. Two post excavation soil samples were collected from the bottom of the excavation for Tank #2. All soil samples are to be analyzed for full suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 8260 and for TPH-DRO and TPH-GRO using EPA Method 8015. Groundwater was not encountered during the UST removal. The vacant property has an individual supply well located inside an underground vault.. The electricity has been disconnected. Access to the well was not possible from the exterior of the vacant dwelling, therefore a groundwater sample could not be collected on this date. The property will likley be redeveloped and the on-site contractor was not sure if any new homes would be supplied by individual wells or instead municipal water. If the supply well for this vacant residence is to be used for consumptive purposes, the Department requires that a representative sample from the supply well be analyzed for full suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 524.2. Otherwise the supply well must be properly abandoned in accordacne with Code of Maryland Regualtions 26.04.04.

Jim Richmond		
Inspector's Name	Inspector's Signature	
Keith Progis		410-880-4788
Contact Person's Name (printed)	Contact Person's Signature	Contact Person's Telephone No.
Contractor's Name (Printed)	Contractor's Signature	Contractor's Telephone No.
George Cooper	MDIC-2015-2151(R)	May 1, 2017
Technician/Remover Name (printed)	Certification Number	Expiration Date

Modified on 8/3/2015

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard, Suite 620 • Baltimore Maryland 21230-1719
(410) 537-3442 • 1-800-633-6101 • http:// www.mde.state.md.us

LAND MANAGEMENT ADMINISTRATION
Oil Control Program
Contaminated Soil Removal

Case # **2017-0180HO**
Date: **9-28-2016**
Facility ID #:

Site Name: **Former Hoddinott Residence**
Address: **6166 Guilford Road Clarksville**

Open / Close / Initial / Follow-Up

Soil Destination: _____
Company Name

_____
Address

Transport Company: **ACE Ennvironmental**

Contaminated soil is a result of: ☒ Leaking UST/Piping ☐ Leaking AST/Piping ☐ Other:

Additional Comments: **Petroleum impacted soils generated during the removal of a leaking underground storage tank, and under the direction of MDE and a Maryland-certified contractor**

Quantity Removed:

Type of Contamination: ☐ Gasoline* ☐ Diesel * ☒ #2 Oil* ☐ Heavy Heating Oil* ☐ Clean Lube*
☐ Other, specify:

Field Readings: **116**

Lab Analysis (Method): **BTEX and as is otherwise required by the permitted soil disposal facility**

Actions required by this Administration: ***Submit disposal receipts* along with the UST closure report**

** Oil, other than waste oil, oil refuse, or oil mixed with waste, was discharged at this site. This determination is based solely on evidence presented to the inspector on-site at the time of the inspection. This statement is not a certification by the Department of the Environment or the undersigned inspector(s).*

Jim Richmond
Inspector's Name

Inspector's Signature

Keith Progis
Contact Person's Name (printed)

Contact Person's Signature

410-880-4788
Contact Person's Telephone No.

Contractor's Name (printed)

Contractor's Signature

Contractor's Telephone No.

Form Number MDE/WAS/Com.045 (revised 9/19/2012)
TTY Users 1-800-735-2258

Recycled Paper
Modified on 03/10/04; JHC

Analytical Report for

Hillis Carnes Engineering Associates

Certificate of Analysis No.: 16092820

Project Manager: Keith Progin
Project Name : Future Enclave
Project Location: Clarksville, MD
Project ID : 16497A

October 5, 2016

Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

October 5, 2016

Keith Progin
Hillis Carnes Engineering Associates
10975 Guilford Road, Ste. A
Annapolis Junction, MD 20701

Reference: PSS Work Order(s) No: **16092820**
Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID.: 16497A

Dear Keith Progin :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16092820**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on November 2, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Future Enclave

Work Order Number(s): 16092820

Project ID: 16497A

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/28/2016 at 03:30 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16092820-001	T-1-1	SOIL	09/28/16 00:00
16092820-002	T-1-2	SOIL	09/28/16 00:00
16092820-003	T-2-1	SOIL	09/28/16 00:00
16092820-004	T-2-2	SOIL	09/28/16 00:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-1-1 | **Date/Time Sampled: 09/28/2016 00:00** | **PSS Sample ID: 16092820-001**
Matrix: SOIL | **Date/Time Received: 09/28/2016 15:30** | **% Solids: 83**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**180**	mg/kg	12		1	09/30/16	10/05/16 02:02	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	120		1	09/29/16	09/29/16 14:30	1035

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-1-1 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-001**

Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 83**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
tert-Amyl alcohol	ND	ug/kg	50		1	10/03/16	10/03/16 22:03	1011
tert-Amyl ethyl ether	ND	ug/kg	50		1	10/03/16	10/03/16 22:03	1011
tert-Amyl methyl ether	ND	ug/kg	50		1	10/03/16	10/03/16 22:03	1011
Benzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Bromochloromethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Bromodichloromethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Bromoform	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Bromomethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
2-Butanone (MEK)	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
tert-Butyl alcohol	ND	ug/kg	50		1	10/03/16	10/03/16 22:03	1011
tert-Butyl ethyl ether	ND	ug/kg	13		1	10/03/16	10/03/16 22:03	1011
Carbon Disulfide	ND	ug/kg	13		1	10/03/16	10/03/16 22:03	1011
Carbon Tetrachloride	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Chlorobenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Chloroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Chloroform	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Chloromethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Cyclohexane	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	50		1	10/03/16	10/03/16 22:03	1011
Dibromochloromethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,2-Dichlorobenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,3-Dichlorobenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,4-Dichlorobenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Dichlorodifluoromethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,1-Dichloroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,2-Dichloroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,1-Dichloroethene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
cis-1,2-Dichloroethene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-1-1 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-001**
Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 83**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,2-Dichloropropane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
cis-1,3-Dichloropropene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
trans-1,2-Dichloroethene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
trans-1,3-Dichloropropene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Diisopropyl ether	ND	ug/kg	13		1	10/03/16	10/03/16 22:03	1011
Ethylbenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
2-Hexanone	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
Isopropylbenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Methyl Acetate	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
Methylcyclohexane	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
Methylene Chloride	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
4-Methyl-2-Pentanone	ND	ug/kg	25		1	10/03/16	10/03/16 22:03	1011
Methyl-t-butyl ether	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Naphthalene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Styrene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Tetrachloroethene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Toluene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,1,1-Trichloroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,1,2-Trichloroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Trichloroethene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Trichlorofluoromethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
Vinyl Chloride	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011
m,p-Xylenes	ND	ug/kg	13		1	10/03/16	10/03/16 22:03	1011
o-Xylene	ND	ug/kg	6.3		1	10/03/16	10/03/16 22:03	1011

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CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-1-2 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-002**

Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 87**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**38**	mg/kg	12		1	09/30/16	10/05/16 02:02	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	110		1	09/29/16	09/29/16 15:01	1035

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CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-1-2 | **Date/Time Sampled: 09/28/2016 00:00** | **PSS Sample ID: 16092820-002**
Matrix: SOIL | **Date/Time Received: 09/28/2016 15:30** | **% Solids: 87**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
tert-Amyl alcohol	ND	ug/kg	47		1	09/29/16	09/29/16 14:52	1011
tert-Amyl ethyl ether	ND	ug/kg	47		1	09/29/16	09/29/16 14:52	1011
tert-Amyl methyl ether	ND	ug/kg	47		1	09/29/16	09/29/16 14:52	1011
Benzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Bromochloromethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Bromodichloromethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Bromoform	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Bromomethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
2-Butanone (MEK)	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
tert-Butyl alcohol	ND	ug/kg	47		1	09/29/16	09/29/16 14:52	1011
tert-Butyl ethyl ether	ND	ug/kg	12		1	09/29/16	09/29/16 14:52	1011
Carbon Disulfide	ND	ug/kg	12		1	09/29/16	09/29/16 14:52	1011
Carbon Tetrachloride	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Chlorobenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Chloroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Chloroform	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Chloromethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Cyclohexane	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	47		1	09/29/16	09/29/16 14:52	1011
Dibromochloromethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,2-Dichlorobenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,3-Dichlorobenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,4-Dichlorobenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Dichlorodifluoromethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,1-Dichloroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,2-Dichloroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,1-Dichloroethene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,2-Dichloropropane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-1-2 | **Date/Time Sampled: 09/28/2016 00:00** | **PSS Sample ID: 16092820-002**
Matrix: SOIL | **Date/Time Received: 09/28/2016 15:30** | **% Solids: 87**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
cis-1,2-Dichloroethene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
cis-1,3-Dichloropropene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
trans-1,2-Dichloroethene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
trans-1,3-Dichloropropene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Diisopropyl ether	ND	ug/kg	12		1	09/29/16	09/29/16 14:52	1011
Ethylbenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
2-Hexanone	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
Isopropylbenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Methyl Acetate	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
Methylcyclohexane	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
Methylene Chloride	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
4-Methyl-2-Pentanone	ND	ug/kg	23		1	09/29/16	09/29/16 14:52	1011
Methyl-t-butyl ether	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Naphthalene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Styrene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Tetrachloroethene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Toluene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,2,3-Trichlorobenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,2,4-Trichlorobenzene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,1,1-Trichloroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,1,2-Trichloroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Trichloroethene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Trichlorofluoromethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
Vinyl Chloride	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011
m,p-Xylenes	ND	ug/kg	12		1	09/29/16	09/29/16 14:52	1011
o-Xylene	ND	ug/kg	5.8		1	09/29/16	09/29/16 14:52	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-2-1 | **Date/Time Sampled: 09/28/2016 00:00** | **PSS Sample ID: 16092820-003**
Matrix: SOIL | **Date/Time Received: 09/28/2016 15:30** | **% Solids: 80**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**25,000**	mg/kg	1,200		100	09/30/16	10/05/16 14:41	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**58,000**	ug/kg	130		1	09/29/16	09/29/16 16:02	1035

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CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-2-1 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-003**
Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 80**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
tert-Amyl alcohol	ND	ug/kg	540		1	10/03/16	10/03/16 18:46	1011
tert-Amyl ethyl ether	ND	ug/kg	540		1	10/03/16	10/03/16 18:46	1011
tert-Amyl methyl ether	ND	ug/kg	540		1	10/03/16	10/03/16 18:46	1011
Benzene	**200**	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Bromochloromethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Bromodichloromethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Bromoform	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Bromomethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
tert-Butyl alcohol	ND	ug/kg	540		1	10/03/16	10/03/16 18:46	1011
2-Butanone (MEK)	ND	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
tert-Butyl ethyl ether	ND	ug/kg	140		1	10/03/16	10/03/16 18:46	1011
Carbon Disulfide	ND	ug/kg	140		1	10/03/16	10/03/16 18:46	1011
Carbon Tetrachloride	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Chlorobenzene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Chloroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Chloroform	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Chloromethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Cyclohexane	**690**	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	540		1	10/03/16	10/03/16 18:46	1011
Dibromochloromethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,2-Dichlorobenzene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,3-Dichlorobenzene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,4-Dichlorobenzene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Dichlorodifluoromethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,1-Dichloroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,2-Dichloroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,1-Dichloroethene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
cis-1,2-Dichloroethene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-2-1 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-003**

Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 80**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,2-Dichloropropane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
cis-1,3-Dichloropropene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
trans-1,2-Dichloroethene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
trans-1,3-Dichloropropene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Diisopropyl ether	ND	ug/kg	140		1	10/03/16	10/03/16 18:46	1011
Ethylbenzene	**3,100**	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
2-Hexanone	ND	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
Isopropylbenzene	**830**	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Methyl Acetate	ND	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
Methylcyclohexane	**2,700**	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
Methylene Chloride	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
4-Methyl-2-Pentanone	ND	ug/kg	270		1	10/03/16	10/03/16 18:46	1011
Methyl-t-butyl ether	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Naphthalene	**4,800**	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Styrene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Tetrachloroethene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Toluene	**4,700**	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,2,3-Trichlorobenzene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,2,4-Trichlorobenzene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,1,1-Trichloroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,1,2-Trichloroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Trichloroethene	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Trichlorofluoromethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
Vinyl Chloride	ND	ug/kg	68		1	10/03/16	10/03/16 18:46	1011
m,p-Xylenes	**11,000**	ug/kg	140		1	10/03/16	10/03/16 18:46	1011
o-Xylene	**5,900**	ug/kg	68		1	10/03/16	10/03/16 18:46	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-2-2 | **Date/Time Sampled: 09/28/2016 00:00** | **PSS Sample ID: 16092820-004**
Matrix: SOIL | **Date/Time Received: 09/28/2016 15:30** | **% Solids: 83**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**6,600**	mg/kg	600		50	09/30/16	10/05/16 14:41	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**7,600**	ug/kg	120		1	09/29/16	09/29/16 15:31	1035

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CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-2-2 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-004**

Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 83**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
tert-Amyl alcohol	ND	ug/kg	48		1	10/03/16	10/03/16 19:26	1011
tert-Amyl ethyl ether	ND	ug/kg	48		1	10/03/16	10/03/16 19:26	1011
tert-Amyl methyl ether	ND	ug/kg	48		1	10/03/16	10/03/16 19:26	1011
Benzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Bromochloromethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Bromodichloromethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Bromoform	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Bromomethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
tert-Butyl alcohol	ND	ug/kg	48		1	10/03/16	10/03/16 19:26	1011
2-Butanone (MEK)	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
tert-Butyl ethyl ether	ND	ug/kg	12		1	10/03/16	10/03/16 19:26	1011
Carbon Disulfide	ND	ug/kg	12		1	10/03/16	10/03/16 19:26	1011
Carbon Tetrachloride	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Chlorobenzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Chloroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Chloroform	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Chloromethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Cyclohexane	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	48		1	10/03/16	10/03/16 19:26	1011
Dibromochloromethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,2-Dichlorobenzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,3-Dichlorobenzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,4-Dichlorobenzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Dichlorodifluoromethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,1-Dichloroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,2-Dichloroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,1-Dichloroethene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,2-Dichloropropane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092820

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 5, 2016

Project Name: Future Enclave
Project Location: Clarksville, MD
Project ID: 16497A

Sample ID: T-2-2 **Date/Time Sampled: 09/28/2016 00:00** **PSS Sample ID: 16092820-004**

Matrix: SOIL **Date/Time Received: 09/28/2016 15:30** **% Solids: 83**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
cis-1,2-Dichloroethene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
cis-1,3-Dichloropropene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
trans-1,2-Dichloroethene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
trans-1,3-Dichloropropene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Diisopropyl ether	ND	ug/kg	12		1	10/03/16	10/03/16 19:26	1011
Ethylbenzene	**26**	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
2-Hexanone	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
Isopropylbenzene	**12**	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Methyl Acetate	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
Methylcyclohexane	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
Methylene Chloride	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
4-Methyl-2-Pentanone	ND	ug/kg	24		1	10/03/16	10/03/16 19:26	1011
Methyl-t-butyl ether	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Naphthalene	**110**	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Styrene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Tetrachloroethene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Toluene	**13**	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,1,1-Trichloroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,1,2-Trichloroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Trichloroethene	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Trichlorofluoromethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
Vinyl Chloride	ND	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011
m,p-Xylenes	**120**	ug/kg	12		1	10/03/16	10/03/16 19:26	1011
o-Xylene	**78**	ug/kg	6.0		1	10/03/16	10/03/16 19:26	1011

Case Narrative Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Future Enclave

Work Order Number(s): 16092820
Project ID: 16497A

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Total Petroleum Hydrocarbons - DRO

Batch: 136242

Surrogate recoveries affected by sample dilution.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16092820
Report Prepared For: Hillis Carnes Engineering Associates, Annapo
Project Name: Future Enclave
Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SM2540G	T-1-1	Initial	16092820-001	1059	S	136193	136193	09/28/2016	09/29/2016 16:12	09/29/2016 16:12
	T-1-2	Initial	16092820-002	1059	S	136193	136193	09/28/2016	09/29/2016 16:12	09/29/2016 16:12
	T-2-1	Initial	16092820-003	1059	S	136193	136193	09/28/2016	09/29/2016 16:12	09/29/2016 16:12
	T-2-2	Initial	16092820-004	1059	S	136193	136193	09/28/2016	09/29/2016 16:12	09/29/2016 16:12
SW-846 8015 C	T-1-1	Initial	16092820-001	1045	S	62767	136242	09/28/2016	09/30/2016 08:29	10/05/2016 02:02
	T-1-2	Initial	16092820-002	1045	S	62767	136242	09/28/2016	09/30/2016 08:29	10/05/2016 02:02
	T-2-1	Initial	16092820-003	1045	S	62767	136242	09/28/2016	09/30/2016 08:29	10/05/2016 14:41
	T-2-2	Initial	16092820-004	1045	S	62767	136242	09/28/2016	09/30/2016 08:29	10/05/2016 14:41
	62767-1-BKS	BKS	62767-1-BKS	1045	S	62767	136242	--------	09/30/2016 08:29	10/02/2016 20:00
	62767-1-BLK	BLK	62767-1-BLK	1045	S	62767	136242	--------	09/30/2016 08:29	10/02/2016 19:35
	62767-1-BSD	BSD	62767-1-BSD	1045	S	62767	136242	--------	09/30/2016 08:29	10/02/2016 20:25
	Parcel L-Drums-C-0928 S	MS	16092813-002 S	1045	S	62767	136242	09/28/2016	09/30/2016 08:29	10/02/2016 20:00
	Parcel L-Drums-C-0928 SD	MSD	16092813-002 SD	1045	S	62767	136242	09/28/2016	09/30/2016 08:29	10/02/2016 20:25
SW-846 8015C	T-1-1	Initial	16092820-001	1035	S	62761	136180	09/28/2016	09/29/2016 08:50	09/29/2016 14:30
	T-1-2	Initial	16092820-002	1035	S	62761	136180	09/28/2016	09/29/2016 08:50	09/29/2016 15:01
	T-2-1	Initial	16092820-003	1035	S	62761	136180	09/28/2016	09/29/2016 08:50	09/29/2016 16:02
	T-2-2	Initial	16092820-004	1035	S	62761	136180	09/28/2016	09/29/2016 08:50	09/29/2016 15:31
	62761-2-BKS	BKS	62761-2-BKS	1035	S	62761	136180	--------	09/29/2016 08:50	09/29/2016 12:28
	62761-2-BLK	BLK	62761-2-BLK	1035	S	62761	136180	--------	09/29/2016 08:50	09/29/2016 10:26
	T-1-1 S	MS	16092820-001 S	1035	S	62761	136180	09/28/2016	09/29/2016 08:50	09/29/2016 17:03
	T-1-1 SD	MSD	16092820-001 SD	1035	S	62761	136180	09/28/2016	09/29/2016 08:50	09/29/2016 17:33
SW-846 8260 B	T-1-2	Initial	16092820-002	1011	S	62775	136197	09/28/2016	09/29/2016 08:41	09/29/2016 14:52
	62775-1-BKS	BKS	62775-1-BKS	1011	S	62775	136197	--------	09/29/2016 08:41	09/29/2016 10:54
	62775-1-BLK	BLK	62775-1-BLK	1011	S	62775	136197	--------	09/29/2016 08:41	09/29/2016 11:33
	T-1-2 S	MS	16092820-002 S	1011	S	62775	136197	09/28/2016	09/29/2016 08:41	09/29/2016 15:31
	T-1-2 SD	MSD	16092820-002 SD	1011	S	62775	136197	09/28/2016	09/29/2016 08:41	09/29/2016 16:11
	T-1-1	Initial	16092820-001	1011	S	62798	136244	09/28/2016	10/03/2016 10:49	10/03/2016 22:03

Analytical Data Package Information Summary

Work Order(s): 16092820
Report Prepared For: Hillis Carnes Engineering Associates, Annapo
Project Name: Future Enclave
Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	T-2-1	Initial	16092820-003	1011	S	62798	136244	09/28/2016	10/03/2016 10:49	10/03/2016 18:46
	T-2-2	Initial	16092820-004	1011	S	62798	136244	09/28/2016	10/03/2016 10:49	10/03/2016 19:26
	62798-1-BKS	BKS	62798-1-BKS	1011	S	62798	136244	--------	10/03/2016 10:49	10/03/2016 12:09
	62798-1-BLK	BLK	62798-1-BLK	1011	S	62798	136244	--------	10/03/2016 10:49	10/03/2016 12:48
	T-1-1 S	MS	16092820-001 S	1011	S	62798	136244	09/28/2016	10/03/2016 10:49	10/03/2016 14:48
	T-1-1 SD	MSD	16092820-001 SD	1011	S	62798	136244	09/28/2016	10/03/2016 10:49	10/03/2016 15:27

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 136242 Matrix: Soil Date Prep: 09/30/2016
PSS Sample ID: 16092820-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	108		34-133	%	10/05/16 02:02

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 136180 Matrix: Soil Date Prep: 09/29/2016
PSS Sample ID: 16092820-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	90		50-122	%	09/29/16 14:30

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Soil Date Prep: 10/03/2016
PSS Sample ID: 16092820-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	95		82-126	%	10/03/16 22:03
Dibromofluoromethane	100		92-113	%	10/03/16 22:03
Toluene-D8	100		94-105	%	10/03/16 22:03

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 136242 Matrix: Soil Date Prep: 09/30/2016
PSS Sample ID: 16092820-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	92		34-133	%	10/05/16 02:02

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 136180 Matrix: Soil Date Prep: 09/29/2016
PSS Sample ID: 16092820-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	88		50-122	%	09/29/16 15:01

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136197 Matrix: Soil Date Prep: 09/29/2016
PSS Sample ID: 16092820-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	117		82-126	%	09/29/16 14:52
Dibromofluoromethane	105		92-113	%	09/29/16 14:52
Toluene-D8	97		94-105	%	09/29/16 14:52

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 136242 Matrix: Soil Date Prep: 09/30/2016
PSS Sample ID: 16092820-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	0	*	34-133	%	10/05/16 14:41

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 136180 Matrix: Soil Date Prep: 09/29/2016
PSS Sample ID: 16092820-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	74		50-122	%	09/29/16 16:02

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Soil Date Prep: 10/03/2016
PSS Sample ID: 16092820-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	116		82-126	%	10/03/16 18:46
Dibromofluoromethane	100		92-113	%	10/03/16 18:46
Toluene-D8	105		94-105	%	10/03/16 18:46

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 136242 Matrix: Soil Date Prep: 09/30/2016
PSS Sample ID: 16092820-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	0	*	34-133	%	10/05/16 14:41

PHASE SEPARATION SCIENCE, INC.
QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 136180 Matrix: Soil Date Prep: 09/29/2016
PSS Sample ID: 16092820-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	87		50-122	%	09/29/16 15:31

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Soil Date Prep: 10/03/2016
PSS Sample ID: 16092820-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		82-126	%	10/03/16 19:26
Dibromofluoromethane	97		92-113	%	10/03/16 19:26
Toluene-D8	101		94-105	%	10/03/16 19:26

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates

Future Enclave

Analytical Method: SW-846 8015 C Prep Method: SW3550C

Seq Number: 136242 Matrix: Solid Date Prep: 09/30/16

MB Sample Id: 62767-1-BLK LCS Sample Id: 62767-1-BKS LCSD Sample Id: 62767-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.15	33.82	28.45	84	37.91	112	54-123	29	25	mg/kg	10/02/16 20:00	F

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	84		79		109		34-133	%	10/02/16 20:00

Analytical Method: SW-846 8015C Prep Method: SW5030

Seq Number: 136180 Matrix: Solid Date Prep: 09/29/16

MB Sample Id: 62761-2-BLK LCS Sample Id: 62761-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organic:	<100	5000	4135	83	75-123	ug/kg	09/29/16 12:28	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	90		104		50-122	%	09/29/16 12:28

Analytical Method: SW-846 8015C Prep Method: SW5030

Seq Number: 136180 Matrix: Soil Date Prep: 09/29/16

Parent Sample Id: 16092820-001 MS Sample Id: 16092820-001 S MSD Sample Id: 16092820-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organic:	<118.6	5929	5044	85	5052	84	31-140	0	30	ug/kg	09/29/16 17:03	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	100		101		50-122	%	09/29/16 17:03

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136197 Matrix: Solid Date Prep: 09/29/16
MB Sample Id: 62775-1-BLK LCS Sample Id: 62775-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	55.83	93	46-127	ug/kg	09/29/16 10:54	
tert-Amyl alcohol	<40.00	60.00	47.80	80	46-130	ug/kg	09/29/16 10:54	
tert-Amyl ethyl ether	<40.00	60.00	54.03	90	68-116	ug/kg	09/29/16 10:54	
tert-Amyl methyl ether	<40.00	60.00	53.57	89	67-121	ug/kg	09/29/16 10:54	
Benzene	<5.000	60.00	56.49	94	70-127	ug/kg	09/29/16 10:54	
Bromochloromethane	<5.000	60.00	54.11	90	68-122	ug/kg	09/29/16 10:54	
Bromodichloromethane	<5.000	60.00	51.73	86	68-122	ug/kg	09/29/16 10:54	
Bromoform	<5.000	60.00	51.30	86	57-127	ug/kg	09/29/16 10:54	
Bromomethane	<5.000	60.00	55.17	92	68-123	ug/kg	09/29/16 10:54	
2-Butanone (MEK)	<20.00	60.00	54.07	90	41-136	ug/kg	09/29/16 10:54	
tert-Butyl alcohol	<40.00	60.00	51.64	86	51-128	ug/kg	09/29/16 10:54	
tert-Butyl ethyl ether	<10.00	60.00	52.86	88	65-117	ug/kg	09/29/16 10:54	
Carbon Disulfide	<10.00	60.00	56.43	94	66-135	ug/kg	09/29/16 10:54	
Carbon Tetrachloride	<5.000	60.00	52.11	87	64-147	ug/kg	09/29/16 10:54	
Chlorobenzene	<5.000	60.00	52.37	87	70-121	ug/kg	09/29/16 10:54	
Chloroethane	<5.000	60.00	55.33	92	66-142	ug/kg	09/29/16 10:54	
Chloroform	<5.000	60.00	52.46	87	68-123	ug/kg	09/29/16 10:54	
Chloromethane	<5.000	60.00	53.55	89	65-136	ug/kg	09/29/16 10:54	
Cyclohexane	<20.00	60.00	54.37	91	62-138	ug/kg	09/29/16 10:54	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	49.17	82	55-122	ug/kg	09/29/16 10:54	
Dibromochloromethane	<5.000	60.00	50.07	83	61-122	ug/kg	09/29/16 10:54	
1,2-Dibromoethane (EDB)	<5.000	60.00	50.79	85	63-119	ug/kg	09/29/16 10:54	
1,2-Dichlorobenzene	<5.000	60.00	52.08	87	65-121	ug/kg	09/29/16 10:54	
1,3-Dichlorobenzene	<5.000	60.00	51.53	86	69-121	ug/kg	09/29/16 10:54	
1,4-Dichlorobenzene	<5.000	60.00	52.20	87	69-118	ug/kg	09/29/16 10:54	
Dichlorodifluoromethane	<5.000	60.00	48.55	81	53-162	ug/kg	09/29/16 10:54	
1,1-Dichloroethane	<5.000	60.00	56.66	94	70-127	ug/kg	09/29/16 10:54	
1,2-Dichloroethane	<5.000	60.00	52.08	87	68-118	ug/kg	09/29/16 10:54	
1,1-Dichloroethene	<5.000	60.00	55.40	92	69-133	ug/kg	09/29/16 10:54	
1,2-Dichloropropane	<5.000	60.00	56.94	95	70-122	ug/kg	09/29/16 10:54	
cis-1,2-Dichloroethene	<5.000	60.00	54.86	91	68-126	ug/kg	09/29/16 10:54	
cis-1,3-Dichloropropene	<5.000	60.00	53.40	89	68-121	ug/kg	09/29/16 10:54	
trans-1,2-Dichloroethene	<5.000	60.00	56.66	94	70-132	ug/kg	09/29/16 10:54	
trans-1,3-Dichloropropene	<5.000	60.00	51.45	86	67-115	ug/kg	09/29/16 10:54	
Diisopropyl ether	<10.00	60.00	54.22	90	68-121	ug/kg	09/29/16 10:54	
Ethylbenzene	<5.000	60.00	52.35	87	70-125	ug/kg	09/29/16 10:54	
2-Hexanone	<20.00	60.00	49.97	83	40-121	ug/kg	09/29/16 10:54	
Isopropylbenzene	<5.000	60.00	50.87	85	68-130	ug/kg	09/29/16 10:54	
Methyl Acetate	<20.00	60.00	56.46	94	60-125	ug/kg	09/29/16 10:54	
Methylcyclohexane	<20.00	60.00	55.34	92	62-150	ug/kg	09/29/16 10:54	
Methylene Chloride	<5.000	60.00	55.12	92	67-121	ug/kg	09/29/16 10:54	
4-Methyl-2-Pentanone	<20.00	60.00	50.30	84	48-117	ug/kg	09/29/16 10:54	
Methyl-t-butyl ether	<5.000	60.00	54.06	90	66-119	ug/kg	09/29/16 10:54	
Naphthalene	<5.000	60.00	47.13	79	54-115	ug/kg	09/29/16 10:54	
Styrene	<5.000	60.00	48.67	81	71-120	ug/kg	09/29/16 10:54	
1,1,2,2-Tetrachloroethane	<5.000	60.00	53.77	90	59-122	ug/kg	09/29/16 10:54	
Tetrachloroethene	<5.000	60.00	53.69	89	65-145	ug/kg	09/29/16 10:54	
Toluene	<5.000	60.00	54.18	90	69-129	ug/kg	09/29/16 10:54	
1,2,3-Trichlorobenzene	<5.000	60.00	46.99	78	60-114	ug/kg	09/29/16 10:54	
1,2,4-Trichlorobenzene	<5.000	60.00	46.24	77	64-115	ug/kg	09/29/16 10:54	
1,1,1-Trichloroethane	<5.000	60.00	50.46	84	65-139	ug/kg	09/29/16 10:54	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B
Prep Method: SW5030
Seq Number: 136197
Matrix: Solid
Date Prep: 09/29/16
MB Sample Id: 62775-1-BLK
LCS Sample Id: 62775-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,1,2-Trichloroethane	<5.000	60.00	56.07	93	64-125	ug/kg	09/29/16 10:54	
Trichloroethene	<5.000	60.00	53.73	90	69-133	ug/kg	09/29/16 10:54	
Trichlorofluoromethane	<5.000	60.00	52.60	88	59-153	ug/kg	09/29/16 10:54	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	49.35	82	62-139	ug/kg	09/29/16 10:54	
Vinyl Chloride	<5.000	60.00	64.22	107	69-142	ug/kg	09/29/16 10:54	
m,p-Xylenes	<10.00	120	103.8	87	71-124	ug/kg	09/29/16 10:54	
o-Xylene	<5.000	60.00	49.67	83	72-123	ug/kg	09/29/16 10:54	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	112		96		82-126	%	09/29/16 10:54
Dibromofluoromethane	101		100		92-113	%	09/29/16 10:54
Toluene-D8	99		101		94-105	%	09/29/16 10:54

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Solid Date Prep: 10/03/16
MB Sample Id: 62798-1-BLK LCS Sample Id: 62798-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	67.48	112	46-127	ug/kg	10/03/16 12:09	
tert-Amyl alcohol	<40.00	60.00	56.98	95	46-130	ug/kg	10/03/16 12:09	
tert-Amyl ethyl ether	<40.00	60.00	63.92	107	68-116	ug/kg	10/03/16 12:09	
tert-Amyl methyl ether	<40.00	60.00	63.26	105	67-121	ug/kg	10/03/16 12:09	
Benzene	<5.000	60.00	71.89	120	70-127	ug/kg	10/03/16 12:09	
Bromochloromethane	<5.000	60.00	71.13	119	68-122	ug/kg	10/03/16 12:09	
Bromodichloromethane	<5.000	60.00	68.53	114	68-122	ug/kg	10/03/16 12:09	
Bromoform	<5.000	60.00	59.76	100	57-127	ug/kg	10/03/16 12:09	
Bromomethane	<5.000	60.00	75.56	126	68-123	ug/kg	10/03/16 12:09	H
2-Butanone (MEK)	<20.00	60.00	60.44	101	41-136	ug/kg	10/03/16 12:09	
tert-Butyl alcohol	<40.00	60.00	61.98	103	51-128	ug/kg	10/03/16 12:09	
tert-Butyl ethyl ether	<10.00	60.00	63.43	106	65-117	ug/kg	10/03/16 12:09	
Carbon Disulfide	<10.00	60.00	72.08	120	66-135	ug/kg	10/03/16 12:09	
Carbon Tetrachloride	<5.000	60.00	67.50	113	64-147	ug/kg	10/03/16 12:09	
Chlorobenzene	<5.000	60.00	61.09	102	70-121	ug/kg	10/03/16 12:09	
Chloroethane	<5.000	60.00	75.18	125	66-142	ug/kg	10/03/16 12:09	
Chloroform	<5.000	60.00	69.41	116	68-123	ug/kg	10/03/16 12:09	
Chloromethane	<5.000	60.00	71.52	119	65-136	ug/kg	10/03/16 12:09	
Cyclohexane	<20.00	60.00	65.15	109	62-138	ug/kg	10/03/16 12:09	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	53.63	89	55-122	ug/kg	10/03/16 12:09	
Dibromochloromethane	<5.000	60.00	58.64	98	61-122	ug/kg	10/03/16 12:09	
1,2-Dibromoethane (EDB)	<5.000	60.00	58.39	97	63-119	ug/kg	10/03/16 12:09	
1,2-Dichlorobenzene	<5.000	60.00	58.67	98	65-121	ug/kg	10/03/16 12:09	
1,3-Dichlorobenzene	<5.000	60.00	58.08	97	69-121	ug/kg	10/03/16 12:09	
1,4-Dichlorobenzene	<5.000	60.00	57.43	96	69-118	ug/kg	10/03/16 12:09	
Dichlorodifluoromethane	<5.000	60.00	64.36	107	53-162	ug/kg	10/03/16 12:09	
1,1-Dichloroethane	<5.000	60.00	72.12	120	70-127	ug/kg	10/03/16 12:09	
1,2-Dichloroethane	<5.000	60.00	68.49	114	68-118	ug/kg	10/03/16 12:09	
1,1-Dichloroethene	<5.000	60.00	71.28	119	69-133	ug/kg	10/03/16 12:09	
1,2-Dichloropropane	<5.000	60.00	73.58	123	70-122	ug/kg	10/03/16 12:09	H
cis-1,2-Dichloroethene	<5.000	60.00	69.85	116	68-126	ug/kg	10/03/16 12:09	
cis-1,3-Dichloropropene	<5.000	60.00	66.28	110	68-121	ug/kg	10/03/16 12:09	
trans-1,2-Dichloroethene	<5.000	60.00	71.36	119	70-132	ug/kg	10/03/16 12:09	
trans-1,3-Dichloropropene	<5.000	60.00	65.72	110	67-115	ug/kg	10/03/16 12:09	
Diisopropyl ether	<10.00	60.00	66.45	111	68-121	ug/kg	10/03/16 12:09	
Ethylbenzene	<5.000	60.00	61.18	102	70-125	ug/kg	10/03/16 12:09	
2-Hexanone	<20.00	60.00	56.21	94	40-121	ug/kg	10/03/16 12:09	
Isopropylbenzene	<5.000	60.00	53.91	90	68-130	ug/kg	10/03/16 12:09	
Methyl Acetate	<20.00	60.00	71.78	120	60-125	ug/kg	10/03/16 12:09	
Methylcyclohexane	<20.00	60.00	69.12	115	62-150	ug/kg	10/03/16 12:09	
Methylene Chloride	<5.000	60.00	72.80	121	67-121	ug/kg	10/03/16 12:09	
4-Methyl-2-Pentanone	<20.00	60.00	56.73	95	48-117	ug/kg	10/03/16 12:09	
Methyl-t-butyl ether	<5.000	60.00	64.78	108	66-119	ug/kg	10/03/16 12:09	
Naphthalene	<5.000	60.00	47.25	79	54-115	ug/kg	10/03/16 12:09	
Styrene	<5.000	60.00	57.65	96	71-120	ug/kg	10/03/16 12:09	
1,1,2,2-Tetrachloroethane	<5.000	60.00	56.97	95	59-122	ug/kg	10/03/16 12:09	
Tetrachloroethene	<5.000	60.00	68.82	115	65-145	ug/kg	10/03/16 12:09	
Toluene	<5.000	60.00	69.02	115	69-129	ug/kg	10/03/16 12:09	
1,2,3-Trichlorobenzene	<5.000	60.00	48.69	81	60-114	ug/kg	10/03/16 12:09	
1,2,4-Trichlorobenzene	<5.000	60.00	46.76	78	64-115	ug/kg	10/03/16 12:09	
1,1,1-Trichloroethane	<5.000	60.00	63.38	106	65-139	ug/kg	10/03/16 12:09	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Solid Date Prep: 10/03/16
MB Sample Id: 62798-1-BLK LCS Sample Id: 62798-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,1,2-Trichloroethane	<5.000	60.00	73.87	123	64-125	ug/kg	10/03/16 12:09	
Trichloroethene	<5.000	60.00	70.20	117	69-133	ug/kg	10/03/16 12:09	
Trichlorofluoromethane	<5.000	60.00	73.31	122	59-153	ug/kg	10/03/16 12:09	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	63.97	107	62-139	ug/kg	10/03/16 12:09	
Vinyl Chloride	<5.000	60.00	83.65	139	69-142	ug/kg	10/03/16 12:09	
m,p-Xylenes	<10.00	120	120.8	101	71-124	ug/kg	10/03/16 12:09	
o-Xylene	<5.000	60.00	57.82	96	72-123	ug/kg	10/03/16 12:09	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	116		91		82-126	%	10/03/16 12:09
Dibromofluoromethane	111		110		92-113	%	10/03/16 12:09
Toluene-D8	106	*	108	*	94-105	%	10/03/16 12:09

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136197 Matrix: Soil Date Prep: 09/29/16
Parent Sample Id: 16092820-002 MS Sample Id: 16092820-002 S MSD Sample Id: 16092820-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acetone	<22.06	66.19	79.65	120	65.01	93	46-133	20	30	ug/kg	09/29/16 15:31	
tert-Amyl alcohol	<44.12	66.19	59.90	90	60.14	86	35-151	0	30	ug/kg	09/29/16 15:31	
tert-Amyl ethyl ether	<44.12	66.19	57.80	87	57.49	82	45-114	1	30	ug/kg	09/29/16 15:31	
tert-Amyl methyl ether	<44.12	66.19	59.94	91	60.42	86	48-120	1	30	ug/kg	09/29/16 15:31	
Benzene	<5.515	66.19	63.48	96	65.88	94	43-126	4	30	ug/kg	09/29/16 15:31	
Bromochloromethane	<5.515	66.19	62.78	95	65.71	94	49-120	5	30	ug/kg	09/29/16 15:31	
Bromodichloromethane	<5.515	66.19	61.50	93	60.41	86	44-122	2	30	ug/kg	09/29/16 15:31	
Bromoform	<5.515	66.19	65.13	98	57.95	83	33-136	12	30	ug/kg	09/29/16 15:31	
Bromomethane	<5.515	66.19	61.51	93	68.04	97	45-119	10	30	ug/kg	09/29/16 15:31	
2-Butanone (MEK)	<22.06	66.19	74.43	112	55.95	80	30-150	28	30	ug/kg	09/29/16 15:31	
tert-Butyl alcohol	<44.12	66.19	63.63	96	48.69	69	47-135	27	30	ug/kg	09/29/16 15:31	
tert-Butyl ethyl ether	<11.03	66.19	59.39	90	62.09	88	47-114	4	30	ug/kg	09/29/16 15:31	
Carbon Disulfide	<11.03	66.19	62.02	94	64.67	92	35-133	4	30	ug/kg	09/29/16 15:31	
Carbon Tetrachloride	<5.515	66.19	59.16	89	58.59	83	27-153	1	30	ug/kg	09/29/16 15:31	
Chlorobenzene	<5.515	66.19	60.22	91	52.60	75	29-133	14	30	ug/kg	09/29/16 15:31	
Chloroethane	<5.515	66.19	61.54	93	68.99	98	44-130	11	30	ug/kg	09/29/16 15:31	
Chloroform	<5.515	66.19	60.71	92	63.12	90	48-119	4	30	ug/kg	09/29/16 15:31	
Chloromethane	<5.515	66.19	58.59	89	66.66	95	42-131	13	30	ug/kg	09/29/16 15:31	
Cyclohexane	<22.06	66.19	49.15	74	44.79	64	16-142	9	30	ug/kg	09/29/16 15:31	
1,2-Dibromo-3-Chloropropane	<44.12	66.19	58.14	88	52.73	75	35-144	10	30	ug/kg	09/29/16 15:31	
Dibromochloromethane	<5.515	66.19	63.99	97	58.69	84	42-120	9	30	ug/kg	09/29/16 15:31	
1,2-Dibromoethane (EDB)	<5.515	66.19	64.50	97	60.46	86	47-120	6	30	ug/kg	09/29/16 15:31	
1,2-Dichlorobenzene	<5.515	66.19	49.72	75	38.22	54	14-130	26	30	ug/kg	09/29/16 15:31	
1,3-Dichlorobenzene	<5.515	66.19	49.48	75	37.99	54	14-130	26	30	ug/kg	09/29/16 15:31	
1,4-Dichlorobenzene	<5.515	66.19	49.44	75	38.22	54	15-127	26	30	ug/kg	09/29/16 15:31	
Dichlorodifluoromethane	<5.515	66.19	64.82	98	70.77	101	29-155	9	30	ug/kg	09/29/16 15:31	
1,1-Dichloroethane	<5.515	66.19	64.95	98	69.59	99	48-123	7	30	ug/kg	09/29/16 15:31	
1,2-Dichloroethane	<5.515	66.19	62.04	94	64.32	92	52-116	4	30	ug/kg	09/29/16 15:31	
1,1-Dichloroethene	<5.515	66.19	64.40	97	68.72	98	45-126	6	30	ug/kg	09/29/16 15:31	
1,2-Dichloropropane	<5.515	66.19	64.87	98	65.11	93	48-120	0	30	ug/kg	09/29/16 15:31	
cis-1,2-Dichloroethene	<5.515	66.19	60.75	92	63.57	91	46-121	5	30	ug/kg	09/29/16 15:31	
cis-1,3-Dichloropropene	<5.515	66.19	57.84	87	56.65	81	41-123	2	30	ug/kg	09/29/16 15:31	
trans-1,2-Dichloroethene	<5.515	66.19	62.71	95	66.73	95	47-124	6	30	ug/kg	09/29/16 15:31	
trans-1,3-Dichloropropene	<5.515	66.19	59.11	89	55.45	79	36-128	6	30	ug/kg	09/29/16 15:31	
Diisopropyl ether	<11.03	66.19	61.33	93	66.71	95	48-117	8	30	ug/kg	09/29/16 15:31	
Ethylbenzene	<5.515	66.19	58.93	89	50.71	72	24-137	15	30	ug/kg	09/29/16 15:31	
2-Hexanone	<22.06	66.19	65.04	98	50.02	71	29-133	26	30	ug/kg	09/29/16 15:31	
Isopropylbenzene	<5.515	66.19	52.06	79	42.18	60	17-136	21	30	ug/kg	09/29/16 15:31	
Methyl Acetate	<22.06	66.19	82.28	124	84.32	120	35-165	2	30	ug/kg	09/29/16 15:31	
Methylcyclohexane	<22.06	66.19	43.34	65	36.68	52	12-144	17	30	ug/kg	09/29/16 15:31	
Methylene Chloride	<5.515	66.19	62.58	95	67.27	96	49-119	7	30	ug/kg	09/29/16 15:31	
4-Methyl-2-Pentanone	<22.06	66.19	68.74	104	53.22	76	33-136	25	30	ug/kg	09/29/16 15:31	
Methyl-t-butyl ether	<5.515	66.19	62.14	94	64.83	92	49-119	4	30	ug/kg	09/29/16 15:31	
Naphthalene	<5.515	66.19	34.43	52	22.54	32	14-128	42	30	ug/kg	09/29/16 15:31	F
Styrene	<5.515	66.19	54.07	82	44.67	64	27-130	19	30	ug/kg	09/29/16 15:31	
1,1,2,2-Tetrachloroethane	<5.515	66.19	65.92	100	61.26	87	42-128	7	30	ug/kg	09/29/16 15:31	
Tetrachloroethene	<5.515	66.19	54.21	82	47.09	67	17-152	14	30	ug/kg	09/29/16 15:31	
Toluene	<5.515	66.19	59.58	90	57.45	82	39-127	4	30	ug/kg	09/29/16 15:31	
1,2,3-Trichlorobenzene	<5.515	66.19	30.75	46	20.76	30	2-122	39	30	ug/kg	09/29/16 15:31	F
1,2,4-Trichlorobenzene	<5.515	66.19	30.24	46	19.27	27	1-125	44	30	ug/kg	09/29/16 15:31	F
1,1,1-Trichloroethane	<5.515	66.19	56.99	86	59.31	84	42-134	4	30	ug/kg	09/29/16 15:31	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates

Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030

Seq Number: 136197 Matrix: Soil Date Prep: 09/29/16

Parent Sample Id: 16092820-002 MS Sample Id: 16092820-002 S MSD Sample Id: 16092820-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,1,2-Trichloroethane	<5.515	66.19	69.16	104	65.82	94	47-126	5	30	ug/kg	09/29/16 15:31	
Trichloroethene	<5.515	66.19	60.64	92	58.71	84	42-129	3	30	ug/kg	09/29/16 15:31	
Trichlorofluoromethane	<5.515	66.19	66.99	101	71.99	103	32-148	7	30	ug/kg	09/29/16 15:31	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.515	66.19	50.41	76	51.95	74	35-126	3	30	ug/kg	09/29/16 15:31	
Vinyl Chloride	<5.515	66.19	70.33	106	80.51	115	35-149	13	30	ug/kg	09/29/16 15:31	
m,p-Xylenes	<11.03	132.4	116.4	88	99.66	71	33-125	15	30	ug/kg	09/29/16 15:31	
o-Xylene	<5.515	66.19	55.79	84	47.02	67	29-134	17	30	ug/kg	09/29/16 15:31	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	95		97		82-126	%	09/29/16 15:31
Dibromofluoromethane	105		103		92-113	%	09/29/16 15:31
Toluene-D8	99		100		94-105	%	09/29/16 15:31

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Soil Date Prep: 10/03/16
Parent Sample Id: 16092820-001 MS Sample Id: 16092820-001 S MSD Sample Id: 16092820-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acetone	<25.10	75.30	113	150	92.36	126	46-133	20	30	ug/kg	10/03/16 14:48	X
tert-Amyl alcohol	<50.20	75.30	99.10	132	130.1	178	35-151	27	30	ug/kg	10/03/16 14:48	X
tert-Amyl ethyl ether	<50.20	75.30	81.29	108	91.31	125	45-114	12	30	ug/kg	10/03/16 14:48	X
tert-Amyl methyl ether	<50.20	75.30	86.42	115	98.19	134	48-120	13	30	ug/kg	10/03/16 14:48	X
Benzene	<6.275	75.30	78.64	104	88.45	121	43-126	12	30	ug/kg	10/03/16 14:48	
Bromochloromethane	<6.275	75.30	79.12	105	88.18	121	49-120	11	30	ug/kg	10/03/16 14:48	X
Bromodichloromethane	<6.275	75.30	78.19	104	84.02	115	44-122	7	30	ug/kg	10/03/16 14:48	
Bromoform	<6.275	75.30	83.76	111	92.85	127	33-136	10	30	ug/kg	10/03/16 14:48	
Bromomethane	<6.275	75.30	78.71	105	89.29	122	45-119	13	30	ug/kg	10/03/16 14:48	X
2-Butanone (MEK)	<25.10	75.30	108.3	144	83.12	114	30-150	26	30	ug/kg	10/03/16 14:48	
tert-Butyl alcohol	<50.20	75.30	101.4	135	112.8	154	47-135	11	30	ug/kg	10/03/16 14:48	X
tert-Butyl ethyl ether	<12.55	75.30	80.69	107	91.82	125	47-114	13	30	ug/kg	10/03/16 14:48	X
Carbon Disulfide	<12.55	75.30	76.29	101	85.75	117	35-133	12	30	ug/kg	10/03/16 14:48	
Carbon Tetrachloride	<6.275	75.30	69.62	92	74.89	102	27-153	7	30	ug/kg	10/03/16 14:48	
Chlorobenzene	<6.275	75.30	75.97	101	81.90	112	29-133	8	30	ug/kg	10/03/16 14:48	
Chloroethane	<6.275	75.30	80.42	107	89.92	123	44-130	11	30	ug/kg	10/03/16 14:48	
Chloroform	<6.275	75.30	74.36	99	80.87	111	48-119	8	30	ug/kg	10/03/16 14:48	
Chloromethane	<6.275	75.30	77.90	103	89.62	122	42-131	14	30	ug/kg	10/03/16 14:48	
Cyclohexane	<25.10	75.30	74.22	99	84.17	115	16-142	13	30	ug/kg	10/03/16 14:48	
1,2-Dibromo-3-Chloropropane	<50.20	75.30	105.5	140	109.7	150	35-144	4	30	ug/kg	10/03/16 14:48	X
Dibromochloromethane	<6.275	75.30	77.81	103	85.24	116	42-120	9	30	ug/kg	10/03/16 14:48	
1,2-Dibromoethane (EDB)	<6.275	75.30	83.08	110	89.52	122	47-120	7	30	ug/kg	10/03/16 14:48	X
1,2-Dichlorobenzene	<6.275	75.30	77.22	103	85.07	116	14-130	10	30	ug/kg	10/03/16 14:48	
1,3-Dichlorobenzene	<6.275	75.30	76.24	101	82.61	113	14-130	8	30	ug/kg	10/03/16 14:48	
1,4-Dichlorobenzene	<6.275	75.30	76.28	101	82.57	113	15-127	8	30	ug/kg	10/03/16 14:48	
Dichlorodifluoromethane	<6.275	75.30	73.88	98	82.29	112	29-155	11	30	ug/kg	10/03/16 14:48	
1,1-Dichloroethane	<6.275	75.30	74.75	99	84.42	115	48-123	12	30	ug/kg	10/03/16 14:48	
1,2-Dichloroethane	<6.275	75.30	76.19	101	83.03	113	52-116	9	30	ug/kg	10/03/16 14:48	
1,1-Dichloroethene	<6.275	75.30	77.81	103	87.81	120	45-126	12	30	ug/kg	10/03/16 14:48	
1,2-Dichloropropane	<6.275	75.30	82.38	109	90.41	124	48-120	9	30	ug/kg	10/03/16 14:48	X
cis-1,2-Dichloroethene	<6.275	75.30	76.63	102	84.08	115	46-121	9	30	ug/kg	10/03/16 14:48	
cis-1,3-Dichloropropene	<6.275	75.30	82.23	109	87.68	120	41-123	6	30	ug/kg	10/03/16 14:48	
trans-1,2-Dichloroethene	<6.275	75.30	75.28	100	84.79	116	47-124	12	30	ug/kg	10/03/16 14:48	
trans-1,3-Dichloropropene	<6.275	75.30	82.35	109	87.92	120	36-128	7	30	ug/kg	10/03/16 14:48	
Diisopropyl ether	<12.55	75.30	80.43	107	91.54	125	48-117	13	30	ug/kg	10/03/16 14:48	X
Ethylbenzene	<6.275	75.30	76.53	102	81.01	111	24-137	6	30	ug/kg	10/03/16 14:48	
2-Hexanone	<25.10	75.30	107.1	142	83.61	114	29-133	25	30	ug/kg	10/03/16 14:48	X
Isopropylbenzene	<6.275	75.30	75.67	100	80.45	110	17-136	6	30	ug/kg	10/03/16 14:48	
Methyl Acetate	<25.10	75.30	109.1	145	122	167	35-165	11	30	ug/kg	10/03/16 14:48	X
Methylcyclohexane	<25.10	75.30	66.28	88	80.09	109	12-144	19	30	ug/kg	10/03/16 14:48	
Methylene Chloride	<6.275	75.30	78.66	104	88.64	121	49-119	12	30	ug/kg	10/03/16 14:48	X
4-Methyl-2-Pentanone	<25.10	75.30	99.92	133	79.34	108	33-136	23	30	ug/kg	10/03/16 14:48	
Methyl-t-butyl ether	<6.275	75.30	83.71	111	95.21	130	49-119	13	30	ug/kg	10/03/16 14:48	X
Naphthalene	<6.275	75.30	105.1	140	119.7	164	14-128	13	30	ug/kg	10/03/16 14:48	X
Styrene	<6.275	75.30	75.63	100	80.79	110	27-130	7	30	ug/kg	10/03/16 14:48	
1,1,2,2-Tetrachloroethane	<6.275	75.30	90.00	120	103.4	141	42-128	14	30	ug/kg	10/03/16 14:48	X
Tetrachloroethene	<6.275	75.30	78.66	104	84.08	115	17-152	7	30	ug/kg	10/03/16 14:48	
Toluene	<6.275	75.30	80.40	107	86.00	118	39-127	7	30	ug/kg	10/03/16 14:48	
1,2,3-Trichlorobenzene	<6.275	75.30	81.44	108	94.28	129	2-122	15	30	ug/kg	10/03/16 14:48	X
1,2,4-Trichlorobenzene	<6.275	75.30	77.66	103	88.42	121	1-125	13	30	ug/kg	10/03/16 14:48	
1,1,1-Trichloroethane	<6.275	75.30	65.11	86	72.69	99	42-134	11	30	ug/kg	10/03/16 14:48	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092820

Hillis Carnes Engineering Associates
Future Enclave

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136244 Matrix: Soil Date Prep: 10/03/16
Parent Sample Id: 16092820-001 MS Sample Id: 16092820-001 S MSD Sample Id: 16092820-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,1,2-Trichloroethane	<6.275	75.30	92.90	123	99.50	136	47-126	7	30	ug/kg	10/03/16 14:48	X
Trichloroethene	<6.275	75.30	75.84	101	81.30	111	42-129	7	30	ug/kg	10/03/16 14:48	
Trichlorofluoromethane	<6.275	75.30	74.82	99	81.44	111	32-148	8	30	ug/kg	10/03/16 14:48	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<6.275	75.30	69.74	93	73.53	100	35-126	5	30	ug/kg	10/03/16 14:48	
Vinyl Chloride	<6.275	75.30	86.91	115	100.2	137	35-149	14	30	ug/kg	10/03/16 14:48	
m,p-Xylenes	<12.55	150.6	149.8	99	162	111	33-125	8	30	ug/kg	10/03/16 14:48	
o-Xylene	<6.275	75.30	76.14	101	82.18	112	29-134	8	30	ug/kg	10/03/16 14:48	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	96		96		82-126	%	10/03/16 14:48
Dibromofluoromethane	101		100		92-113	%	10/03/16 14:48
Toluene-D8	105		104		94-105	%	10/03/16 14:48

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: Hillis-Carnes *OFFICE LOC.

*PROJECT MGR: Keith Progin *PHONE NO.: (410) 880-4788

EMAIL: Kprogin@hcea.com FAX NO.: ( )

*PROJECT NAME: Future Enclave PROJECT NO.: 16497A

SITE LOCATION: Clarksville, MD P.O. NO.: PO#C104648

SAMPLER(S): DW CERT NO.:

PSS Work Order #: 16092820 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used	Analysis/ Method Required (3) * TPH-GRO	TPH-DRO	VOCs + Oxygenates	REMARKS
1	T-1-1	9/28/16		Soil	2	G		✓	✓	✓	
2	T-1-2	"		"	2	G		✓	✓	✓	
3	T-2-1	"		"	2	G		✓	✓	✓	
4	T-2-2	"		"	2	G		✓	✓	✓	

(5)

Relinquished By: (1)	Date	Time	Received By:
	9/28/16	2:46	
Relinquished By: (2)	Date	Time	Received By:
	9/28/16	1530	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4) *Requested TAT (One TAT per COC)
☑ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____

# of Coolers: 1

Custody Seal: ABS

Ice Present: YES Temp: 3°C

Shipping Carrier: CLIENT

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE: ____

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER ____

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16092820	**Received By**	Rachel Davis
Client Name	Hillis Carnes Engineering Associates	**Date Received**	09/28/2016 03:30:00 PM
Project Name	Future Enclave	**Delivered By**	Client
Project Number	16497A	**Tracking No**	Not Applicable
Disposal Date	11/02/2016	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	3
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Not Provided
COC agrees with sample labels?	Yes		N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 4 Total No. of Containers Received 8

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 09/28/2016

Rachel Davis

PM Review and Approval: Amber F Confer — Date: 09/29/2016

Amber Confer

Analytical Report for

Hillis Carnes Engineering Associates

Certificate of Analysis No.: 16100617

Project Manager: Keith Progin

Project Name : The Enclaves

Project Location: Clarksville, MD

October 13, 2016

Phase Separation Science, Inc.

6630 Baltimore National Pike

Baltimore, MD 21228

Phone: (410) 747-8770

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PHASE SEPARATION SCIENCE, INC.

October 13, 2016

Keith Progin
Hillis Carnes Engineering Associates
10975 Guilford Road, Ste. A
Annapolis Junction, MD 20701

Reference: PSS Work Order(s) No: **16100617**
Project Name: The Enclaves
Project Location: Clarksville, MD

Dear Keith Progin :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16100617**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on November 10, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: The Enclaves

Work Order Number(s): 16100617

The following samples were received under chain of custody by Phase Separation Science (PSS) on 10/06/2016 at 04:50 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16100617-001	WC-1	SOIL	10/06/16 08:30

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16100617

Hillis Carnes Engineering Associates, Annapolis Junction, MD

October 13, 2016

Project Name: The Enclaves
Project Location: Clarksville, MD

Sample ID: WC-1 | **Date/Time Sampled: 10/06/2016 08:30** | **PSS Sample ID: 16100617-001**
Matrix: SOIL | **Date/Time Received: 10/06/2016 16:50** | **% Solids: 77**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**9,000**	mg/kg	650		50	10/07/16	10/11/16 13:55	1045

BTEX — Analytical Method: SW-846 8260 B — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Benzene	ND	ug/kg	6.3		1	10/12/16	10/12/16 15:12	1011
Ethylbenzene	**44**	ug/kg	6.3		1	10/12/16	10/12/16 15:12	1011
Toluene	ND	ug/kg	6.3		1	10/12/16	10/12/16 15:12	1011
m,p-Xylenes	ND	ug/kg	13		1	10/12/16	10/12/16 15:12	1011
o-Xylene	**150**	ug/kg	6.3		1	10/12/16	10/12/16 15:12	1011

Case Narrative Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: The Enclaves

Work Order Number(s): 16100617

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Total Petroleum Hydrocarbons - DRO

Batch: 136508

Surrogate recoveries affected by sample dilution.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16100617
Report Prepared For: Hillis Carnes Engineering Associates, Annapo
Project Name: The Enclaves
Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SM2540G	WC-1	Initial	16100617-001	1059	S	136394	136394	10/06/2016	10/07/2016 16:33	10/07/2016 16:33
SW-846 8015 C	62875-1-BKS	BKS	62875-1-BKS	1045	S	62875	136416	----------	10/07/2016 11:09	10/08/2016 05:45
	62875-1-BLK	BLK	62875-1-BLK	1045	S	62875	136416	--------	10/07/2016 11:09	10/08/2016 05:20
	62875-1-BSD	BSD	62875-1-BSD	1045	S	62875	136416	--------	10/07/2016 11:09	10/08/2016 07:25
	Sample 23 S	MS	16100605-001 S	1045	S	62875	136416	10/06/2016	10/07/2016 11:09	10/08/2016 06:35
	Sample 23 SD	MSD	16100605-001 SD	1045	S	62875	136416	10/06/2016	10/07/2016 11:09	10/08/2016 07:00
	WC-1	Initial	16100617-001	1045	S	62875	136508	10/06/2016	10/07/2016 11:09	10/11/2016 13:55
SW-846 8260 B	WC-1	Initial	16100617-001	1011	S	62954	136511	10/06/2016	10/12/2016 09:13	10/12/2016 15:12
	62954-1-BKS	BKS	62954-1-BKS	1011	S	62954	136511	--------	10/12/2016 09:13	10/12/2016 10:11
	62954-1-BLK	BLK	62954-1-BLK	1011	S	62954	136511	--------	10/12/2016 09:13	10/12/2016 10:53
	Sample 25 S	MS	16100605-003 S	1011	S	62954	136511	10/06/2016	10/12/2016 09:13	10/12/2016 13:43
	Sample 25 SD	MSD	16100605-003 SD	1011	S	62954	136511	10/06/2016	10/12/2016 09:13	10/12/2016 14:06

PHASE SEPARATION SCIENCE, INC.
QC Summary 16100617

Hillis Carnes Engineering Associates
The Enclaves

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 136508 Matrix: Soil Date Prep: 10/07/2016
PSS Sample ID: 16100617-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	0	*	34-133	%	10/11/16 13:55

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136511 Matrix: Soil Date Prep: 10/12/2016
PSS Sample ID: 16100617-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		82-126	%	10/12/16 15:12
Dibromofluoromethane	98		92-113	%	10/12/16 15:12
Toluene-D8	99		94-105	%	10/12/16 15:12

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.
QC Summary 16100617

Hillis Carnes Engineering Associates
The Enclaves

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 136416 Matrix: Solid Date Prep: 10/07/16
MB Sample Id: 62875-1-BLK LCS Sample Id: 62875-1-BKS LCSD Sample Id: 62875-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.04	33.48	33.80	101	27.41	82	54-123	21	25	mg/kg	10/08/16 05:45	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	86		95		77		34-133	%	10/08/16 05:45

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 136511 Matrix: Solid Date Prep: 10/12/16
MB Sample Id: 62954-1-BLK LCS Sample Id: 62954-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<5.000	60.00	63.77	106	70-127	ug/kg	10/12/16 10:11	
Ethylbenzene	<5.000	60.00	62.53	104	70-125	ug/kg	10/12/16 10:11	
Toluene	<5.000	60.00	63.60	106	69-129	ug/kg	10/12/16 10:11	
m,p-Xylenes	<10.00	120	124.4	104	71-124	ug/kg	10/12/16 10:11	
o-Xylene	<5.000	60.00	63.26	105	72-123	ug/kg	10/12/16 10:11	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		102		82-126	%	10/12/16 10:11
Dibromofluoromethane	113		100		92-113	%	10/12/16 10:11
Toluene-D8	101		101		94-105	%	10/12/16 10:11

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: Hillis Carnes *OFFICE LOC.

*PROJECT MGR: Keith Progar *PHONE NO.: (410) 880-4788

EMAIL: Kprogar@hcea.com FAX NO.: ( )

*PROJECT NAME: The Enclaves PROJECT NO.:

SITE LOCATION: Clarksville, MD P.O. NO.:

SAMPLER(S): DW CERT NO.:

PSS Work Order #: 16100617 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE (C = COMP, G = GRAB)	Preservatives Used	(3) * Analysis/ Method Required: TPH-DRO	BTEX (8260)	REMARKS
1	WC-1	10/6/16	8:30am	So.1	2	C				

(5)

Relinquished By:	Date	Time	Received By:
(1)	10/6/16	1:50pm	
(2)			
(3)			
(4)			

(4) *Requested TAT (One TAT per COC): ☑ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

# of Coolers: 1

Custody Seal: ABS

Ice Present: PRES Temp: 2°C

Shipping Carrier: CLIENT

Special Instructions:

DW COMPLIANCE? YES ☐ EDD FORMAT TYPE

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER

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Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16100617	**Received By**	Lynn Jackson
Client Name	Hillis Carnes Engineering Associates	**Date Received**	10/06/2016 04:50:00 PM
Project Name	The Enclaves	**Delivered By**	Client
Disposal Date	11/10/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

Custody Seal(s) Intact?	N/A	Ice	Present
Seal(s) Signed / Dated?	N/A	Temp (deg C)	2
		Temp Blank Present	No

Documentation

COC agrees with sample labels?	Yes	Sampler Name	Not Provided
Chain of Custody	Yes		N/A

Sample Container

Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 1 Total No. of Containers Received 2

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 10/07/2016

Rachel Davis

PM Review and Approval: Lynn Jackson — Date: 10/07/2016

Lynn Jackson

Analytical Report for

Hillis Carnes Engineering Associates

Certificate of Analysis No.: 16120810

Project Manager: Keith Progin

Project Name : Enclave @ Tierney Farm

Project ID : 16497A

December 15, 2016

Phase Separation Science, Inc.
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PHASE SEPARATION SCIENCE, INC.

December 15, 2016

Keith Progin
Hillis Carnes Engineering Associates
10975 Guilford Road, Ste. A
Annapolis Junction, MD 20701

Reference: PSS Work Order(s) No: **16120810**
Project Name: Enclave @ Tierney Farm

Project ID.: 16497A

Dear Keith Progin :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16120810**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 12, 2017, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Enclave @ Tierney Farm

Work Order Number(s): 16120810

Project ID: 16497A

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/08/2016 at 11:57 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16120810-001	PE-1	SOIL	12/08/16 00:00
16120810-002	PE-2	SOIL	12/08/16 00:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16120810

Hillis Carnes Engineering Associates, Annapolis Junction, MD

December 15, 2016

Project Name: Enclave @ Tierney Farm

Project ID: 16497A

Sample ID: PE-1 **Date/Time Sampled: 12/08/2016 00:00** **PSS Sample ID: 16120810-001**

Matrix: SOIL **Date/Time Received: 12/08/2016 11:57** **% Solids: 77**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	13		1	12/12/16	12/13/16 03:05	1060

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	130		1	12/09/16	12/09/16 07:19	1035

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16120810

Hillis Carnes Engineering Associates, Annapolis Junction, MD

December 15, 2016

Project Name: Enclave @ Tierney Farm

Project ID: 16497A

Sample ID: PE-1 **Date/Time Sampled: 12/08/2016 00:00** **PSS Sample ID: 16120810-001**

Matrix: SOIL **Date/Time Received: 12/08/2016 11:57** **% Solids: 77**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
tert-Amyl alcohol	ND	ug/kg	54		1	12/09/16	12/09/16 14:24	1011
tert-Amyl ethyl ether	ND	ug/kg	54		1	12/09/16	12/09/16 14:24	1011
tert-Amyl methyl ether	ND	ug/kg	54		1	12/09/16	12/09/16 14:24	1011
Benzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Bromochloromethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Bromodichloromethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Bromoform	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Bromomethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
tert-Butyl alcohol	ND	ug/kg	54		1	12/09/16	12/09/16 14:24	1011
2-Butanone (MEK)	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
tert-Butyl ethyl ether	ND	ug/kg	14		1	12/09/16	12/09/16 14:24	1011
Carbon Disulfide	ND	ug/kg	14		1	12/09/16	12/09/16 14:24	1011
Carbon Tetrachloride	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Chlorobenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Chloroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Chloroform	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Chloromethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Cyclohexane	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	54		1	12/09/16	12/09/16 14:24	1011
Dibromochloromethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,2-Dichlorobenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,3-Dichlorobenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,4-Dichlorobenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Dichlorodifluoromethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,1-Dichloroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,2-Dichloroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,1-Dichloroethene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,2-Dichloropropane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16120810

Hillis Carnes Engineering Associates, Annapolis Junction, MD

December 15, 2016

Project Name: Enclave @ Tierney Farm

Project ID: 16497A

Sample ID: PE-1 **Date/Time Sampled: 12/08/2016 00:00** **PSS Sample ID: 16120810-001**

Matrix: SOIL **Date/Time Received: 12/08/2016 11:57** **% Solids: 77**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
cis-1,2-Dichloroethene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
cis-1,3-Dichloropropene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
trans-1,2-Dichloroethene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
trans-1,3-Dichloropropene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Diisopropyl ether	ND	ug/kg	14		1	12/09/16	12/09/16 14:24	1011
Ethylbenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
2-Hexanone	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
Isopropylbenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Methyl Acetate	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
Methylcyclohexane	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
Methylene Chloride	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
4-Methyl-2-Pentanone	ND	ug/kg	27		1	12/09/16	12/09/16 14:24	1011
Methyl-t-butyl ether	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Naphthalene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Styrene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Tetrachloroethene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Toluene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,1,1-Trichloroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,1,2-Trichloroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Trichloroethene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Trichlorofluoromethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
Vinyl Chloride	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011
m,p-Xylenes	ND	ug/kg	14		1	12/09/16	12/09/16 14:24	1011
o-Xylene	ND	ug/kg	6.8		1	12/09/16	12/09/16 14:24	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16120810

Hillis Carnes Engineering Associates, Annapolis Junction, MD

December 15, 2016

Project Name: Enclave @ Tierney Farm

Project ID: 16497A

Sample ID: PE-2 **Date/Time Sampled: 12/08/2016 00:00** **PSS Sample ID: 16120810-002**

Matrix: SOIL **Date/Time Received: 12/08/2016 11:57** **% Solids: 86**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	12		1	12/12/16	12/13/16 04:22	1060

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	110		1	12/09/16	12/09/16 07:50	1035

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CERTIFICATE OF ANALYSIS

No: 16120810

Hillis Carnes Engineering Associates, Annapolis Junction, MD

December 15, 2016

Project Name: Enclave @ Tierney Farm

Project ID: 16497A

Sample ID: PE-2 **Date/Time Sampled: 12/08/2016 00:00** **PSS Sample ID: 16120810-002**

Matrix: SOIL **Date/Time Received: 12/08/2016 11:57** **% Solids: 86**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	**87**	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
tert-Amyl alcohol	ND	ug/kg	48		1	12/09/16	12/09/16 19:51	1011
tert-Amyl ethyl ether	ND	ug/kg	48		1	12/09/16	12/09/16 19:51	1011
tert-Amyl methyl ether	ND	ug/kg	48		1	12/09/16	12/09/16 19:51	1011
Benzene	**9.6**	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Bromochloromethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Bromodichloromethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Bromoform	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Bromomethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
tert-Butyl alcohol	ND	ug/kg	48		1	12/09/16	12/09/16 19:51	1011
2-Butanone (MEK)	**26**	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
tert-Butyl ethyl ether	ND	ug/kg	12		1	12/09/16	12/09/16 19:51	1011
Carbon Disulfide	ND	ug/kg	12		1	12/09/16	12/09/16 19:51	1011
Carbon Tetrachloride	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Chlorobenzene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Chloroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Chloroform	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Chloromethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Cyclohexane	ND	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	48		1	12/09/16	12/09/16 19:51	1011
Dibromochloromethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,2-Dichlorobenzene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,3-Dichlorobenzene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,4-Dichlorobenzene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Dichlorodifluoromethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,1-Dichloroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,2-Dichloroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,1-Dichloroethene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
cis-1,2-Dichloroethene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16120810

Hillis Carnes Engineering Associates, Annapolis Junction, MD

December 15, 2016

Project Name: Enclave @ Tierney Farm

Project ID: 16497A

Sample ID: PE-2 **Date/Time Sampled: 12/08/2016 00:00** **PSS Sample ID: 16120810-002**

Matrix: SOIL **Date/Time Received: 12/08/2016 11:57** **% Solids: 86**

TCL Volatiles plus Oxygenates | Analytical Method: SW-846 8260 B | Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,2-Dichloropropane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
cis-1,3-Dichloropropene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
trans-1,2-Dichloroethene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
trans-1,3-Dichloropropene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Diisopropyl ether	ND	ug/kg	12		1	12/09/16	12/09/16 19:51	1011
Ethylbenzene	**9.9**	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
2-Hexanone	ND	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
Isopropylbenzene	**8.4**	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Methyl Acetate	ND	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
Methylcyclohexane	**25**	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
Methylene Chloride	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
4-Methyl-2-Pentanone	ND	ug/kg	24		1	12/09/16	12/09/16 19:51	1011
Methyl-t-butyl ether	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Naphthalene	**150**	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Styrene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Tetrachloroethene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Toluene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,1,1-Trichloroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,1,2-Trichloroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Trichloroethene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Trichlorofluoromethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
Vinyl Chloride	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011
m,p-Xylenes	**30**	ug/kg	12		1	12/09/16	12/09/16 19:51	1011
o-Xylene	ND	ug/kg	6.0		1	12/09/16	12/09/16 19:51	1011

Case Narrative Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Enclave @ Tierney Farm

Work Order Number(s): 16120810

Project ID: 16497A

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Total Petroleum Hydrocarbons-GRO

Batch: 138188

Surrogate exceedances identified; see surrogate summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16120810
Report Prepared For: Hillis Carnes Engineering Associates, Annapo
Project Name: Enclave @ Tierney Farm
Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SM2540G	PE-1	Initial	16120810-001	1059	S	138245	138245	12/08/2016	12/12/2016 17:18	12/12/2016 17:18
	PE-2	Initial	16120810-002	1059	S	138245	138245	12/08/2016	12/12/2016 17:18	12/12/2016 17:18
SW-846 8015 C	PE-1	Initial	16120810-001	1060	S	63898	138326	12/08/2016	12/12/2016 12:03	12/13/2016 03:05
	PE-2	Initial	16120810-002	1060	S	63898	138326	12/08/2016	12/12/2016 12:03	12/13/2016 04:22
	63898-1-BKS	BKS	63898-1-BKS	1060	S	63898	138326	--------	12/12/2016 12:03	12/13/2016 03:31
	63898-1-BLK	BLK	63898-1-BLK	1060	S	63898	138326	--------	12/12/2016 12:03	12/13/2016 03:05
	63898-1-BSD	BSD	63898-1-BSD	1060	S	63898	138326	--------	12/12/2016 12:03	12/13/2016 03:57
	PE-1 S	MS	16120810-001 S	1060	S	63898	138326	12/08/2016	12/12/2016 12:03	12/13/2016 03:31
	PE-1 SD	MSD	16120810-001 SD	1060	S	63898	138326	12/08/2016	12/12/2016 12:03	12/13/2016 03:57
SW-846 8015C	PE-1	Initial	16120810-001	1035	S	63882	138188	12/08/2016	12/09/2016 02:17	12/09/2016 07:19
	PE-2	Initial	16120810-002	1035	S	63882	138188	12/08/2016	12/09/2016 02:17	12/09/2016 07:50
	63882-2-BKS	BKS	63882-2-BKS	1035	S	63882	138188	--------	12/09/2016 02:17	12/09/2016 04:48
	63882-2-BLK	BLK	63882-2-BLK	1035	S	63882	138188	--------	12/09/2016 02:17	12/09/2016 04:17
	PE-2 S	MS	16120810-002 S	1035	S	63882	138188	12/08/2016	12/09/2016 02:17	12/09/2016 11:54
	PE-2 SD	MSD	16120810-002 SD	1035	S	63882	138188	12/08/2016	12/09/2016 02:17	12/09/2016 12:25
SW-846 8260 B	PE-1	Initial	16120810-001	1011	S	63901	138228	12/08/2016	12/09/2016 09:13	12/09/2016 14:24
	PE-2	Initial	16120810-002	1011	S	63901	138228	12/08/2016	12/09/2016 09:13	12/09/2016 19:51
	63901-1-BKS	BKS	63901-1-BKS	1011	S	63901	138228	--------	12/09/2016 09:13	12/09/2016 10:24
	63901-1-BLK	BLK	63901-1-BLK	1011	S	63901	138228	--------	12/09/2016 09:13	12/09/2016 11:18
	PE-1 S	MS	16120810-001 S	1011	S	63901	138228	12/08/2016	12/09/2016 09:13	12/09/2016 14:46
	PE-1 SD	MSD	16120810-001 SD	1011	S	63901	138228	12/08/2016	12/09/2016 09:13	12/09/2016 15:08

PHASE SEPARATION SCIENCE, INC.

QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 138326 Matrix: Soil Date Prep: 12/12/2016
PSS Sample ID: 16120810-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	88		34-133	%	12/13/16 03:05

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 138188 Matrix: Soil Date Prep: 12/09/2016
PSS Sample ID: 16120810-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	49	*	50-122	%	12/09/16 07:19

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 138228 Matrix: Soil Date Prep: 12/09/2016
PSS Sample ID: 16120810-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		82-126	%	12/09/16 14:24
Dibromofluoromethane	96		92-113	%	12/09/16 14:24
Toluene-D8	103		94-105	%	12/09/16 14:24

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 138326 Matrix: Soil Date Prep: 12/12/2016
PSS Sample ID: 16120810-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	81		34-133	%	12/13/16 04:22

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 138188 Matrix: Soil Date Prep: 12/09/2016
PSS Sample ID: 16120810-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	75		50-122	%	12/09/16 07:50

PHASE SEPARATION SCIENCE, INC.
QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 138228 Matrix: Soil Date Prep: 12/09/2016
PSS Sample ID: 16120810-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		82-126	%	12/09/16 19:51
Dibromofluoromethane	99		92-113	%	12/09/16 19:51
Toluene-D8	106	*	94-105	%	12/09/16 19:51

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 138326 Matrix: Solid Date Prep: 12/12/16
MB Sample Id: 63898-1-BLK LCS Sample Id: 63898-1-BKS LCSD Sample Id: 63898-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.12	33.73	31.68	94	27.02	80	54-123	16	25	mg/kg	12/13/16 03:31	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	77		81		69		34-133	%	12/13/16 03:31

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 138326 Matrix: Soil Date Prep: 12/12/16
Parent Sample Id: 16120810-001 MS Sample Id: 16120810-001 S MSD Sample Id: 16120810-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<12.81	42.71	38.42	90	40.97	94	35-127	6	30	mg/kg	12/13/16 03:31	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
o-Terphenyl	81		86		34-133	%	12/13/16 03:31

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 138188 Matrix: Solid Date Prep: 12/09/16
MB Sample Id: 63882-2-BLK LCS Sample Id: 63882-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organic	<100	5000	4366	87	75-123	ug/kg	12/09/16 04:48	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	75		91		50-122	%	12/09/16 04:48

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 138188 Matrix: Soil Date Prep: 12/09/16
Parent Sample Id: 16120810-002 MS Sample Id: 16120810-002 S MSD Sample Id: 16120810-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organic	<114.4	5722	5348	93	5309	92	31-140	1	30	ug/kg	12/09/16 11:54	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	93		91		50-122	%	12/09/16 11:54

PHASE SEPARATION SCIENCE, INC.

QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 138228 Matrix: Solid Date Prep: 12/09/16
MB Sample Id: 63901-1-BLK LCS Sample Id: 63901-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	54.57	91	46-127	ug/kg	12/09/16 10:24	
tert-Amyl alcohol	<40.00	60.00	55.16	92	46-130	ug/kg	12/09/16 10:24	
tert-Amyl ethyl ether	<40.00	60.00	59.25	99	68-116	ug/kg	12/09/16 10:24	
tert-Amyl methyl ether	<40.00	60.00	58.32	97	67-121	ug/kg	12/09/16 10:24	
Benzene	<5.000	60.00	64.55	108	70-127	ug/kg	12/09/16 10:24	
Bromochloromethane	<5.000	60.00	59.47	99	68-122	ug/kg	12/09/16 10:24	
Bromodichloromethane	<5.000	60.00	58.19	97	68-122	ug/kg	12/09/16 10:24	
Bromoform	<5.000	60.00	52.50	88	57-127	ug/kg	12/09/16 10:24	
Bromomethane	<5.000	60.00	58.18	97	68-123	ug/kg	12/09/16 10:24	
2-Butanone (MEK)	<20.00	60.00	62.50	104	41-136	ug/kg	12/09/16 10:24	
tert-Butyl alcohol	<40.00	60.00	57.90	97	51-128	ug/kg	12/09/16 10:24	
tert-Butyl ethyl ether	<10.00	60.00	57.32	96	65-117	ug/kg	12/09/16 10:24	
Carbon Disulfide	<10.00	60.00	55.15	92	66-135	ug/kg	12/09/16 10:24	
Carbon Tetrachloride	<5.000	60.00	60.70	101	64-147	ug/kg	12/09/16 10:24	
Chlorobenzene	<5.000	60.00	58.96	98	70-121	ug/kg	12/09/16 10:24	
Chloroethane	<5.000	60.00	58.75	98	66-142	ug/kg	12/09/16 10:24	
Chloroform	<5.000	60.00	56.37	94	68-123	ug/kg	12/09/16 10:24	
Chloromethane	<5.000	60.00	58.91	98	65-136	ug/kg	12/09/16 10:24	
Cyclohexane	<20.00	60.00	60.03	100	62-138	ug/kg	12/09/16 10:24	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	50.81	85	55-122	ug/kg	12/09/16 10:24	
Dibromochloromethane	<5.000	60.00	53.62	89	61-122	ug/kg	12/09/16 10:24	
1,2-Dibromoethane (EDB)	<5.000	60.00	55.49	92	63-119	ug/kg	12/09/16 10:24	
1,2-Dichlorobenzene	<5.000	60.00	58.38	97	65-121	ug/kg	12/09/16 10:24	
1,3-Dichlorobenzene	<5.000	60.00	60.62	101	69-121	ug/kg	12/09/16 10:24	
1,4-Dichlorobenzene	<5.000	60.00	63.94	107	69-118	ug/kg	12/09/16 10:24	
Dichlorodifluoromethane	<5.000	60.00	57.22	95	53-162	ug/kg	12/09/16 10:24	
1,1-Dichloroethane	<5.000	60.00	57.90	97	70-127	ug/kg	12/09/16 10:24	
1,2-Dichloroethane	<5.000	60.00	56.68	94	68-118	ug/kg	12/09/16 10:24	
1,1-Dichloroethene	<5.000	60.00	58.85	98	69-133	ug/kg	12/09/16 10:24	
1,2-Dichloropropane	<5.000	60.00	60.34	101	70-122	ug/kg	12/09/16 10:24	
cis-1,2-Dichloroethene	<5.000	60.00	59.46	99	68-126	ug/kg	12/09/16 10:24	
cis-1,3-Dichloropropene	<5.000	60.00	59.54	99	68-121	ug/kg	12/09/16 10:24	
trans-1,2-Dichloroethene	<5.000	60.00	62.97	105	70-132	ug/kg	12/09/16 10:24	
trans-1,3-Dichloropropene	<5.000	60.00	58.19	97	67-115	ug/kg	12/09/16 10:24	
Diisopropyl ether	<10.00	60.00	53.80	90	68-121	ug/kg	12/09/16 10:24	
Ethylbenzene	<5.000	60.00	57.62	96	70-125	ug/kg	12/09/16 10:24	
2-Hexanone	<20.00	60.00	62.21	104	40-121	ug/kg	12/09/16 10:24	
Isopropylbenzene	<5.000	60.00	60.41	101	68-130	ug/kg	12/09/16 10:24	
Methyl Acetate	<20.00	60.00	51.88	86	60-125	ug/kg	12/09/16 10:24	
Methylcyclohexane	<20.00	60.00	61.85	103	62-150	ug/kg	12/09/16 10:24	
Methylene Chloride	<5.000	60.00	57.39	96	67-121	ug/kg	12/09/16 10:24	
4-Methyl-2-Pentanone	<20.00	60.00	60.25	100	48-117	ug/kg	12/09/16 10:24	
Methyl-t-butyl ether	<5.000	60.00	55.55	93	66-119	ug/kg	12/09/16 10:24	
Naphthalene	<5.000	60.00	56.65	94	54-115	ug/kg	12/09/16 10:24	
Styrene	<5.000	60.00	56.25	94	71-120	ug/kg	12/09/16 10:24	
1,1,2,2-Tetrachloroethane	<5.000	60.00	62.32	104	59-122	ug/kg	12/09/16 10:24	
Tetrachloroethene	<5.000	60.00	66.01	110	65-145	ug/kg	12/09/16 10:24	
Toluene	<5.000	60.00	63.33	106	69-129	ug/kg	12/09/16 10:24	
1,2,3-Trichlorobenzene	<5.000	60.00	58.10	97	60-114	ug/kg	12/09/16 10:24	
1,2,4-Trichlorobenzene	<5.000	60.00	59.07	98	64-115	ug/kg	12/09/16 10:24	
1,1,1-Trichloroethane	<5.000	60.00	61.54	103	65-139	ug/kg	12/09/16 10:24	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 138228 Matrix: Solid Date Prep: 12/09/16
MB Sample Id: 63901-1-BLK LCS Sample Id: 63901-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,1,2-Trichloroethane	<5.000	60.00	60.08	100	64-125	ug/kg	12/09/16 10:24	
Trichloroethene	<5.000	60.00	62.00	103	69-133	ug/kg	12/09/16 10:24	
Trichlorofluoromethane	<5.000	60.00	56.40	94	59-153	ug/kg	12/09/16 10:24	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	58.11	97	62-139	ug/kg	12/09/16 10:24	
Vinyl Chloride	<5.000	60.00	60.43	101	69-142	ug/kg	12/09/16 10:24	
m,p-Xylenes	<10.00	120	113.3	94	71-124	ug/kg	12/09/16 10:24	
o-Xylene	<5.000	60.00	57.08	95	72-123	ug/kg	12/09/16 10:24	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		100		82-126	%	12/09/16 10:24
Dibromofluoromethane	99		100		92-113	%	12/09/16 10:24
Toluene-D8	105		105		94-105	%	12/09/16 10:24

PHASE SEPARATION SCIENCE, INC.

QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 138228 Matrix: Soil Date Prep: 12/09/16
Parent Sample Id: 16120810-001 MS Sample Id: 16120810-001 S MSD Sample Id: 16120810-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acetone	<26.45	79.35	56.10	71	38.17	51	46-133	38	30	ug/kg	12/09/16 14:46	F
tert-Amyl alcohol	<52.90	79.35	80.55	102	51.49	69	35-151	44	30	ug/kg	12/09/16 14:46	F
tert-Amyl ethyl ether	<52.90	79.35	67.41	85	50.34	67	45-114	29	30	ug/kg	12/09/16 14:46	
tert-Amyl methyl ether	<52.90	79.35	71.23	90	52.51	70	48-120	30	30	ug/kg	12/09/16 14:46	
Benzene	<6.613	79.35	73.36	92	60.90	81	43-126	19	30	ug/kg	12/09/16 14:46	
Bromochloromethane	<6.613	79.35	68.68	87	49.74	66	49-120	32	30	ug/kg	12/09/16 14:46	F
Bromodichloromethane	<6.613	79.35	66.51	84	54.27	72	44-122	20	30	ug/kg	12/09/16 14:46	
Bromoform	<6.613	79.35	60.16	76	53.92	72	33-136	11	30	ug/kg	12/09/16 14:46	
Bromomethane	<6.613	79.35	66.79	84	57.28	76	45-119	15	30	ug/kg	12/09/16 14:46	
2-Butanone (MEK)	<26.45	79.35	67.91	86	42.08	56	30-150	47	30	ug/kg	12/09/16 14:46	F
tert-Butyl alcohol	<52.90	79.35	79.13	100	59.68	80	47-135	28	30	ug/kg	12/09/16 14:46	
tert-Butyl ethyl ether	<13.23	79.35	67.61	85	41.50	55	47-114	48	30	ug/kg	12/09/16 14:46	F
Carbon Disulfide	<13.23	79.35	59.54	75	49.55	66	35-133	18	30	ug/kg	12/09/16 14:46	
Carbon Tetrachloride	<6.613	79.35	66.69	84	55.02	73	27-153	19	30	ug/kg	12/09/16 14:46	
Chlorobenzene	<6.613	79.35	65.91	83	57.58	77	29-133	13	30	ug/kg	12/09/16 14:46	
Chloroethane	<6.613	79.35	65.45	82	56.22	75	44-130	15	30	ug/kg	12/09/16 14:46	
Chloroform	<6.613	79.35	64.12	81	45.85	61	48-119	33	30	ug/kg	12/09/16 14:46	F
Chloromethane	<6.613	79.35	65.25	82	56.58	76	42-131	14	30	ug/kg	12/09/16 14:46	
Cyclohexane	<26.45	79.35	66.20	83	54.12	72	16-142	20	30	ug/kg	12/09/16 14:46	
1,2-Dibromo-3-Chloropropane	<52.90	79.35	59.62	75	50.44	67	35-144	17	30	ug/kg	12/09/16 14:46	
Dibromochloromethane	<6.613	79.35	61.30	77	53.96	72	42-120	13	30	ug/kg	12/09/16 14:46	
1,2-Dibromoethane (EDB)	<6.613	79.35	64.60	81	54.66	73	47-120	17	30	ug/kg	12/09/16 14:46	
1,2-Dichlorobenzene	<6.613	79.35	65.09	82	53.28	71	14-130	20	30	ug/kg	12/09/16 14:46	
1,3-Dichlorobenzene	<6.613	79.35	66.34	84	54.85	73	14-130	19	30	ug/kg	12/09/16 14:46	
1,4-Dichlorobenzene	<6.613	79.35	68.39	86	57.70	77	15-127	17	30	ug/kg	12/09/16 14:46	
Dichlorodifluoromethane	<6.613	79.35	65.16	82	54.52	73	29-155	18	30	ug/kg	12/09/16 14:46	
1,1-Dichloroethane	<6.613	79.35	64.29	81	50.32	67	48-123	24	30	ug/kg	12/09/16 14:46	
1,2-Dichloroethane	<6.613	79.35	65.44	82	53.58	72	52-116	20	30	ug/kg	12/09/16 14:46	
1,1-Dichloroethene	<6.613	79.35	65.16	82	53.75	72	45-126	19	30	ug/kg	12/09/16 14:46	
1,2-Dichloropropane	<6.613	79.35	69.05	87	55.78	74	48-120	21	30	ug/kg	12/09/16 14:46	
cis-1,2-Dichloroethene	<6.613	79.35	67.69	85	50.69	68	46-121	29	30	ug/kg	12/09/16 14:46	
cis-1,3-Dichloropropene	<6.613	79.35	66.05	83	53.72	72	41-123	21	30	ug/kg	12/09/16 14:46	
trans-1,2-Dichloroethene	<6.613	79.35	70.53	89	55.86	75	47-124	23	30	ug/kg	12/09/16 14:46	
trans-1,3-Dichloropropene	<6.613	79.35	62.92	79	51.90	69	36-128	19	30	ug/kg	12/09/16 14:46	
Diisopropyl ether	<13.23	79.35	64.66	81	41.15	55	48-117	44	30	ug/kg	12/09/16 14:46	F
Ethylbenzene	<6.613	79.35	63.27	80	55.16	74	24-137	14	30	ug/kg	12/09/16 14:46	
2-Hexanone	<26.45	79.35	67.73	85	43.69	58	29-133	43	30	ug/kg	12/09/16 14:46	F
Isopropylbenzene	<6.613	79.35	65.13	82	52.60	70	17-136	21	30	ug/kg	12/09/16 14:46	
Methyl Acetate	<26.45	79.35	60.82	77	48.93	65	35-165	22	30	ug/kg	12/09/16 14:46	
Methylcyclohexane	<26.45	79.35	65.41	82	54.50	73	12-144	18	30	ug/kg	12/09/16 14:46	
Methylene Chloride	<6.613	79.35	63.55	80	51.52	69	49-119	21	30	ug/kg	12/09/16 14:46	
4-Methyl-2-Pentanone	<26.45	79.35	67.12	85	43.04	57	33-136	44	30	ug/kg	12/09/16 14:46	F
Methyl-t-butyl ether	<6.613	79.35	60.69	76	45.73	61	49-119	28	30	ug/kg	12/09/16 14:46	
Naphthalene	<6.613	79.35	63.12	80	52.68	70	14-128	18	30	ug/kg	12/09/16 14:46	
Styrene	<6.613	79.35	61.30	77	53.87	72	27-130	13	30	ug/kg	12/09/16 14:46	
1,1,2,2-Tetrachloroethane	<6.613	79.35	73.91	93	59.68	80	42-128	21	30	ug/kg	12/09/16 14:46	
Tetrachloroethene	<6.613	79.35	76.06	96	61.55	82	17-152	21	30	ug/kg	12/09/16 14:46	
Toluene	<6.613	79.35	72.09	91	58.67	78	39-127	21	30	ug/kg	12/09/16 14:46	
1,2,3-Trichlorobenzene	<6.613	79.35	62.92	79	51.51	69	2-122	20	30	ug/kg	12/09/16 14:46	
1,2,4-Trichlorobenzene	<6.613	79.35	62.09	78	50.72	68	1-125	20	30	ug/kg	12/09/16 14:46	
1,1,1-Trichloroethane	<6.613	79.35	67.22	85	55.21	74	42-134	20	30	ug/kg	12/09/16 14:46	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16120810

Hillis Carnes Engineering Associates
Enclave @ Tierney Farm

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 138228 Matrix: Soil Date Prep: 12/09/16
Parent Sample Id: 16120810-001 MS Sample Id: 16120810-001 S MSD Sample Id: 16120810-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,1,2-Trichloroethane	<6.613	79.35	71.34	90	57.65	77	47-126	21	30	ug/kg	12/09/16 14:46	
Trichloroethene	<6.613	79.35	71.23	90	57.36	77	42-129	22	30	ug/kg	12/09/16 14:46	
Trichlorofluoromethane	<6.613	79.35	62.71	79	52.53	70	32-148	18	30	ug/kg	12/09/16 14:46	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<6.613	79.35	64.59	81	50.77	68	35-126	24	30	ug/kg	12/09/16 14:46	
Vinyl Chloride	<6.613	79.35	67.66	85	76.21	102	35-149	12	30	ug/kg	12/09/16 14:46	
m,p-Xylenes	<13.23	158.7	126.4	80	107.9	72	33-125	16	30	ug/kg	12/09/16 14:46	
o-Xylene	<6.613	79.35	64.34	81	54.66	73	29-134	16	30	ug/kg	12/09/16 14:46	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		102		82-126	%	12/09/16 14:46
Dibromofluoromethane	99		98		92-113	%	12/09/16 14:46
Toluene-D8	104		101		94-105	%	12/09/16 14:46

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: Hillis-Carnes *OFFICE LOC.

*PROJECT MGR: Keith Progin *PHONE NO.: (410) 880-4788

EMAIL: Kprogin@hcea.com FAX NO.: ( )

*PROJECT NAME: Enclave @ Tierney Farm PROJECT NO.: 16497A

SITE LOCATION: P.O. NO.:

SAMPLER(S): DW CERT NO.:

PSS Work Order #: 16120810 PAGE 1 OF 1

Matrix Codes:
SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used	Analysis/ Method Required (3) * TPH-DRO	TPH-GRO	VOCs (+oxygenates)	REMARKS
1	PE-1	12/8/16		So.1	2	G		✓	✓	✓	
2	PE-2	12/8/16		So.1	2	G		✓	✓	✓	

(5)

Relinquished By: (1)	Date	Time	Received By:
[signature]	12/8/16	11:57am	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

*Requested TAT (One TAT per COC)
☑ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:
COA QC SUMM CLP LIKE OTHER
☐ ☐ ☐ _____

# of Coolers: 1
Custody Seal: ABS
Ice Present: YES Temp: 2°C
Shipping Carrier: Client

Special Instructions:

DW COMPLIANCE? YES ☐
EDD FORMAT TYPE: _____
STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER _____

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16120810	**Received By**	Thomas Wingate
Client Name	Hillis Carnes Engineering Associates	**Date Received**	12/08/2016 11:57:00 AM
Project Name	Enclave @ Tierney Farm	**Delivered By**	Client
Project Number	16497A	**Tracking No**	Not Applicable
Disposal Date	01/12/2017	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	2
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Not Provided
COC agrees with sample labels?	Yes		N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 2 Total No. of Containers Received 4

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 12/08/2016

Rachel Davis

PM Review and Approval: Amber F Confer — Date: 12/09/2016

Amber Confer

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

Log Number: 265254

GENERATOR

Generator Name: Hoddinott Residence
Address: 6166 Guilford Road
Phone No.: 410-880-4788

Shipping Location: Same
Address:
Phone No.:

Approval Number: WS-4637

Description of Material: Non-Regulated Petroleum Contaminated Soil; Non DOT/RCRA Regulated

GROSS
TARE
NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

x Ray Ethier x [signature] x 10/26/16
Generator Authorized Agent Name — Signature — Shipment Date

TRANSPORTER

Transporter Name: AEC Environmental Services LLC
Address: 3512 Fairfield Road, Baltimore MD 21226
Driver Name (Print):
Vehicle License No./State:
Truck Number:

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature — Delivery Date

DESTINATION

Site Name: Brandywine
Phone No.: 301-782-3036
Address: 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

[signature] 10/26/16
Name of Authorized Agent — Signature — Receipt Date

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

Log Number: 3

388578

GENERATOR

Generator Name: La Jave Development, LLC

Address: 9318 Forest St. Ste 200

Ellicott City, MD 21043

Phone No: (410) 977-1900

Shipping Location: Patuxent Landing

Address: [illegible] Rd.

Clarksville, MD 21029

Phone No. (410) 977-1900

Approval Number: WS-4705

Description of Material: Non-Regulated Petroleum Contaminated Soil; Non DOT/RCRA Regulated

GROSS	32 51
TARE	13 96
NET	18 55
TONNAGE	TNC

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name | Signature | Shipment Date

TRANSPORTER

Transporter Name: [illegible]

Address: [illegible]

Driver Name (Print): [illegible]

Vehicle License No./State: [illegible]

Truck Number: [illegible]

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature | Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature | Delivery Date

DESTINATION

Site Name: Brandywine

Phone No.: 301-782-3036

Address: 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent | Signature | Receipt Date: 12/16/15

White - Facility | Green - Facility | Yellow - Generator | Pink - Broker | Goldenrod - Contractor | Blue - Trucking Co.

SOIL SAFE, INC.

Log Number: 10

388588

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

Phone No. _____ Phone No. _____

Approval Number

Description of Material: Non-Regulated Petroleum Contaminated Soil; Non DOT/RCRA Regulated

GROSS

TARE

NET

TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name | Signature | Shipment Date

TRANSPORTER

Transporter Name SEF Excavating Driver Name (Print) Terry Chronister

Address 2310 Dade Rd Vehicle License No./State E536570

Fink's Corner MD 21068 Truck Number 52

I hereby certify that the above named material was picked up at the generator site listed above.

Terry Chronister 12-6-16

Driver Signature | Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Terry Chronister 12-6-16

Driver Signature | Delivery Date

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

SOIL 12/16/16

Name of Authorized Agent | Signature | Receipt Date

White - Facility | Green - Facility | Yellow - Generator | Pink - Broker | Goldenrod - Contractor | Blue - Trucking Co.

SOIL SAFE, INC.

Log Number 13

388591

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

Phone No. _____ Phone No. _____

Approval Number

Description of Material

Non-Regulated Petroleum Contaminated Soil

Non DOT/RCRA Regulated

GROSS

TARE

NET

TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name _____ Driver Name (Print) _____

Address _____ Vehicle License No./State _____

_____ Truck Number _____

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date 1/6

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date 1/6

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date 2/16/16

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

Log Number 4

388585

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

_____ _____

Phone No. _____ Phone No. _____

Approval Number 4733

Description of Material

Non-Regulated Petroleum Contaminated Soil

Non DOT/RCRA Regulated

32.18	GROSS
13.88	TARE
18.30	NET
	TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name _____ Driver Name (Print) _____

Address _____ Vehicle License No./State _____

_____ Truck Number _____

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date _____

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date _____

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date 12/16/16

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

Log Number

388587

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

Phone No. _____ Phone No. _____

Approval Number: US-4705

Description of Material: Non-Regulated Petroleum Contaminated Soil; Non DOT/RCRA Regulated

30.76	GROSS
13.89	TARE
16.87	NET
	TONNAGE

TNC

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name _____ Driver Name (Print) _____

Address _____ Vehicle License No./State _____

_____ Truck Number _____

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date _____

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date _____

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature Theresa M 12/16/11 Receipt Date

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

Log Number

388590

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

_____ _____

Phone No. _____ Phone No. _____

Approval Number

Description of Material

Non-Regulated Petroleum Contaminated Soil

Non DOT/RCRA Regulated

GROSS

TARE

NET

TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

_____

Generator Authorized Agent Name Signature Shipment Date

TRANSPORTER

Transporter Name _____ Driver Name (Print) _____

Address _____ Vehicle License No./State _____

_____ Truck Number _____

I hereby certify that the above named material was picked up at the generator site listed above.

_____

Driver Signature Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

_____

Driver Signature Delivery Date

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

_____

Name of Authorized Agent Signature Receipt Date

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

Log Number: 12

388592

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

Phone No. _____ Phone No. _____

Approval Number	Description of Material	
	Non-Regulated Petroleum Contaminated Soil Non DOT/RCRA Regulated	GROSS TARE NET TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name STH Excavating Driver Name (Print) Ronald Pinkney Jr

Address 1946 Deer Rd Vehicle License No./State 47677523

Finksburg, MD 21048 Truck Number 60

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date 12/16/2016

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date 12/16/2016

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date _____

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

Log Number: 388586

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

Phone No. _____ Phone No. _____

Approval Number: NS-4705

Description of Material: Non-Regulated Petroleum Contaminated Soil; Non DOT/RCRA Regulated

31.73	GROSS
14.07	TARE
18.36	NET
	TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name LSEH Excavating Driver Name (Print) _____

Address 2940 Dek Rd Vehicle License No./State 47077823

Finksburg MD 21048 Truck Number _____

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date _____

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date _____

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date 12/16/16

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

Log Number 18

388596

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name _____ Shipping Location _____

Address _____ Address _____

Phone No. _____ Phone No. _____

Approval Number	Description of Material		
US 4705	Non-Regulated Petroleum Contaminated Soil Non DOT/RCRA Regulated	GROSS TARE NET TONNAGE	

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name SEH Contractors Driver Name (Print) Ronald Pendergrass

Address 2940 Dede Rd Vehicle License No./State 470 77823

Fruitland, MD 21826 Truck Number 160

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date _____

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date _____

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date _____

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

Log Number (4)

388607

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name Inclusive Development, LLC

Address 3115 Ennalls St. Ste. 200

Ellicott City, MD 21042

Phone No. (410) 977-1308

Shipping Location Saddlebrook Residence

Address 6150 Guilford Rd

Clarksville, MD 21029

Phone No. (410) 977-1308

Approval Number	Description of Material	
WS-4705	Non-Regulated Petroleum Contaminated Soil Non DOT/RCRA Regulated	GROSS TARE NET TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name JEH Excavating

Address 2940 Dock Rd

Finksburg, MD 21048

Driver Name (Print) Ronald Pendergrass

Vehicle License No./State 470 77825 MD

Truck Number 60

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature _____ Shipment Date 12/19/16

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature _____ Delivery Date 12/19/16

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date 12/19/16

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

Log Number: 17

388595

GENERATOR

Generator Name: [illegible] Shipping Location: 6168 Guilford Rd

Address: [illegible] Elkton Gtwy, MD 21042 Address: Clarksville, MD 21029

(410) 977-1300 (410) 977-1300

Phone No. _____ Phone No. _____

Approval Number	Description of Material	
[illegible]	Non-Regulated Petroleum Contaminated Soil Non DOT/RCRA Regulated	GROSS [illegible] TARE [illegible] NET [illegible] TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

TRANSPORTER

Transporter Name SEM Excavating Driver Name (Print) Terry Thornster

Address 2740 Dede Rd Vehicle License No./State E5365 7D

Finksburg, MD 21048 Truck Number 54

I hereby certify that the above named material was picked up at the generator site listed above.

Terry Thornster 12-19-16

Driver Signature Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Terry Thornster 12-19-16

Driver Signature Delivery Date

DESTINATION

Site Name Brandywine Phone No. 301-782-3036

Address 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

[illegible] 12/19/16

Name of Authorized Agent _____ Signature _____ Receipt Date _____

White - Facility Green - Facility Yellow - Generator Pink - Broker Goldenrod - Contractor Blue - Trucking Co.

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

Log Number: 388589

GENERATOR

Generator Name: 8318 Forest St Ste 200 Ellicott City, MD 21042

Address: (410) 977-1300

Phone No.:

Shipping Location: 6106 Guilford Rd Clarksville, MD 21029

Address: (410) 977-1300

Phone No.:

Approval Number: WS-4705

Description of Material: Non-Regulated Petroleum Contaminated Soil; Non DOT/RCRA Regulated

GROSS

TARE

NET

TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name | Signature | Shipment Date

TRANSPORTER

Transporter Name: SEH

Address: 2940 Dade Rd Finksburg, MD 21048

Driver Name (Print): TERRY CHRONISTER

Vehicle License No./State: E53657D

Truck Number: 57

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature: Terry Chronister Shipment Date: 12-19-16

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature: Terry Chronister Delivery Date: 12-19-16

DESTINATION

Site Name: Brandywine Phone No.: 301-782-3036

Address: 16001 Mattawoman Drive, Brandywine, Md. 20613

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent | Signature | Receipt Date: 12/19/16

White - Facility | Green - Facility | Yellow - Generator | Pink - Broker | Goldenrod - Contractor | Blue - Trucking Co.

PAYMENT RECEIPT

Baltimore Scrap Corp.
3000 Vera Street
Baltimore, MD 21226
410-355-4455

755719
TICKET NUMBER

PURCHASED FROM: 2030
ACE ENVIRONMENTAL, LLC
3512 FAIRFIELD ROAD
BALTIMORE, MD 21226

	DATE	TIME
WEIGH IN:	10/28/2016	12:17
WEIGH OUT:	10/28/2016	12:27

All weights in pounds (M=Manual Weight)

COMMODITY / PRICE	GROSS	TARE	WT ADJ	NET WT	$ ADJ	AMT DUE
Heavy Shredder Steel	11360	10600		760		$34.20
@ $4.500 CW						
						$0.00
						$0.00

ADJUSTMENT REASON: _____

NET DUE: $34.20

Customer Copy