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FINAL BIOVENTING PILOT STUDY REPORT FOR SITE 4 NORTH AVGAS TANK SLUDGE
DISPOSAL AREA NAS WHITING FIELD FL
9/1/2015
AGVIQ/CH2M HILL

**Final
Bioventing Pilot Study Report
Site 4 - North AVGAS Tank Sludge Disposal Area**

**Naval Air Station Whiting Field
Milton, Florida**

Revision No. 0

**Contract No. N624670-08-D-1006
Task Order No. JM19**

Submitted to:



**U.S. Naval Facilities
Engineering Command
Southeast**

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September 2015

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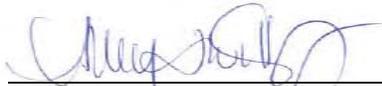


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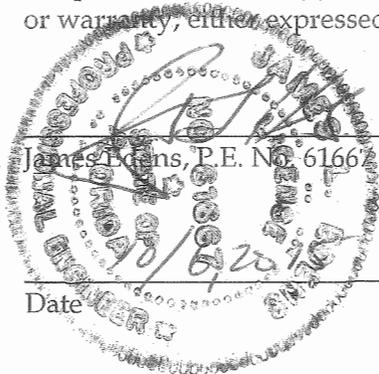
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This Bioventing Pilot Study Report, Site 4 - North AVGAS Tank Sludge Disposal Area, Naval Air Station Whiting Field, Milton, Florida, Revision No. 0, was prepared under the direction of a Florida-Registered Professional Engineer. The work and professional opinions rendered were conducted or developed in accordance with commonly accepted procedures consistent with applicable standards of practice. The information contained herein are, to the best of my knowledge, accurate and correct. This certification is made pursuant to Chapter 61G15-18.011(4), Florida Administrative Code. This certification is not a guaranty or warranty, either expressed or implied.



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Acronyms and Abbreviations

AGVIQ-CH2M HILL	AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III
NAVFAC SE	U.S. Naval Facilities Engineering Command Southeast
AST	aboveground storage tank
AVGAS	Aviation Gasoline
bls	below land surface
CH ₄	methane
CO ₂	carbon dioxide
DoD ELAP	Department of Defense Environmental Laboratory Accreditation Program
FDEP	Florida Department of Environmental Protection
FID	flame ionization detector
FO	flame out
ft/ft	feet per foot
lb	pounds
LEL	lower explosive limit
MOGAS	motor gasoline
MP	monitoring points
NAD83	North American Datum of 1983
NAS	Naval Air Station
O ₂	oxygen
PAH	polycyclic aromatic hydrocarbon
ROI	radius of influence
SAR	Site Assessment Report
scfm	standard cubic feet per meter
SCTL	soil cleanup target level
SVE	soil vapor extraction
TRPH	total recoverable petroleum hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
TVH	total volatile hydrocarbons
USGS	U.S. Geologic Survey
UST	underground storage tank
VOC	volatile organic compound
VZMP	vadose zone monitoring point

1.0 Introduction

AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III (AGVIQ-CH2M HILL) was contracted by U.S. Naval Facilities Engineering Command Southeast (NAVFAC SE) for pilot scale implementation of bioventing system and to perform related activities for the construction, startup, and operation of the bioventing system at Site 4 (Operational Unit 4), the North Aviation Gasoline (AVGAS) Tank Sludge Disposal Area, Naval Air Station (NAS) Whiting Field, Milton, Florida. The purpose of this report is to provide details of the pilot study implementation activities at Site 4, summarize the pilot study activities, and provide recommendations regarding the applicability of the technology at Site 4. This pilot study was conducted in accordance with Chapter 62-780.700, Florida Administrative Code.

1.1 Purpose of Report

This report presents the results of the bioventing pilot study performed at Site 4, located at NAS Whiting Field. The pilot study was performed from December 9, 2014 to January 22, 2015, with the bioventing system operated from December 9, 2014 to December 15, 2014. The pressure/ oxygen influence testing (active bioventing) was performed beginning on December 9, 2014 and the respiration testing was completed from December 15, 2014 to January 22, 2015. This report includes tables and graphics that summarize the determination of the radius of influence (ROI) of pressure and oxygen, oxygen consumption rates for specific monitoring points (MPs), and calculated hydrocarbon biodegradation rates.

1.2 Description of Bioventing

Bioventing is the process of aerating soils to add oxygen and to stimulate biodegradation of a wide range of hydrocarbons. Bioventing is accomplished generally through the injection of air into the subsurface. Bioventing is best suited for petroleum hydrocarbons with greater than eight carbon atoms (C8+), such as jet fuels, diesels, and heating oils. Bioventing has been used successfully at gasoline sites; however, special consideration must be given to the potential for vapor migration for systems that are installed near occupied buildings and underground utility manholes and vaults.

1.3 Project Objectives

The objective of the pilot study was to develop critical design parameters, including the ROI, permeability, and oxygen utilization (respiration) rates that could be used to design a full scale bioventing system for Site 4.

In order to accomplish this objective, the following activities were performed:

- Three vadose zone monitoring points (VZMPs), each consisting of four vertically discrete sample points, were installed. The VZMP vertical sampling intervals were based on flame ionization detector (FID) readings collected during installation. The VZMP locations were biased toward more highly contaminated areas and specific depth intervals.

- Soil samples at the locations of each VZMP were collected and analyzed for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), total recoverable petroleum hydrocarbons (TRPH), hydrocarbon speciation, and lead. These samples were used to characterize the soil in the soil vapor sample interval and evaluate the bioventing remedy.
- Soil vapor in VZMPs, select monitoring wells, select soil vapor extraction (SVE) wells, and select surface utility structures was monitored for oxygen (O₂), carbon dioxide (CO₂), methane (CH₄), lower explosive limit (LEL), and total volatile hydrocarbons (TVH).
- Baseline (before pilot study startup) and post pilot study soil vapor samples were collected from the VZMPs and select existing monitoring/soil vapor extraction wells. These samples were used to evaluate the effectiveness of the pilot study and the potential for vapor migration.
- The bioventing blower and necessary monitoring equipment were installed for the pilot study on December 8, 2014. The bioventing system was operated for a 6-day time period (December 9, 2014 to December 15, 2014).
- Soil vapor in VZMPs, select monitoring wells, select SVE wells, and select surface utility structures was monitored for O₂, CO₂, CH₄, LEL, and TVH prior to and during bioventing operation. Pressure response was also monitored in VZMP, monitoring, and SVE wells.
- Respiration testing was conducted following cessation of air injection bioventing to estimate oxygen utilization rates and biodegradation rates.

1.4 Report Organization

This Report summarizes pilot study test procedures and presents results in tables and graphics to demonstrate the radius of influence of pressure and oxygen; oxygen consumption rates for each VZMP; and hydrocarbon biodegradation rates.

This Report is organized into the following sections of text and appendices:

- Section 1.0 Introduction
- Section 2.0 Site Description and History
- Section 3.0 Bioventing Pilot Study
- Section 4.0 Results Summary
- Section 5.0 Recommendation
- Appendix A VZMP Construction Tables
- Appendix B Field Notes and Field Data
- Appendix C Contractor Production Reports and Contractor Quality Control Reports
- Appendix D Laboratory Analytical Data and Data Quality Evaluation
- Appendix E Waste Documentation

2.0 Site Description and History

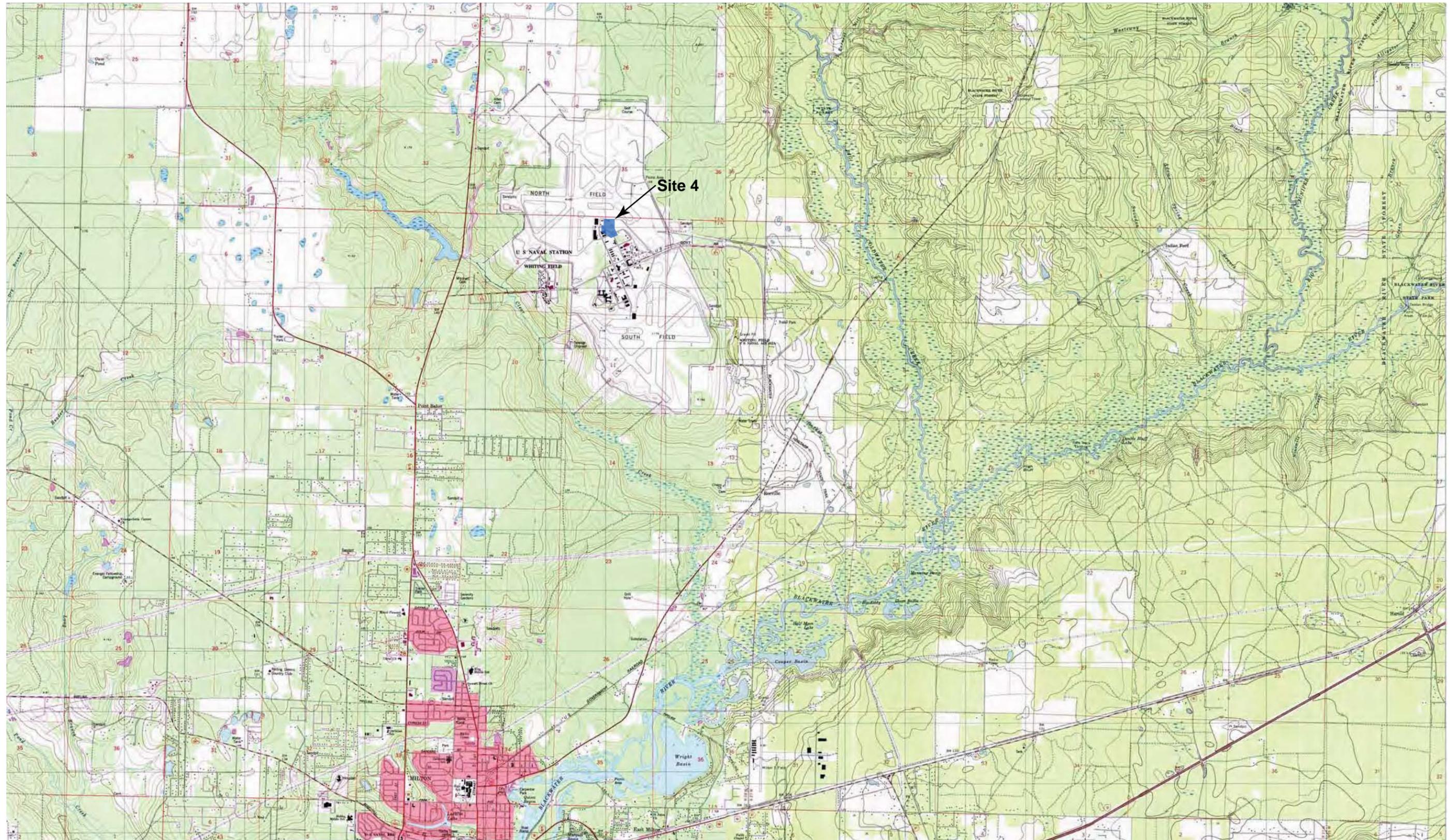
2.1 Site Description

NAS Whiting Field is located in Santa Rosa County, in Florida's northwest coastal area, and is approximately 5.5 miles north of Milton and 25 miles northeast of Pensacola. The station has served as a naval aviation training facility since it was established as a naval air auxiliary station in July 1943. Site 4 lies within the northeast quarter of the northwest quarter of Section 2 in Township 2 North, and Range 28 West, as shown on the Milton North, Florida, U.S. Geologic Survey (USGS) Quadrangle Map (USGS, 1987), (Figure 2-1). Site 4 includes the intersection of USS Saratoga Street and USS Hornet Street, and extends approximately 140 feet north of USS Enterprise Street. The area includes approximately 190,000 square feet or 3.4 acres of land that is grass covered, except for the asphalt covering on the roads.

Big Coldwater Creek is about 2 miles east of Site 4 and Clear Creek is a mile to the west (Figure 2-1). These two streams are tributaries of the Blackwater River, which discharges to the estuarine waters of the East Bay of the Escambia Bay coastal system. Both Clear Creek and Big Coldwater Creek are classified by the Florida Department of Environmental Protection (FDEP) as Class III, surface waters designated for Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife. Blackwater River is also classified as an Outstanding Florida Water. Outstanding Waters are considered to be of exceptional recreational and ecological significance. The shallow aquifer at NAS Whiting Field is approximately 100 feet below land surface (bls), with localized perched zones occurring at higher elevations (Tetra Tech NUS, Inc. [TtNUS], 2007).

2.2 Site Background

Site 4 includes the former underground storage tank (UST) facility (designated as UST Site 1467), which contained eight 25,000-gallon steel USTs and one 15,000-gallon steel UST. AVGAS was piped from the Site 4 UST system to the dispensing or delivery locations (hydrant area). According to historical documents, the nine USTs were installed in 1943. The eight 25,000-gallon steel tanks initially contained AVGAS and the 15,000-gallon tank initially contained gasoline. Sometime between 1968 and 1973, the contents of the 25,000-gallon tanks were switched from AVGAS to diesel or to unleaded gasoline. From 1973 to 1984, six of the 25,000-gallon tanks were filled with water. Three tanks (1467-F, -G, and -H) remained in use for storage of gasoline, diesel, and contaminated jet fuel, respectively. Eight USTs were excavated and removed in 1992, and a Discharge Reporting Form was submitted to FDEP for each of the USTs removed (Sub-Tech, Inc., 1992). Two aboveground storage tanks (ASTs) were installed in 1993 for storage of motor gasoline (MOGAS) and diesel fuel. The AST dispensing island is located parallel to and southeast of the MOGAS tanks. Figure 2-2 presents the site, the fuel storage tanks (USTs and ASTs), and the pipelines.



Quadrangle Map (USGS, 1987) Harold, Milton North

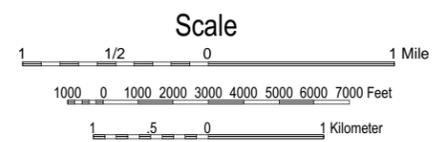


FIGURE 2-1
 Topographic Map (USGS, 1987)
 Site 4, NAS Whiting Field, Milton, Florida

The JP-5 underground product line generally lies at a depth of approximately 3 feet bls, except for an aboveground junction with the AVGAS pipeline and an exposed portion near the pump station facility. The 10-inch metal product line was affiliated with two 231,000-gallon ASTs containing JP-5. The pipeline was taken out of service through in-place closure in 1996 (Jim Stidham & Associates Inc., 1996).

The 6-inch AVGAS pipeline used to transfer fuel from the north fuel storage area to the south fuel storage area was closed in place between August 29, 2000 and September 1, 2000 (TtNUS, 2001). Attempts to clean the pipeline with soft foam pigs prior to closure were not successful because the pipelines were filled with water. To close the AVGAS pipeline, 1,700 gallons of water were removed for offsite disposal. Pipeline ends were capped using a soft foam plug inserted 1.5 feet into the pipeline and grouted with 40 pounds (lb) of QUIKRETE®. Several site assessment and remedial investigation activities have been performed at the site since 1985. The details of these historical site investigation activities are provided in Pilot Study Work Plan (AGVIQ-CH2M HILL, 2014).

2.3 Nature and Extent of Soil Contaminants

Field screening and analytical results indicate that the primary chemicals of potential concern at Site 4 are petroleum hydrocarbon constituents. The presence of both free product floating on perched groundwater and excessively contaminated subsurface soil have been documented at multiple depths in the vadose zone. Dissolved hydrocarbon compounds have been detected in both perched groundwater and in the Sand-and-Gravel aquifer that underlies Site 4. Hydrocarbon contamination is not likely to be present in surface soil (0 to 1 foot bls) at Site 4 because volatile compounds tend to evaporate into the atmosphere, rather than persist in surface soils and because contaminant releases were primarily in the subsurface in the form of releases from buried pipelines or USTs.

According to the Site Assessment Report (SAR, CH2M HILL, 2013), three onsite hydrocarbon release locations were identified during the Site Assessment: the AST area, the UST area, and the AVGAS/JP-5 Pipeline Junction:

- The source of the release in the AST area is unknown and predates AST construction. The AST area release overlies the upper perched aquifer.
- The USTs contained AVGAS, gasoline, unleaded gasoline, diesel fuel, and contaminated jet fuel. USTs were located above the lower perched groundwater zone and were excavated and removed in 1992. The AVGAS pipeline was closed in place in 2000.
- The JP-5 pipeline is located in the southern section of the site, and also overlies the lower perched groundwater. The pipeline was closed in place in 1996.

Free floating product has been measured in the majority of upper perched groundwater wells, at one time or another, since installation of multi-completion wells in May/June 2008. Free product thickness has ranged from a sheen to over 2 feet. Hydrocarbon fingerprinting conducted during the mobility assessment (SAR, Appendix A, CH2M HILL, 2013), indicates a mixture of MOGAS and AVGAS. Free floating product has never been detected in lower perched or Sand-and-Gravel aquifer wells installed at Site 4.

Hydrocarbon constituents dissolved in groundwater were detected in upper perched, lower perched, and Sand-and-Gravel aquifer zones. The highest concentrations were detected beneath the AST area, followed by the UST area, with the lowest in the Pipeline Junction area.

The extent of soil contamination exceeding FDEP Residential soil cleanup target levels (SCTLs) is defined within Site 4 boundaries. Although excessively contaminated soils have been identified in all three release locations, the highest concentrations are in the AST area. The dissolved hydrocarbon plume in the upper perched zone is defined by the extent of the confining clay. The dissolved hydrocarbon plume in the lower perched zone extends beyond the Site 4 boundaries. The proposed pilot study focuses on the upper perched zone, which extends to approximately 80 to 100 feet bls.

2.4 Site Geology and Hydrogeology

NAS Whiting Field is approximately 3,842 acres in size and consists of two air fields (North and South), separated by an industrial area. Site 4 encompasses 14.4 acres and is located in an industrial area between the North and South airfields. NAS Whiting Field lies within a coastal plain area known as the Western Highlands and is located on a plateau between Big Coldwater Creek and Clear Creek.

The elevation of Site 4 is 170 feet above North American Datum of 1983 (NAD83). This elevation is maintained east and west of Site 4 across the plateau. At the edges of the plateau, surface elevation decreases rapidly to the southeast and northwest of Site 4. On the plateau, elevations gradually increase to 190 feet above NAD83 to the north of Site 4, and 185 feet above NAD83 to the south of Site 4.

A relatively thick vadose zone (75 to 90 feet bls) underlies Site 4. The vadose zone is composed of varying thickness of undifferentiated sediments consisting of siliciclastics. Confining/semiconfining clay units were identified in the SAR (CH2M HILL, 2013); their continuity across the site is based on perched water behavior.

The upper perched groundwater is defined within the boundaries of Site 4 by the lateral extent of the confining clay. The clay is roughly the shape of a shallow bowl with the lowest edge dipping to the south. This upper unit is clearly defined with perched groundwater elevations 20 feet higher than the lower perched groundwater. The hydraulic gradient is relatively flat in the upper perched zone and inclined generally to the south, although monitoring well 04-MC-10 is surrounded on all four sides by wells with higher perched groundwater elevations. It is unclear whether there is a breach in the semiconfining clay in the vicinity of wells 04-MC-10 and 04-MC-12, or whether the clay lens remains intact as it dips to the south and terminates. Figures 2-3 and 2-4 present the extent of the upper perched zone in a plan view and in cross section, respectively.

Lower perched groundwater generally flows to the north-northwest along a clay lens that extends beyond site boundaries to the south and terminates in the north between monitoring wells WHF-1467-MW-37S and WHF-1467-MW-46P in the Sand-and-Gravel aquifer. The hydraulic gradient ranges from 0.000076 feet per foot (ft/ft) in the southeast to 0.03 ft/ft beneath the UST area. The gradient indicates a relatively flat lying clay in the south that steepens to the north. The confining unit pinches out and lower perched groundwater

intersects the Sand-and-Gravel aquifer beneath the northern half of Site 4. The underlying Sand-and-Gravel aquifer beneath Site 4 flows to the south-southwest beneath Site 4.

2.5 Utilities and Surface Features

The area for the pilot study is relatively flat and covered with a combination of grass and asphalt. Buildings are located approximately 150 feet or more to the north and the north-northwest of the bioventing pilot study area.

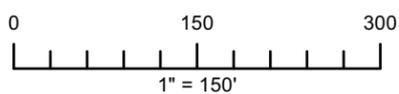
Known underground utilities at the site include the fuel pipelines, storm sewers, water lines, and power utilities. Locations of these utilities are not known precisely although surface features related to the some utilities are present adjacent to nearby buildings. Subsurface utilities may be conduits for soil vapor migration.

The refueling pumps are located near the southern boundary of Site 4. The ground surface slopes away from the refueling area to the north (toward the north flight line) and to the east. To the south the land surface is relatively flat.



Legend

- 2011 Monitor Well
- Existing Monitor Well
- 2011 Multi Completion Well
- Treatment Well
- Lateral Extent Upper Clay
- - - JP-5 Pipeline
- - - Fuel Pipeline Location
- Site 4 Boundary
- - - IR Sites



Note: Dashed Where Inferred

FIGURE 2-3
Lateral Extent of Upper Perched Zone
Site 4, NAS Whiting Field, Milton, Florida



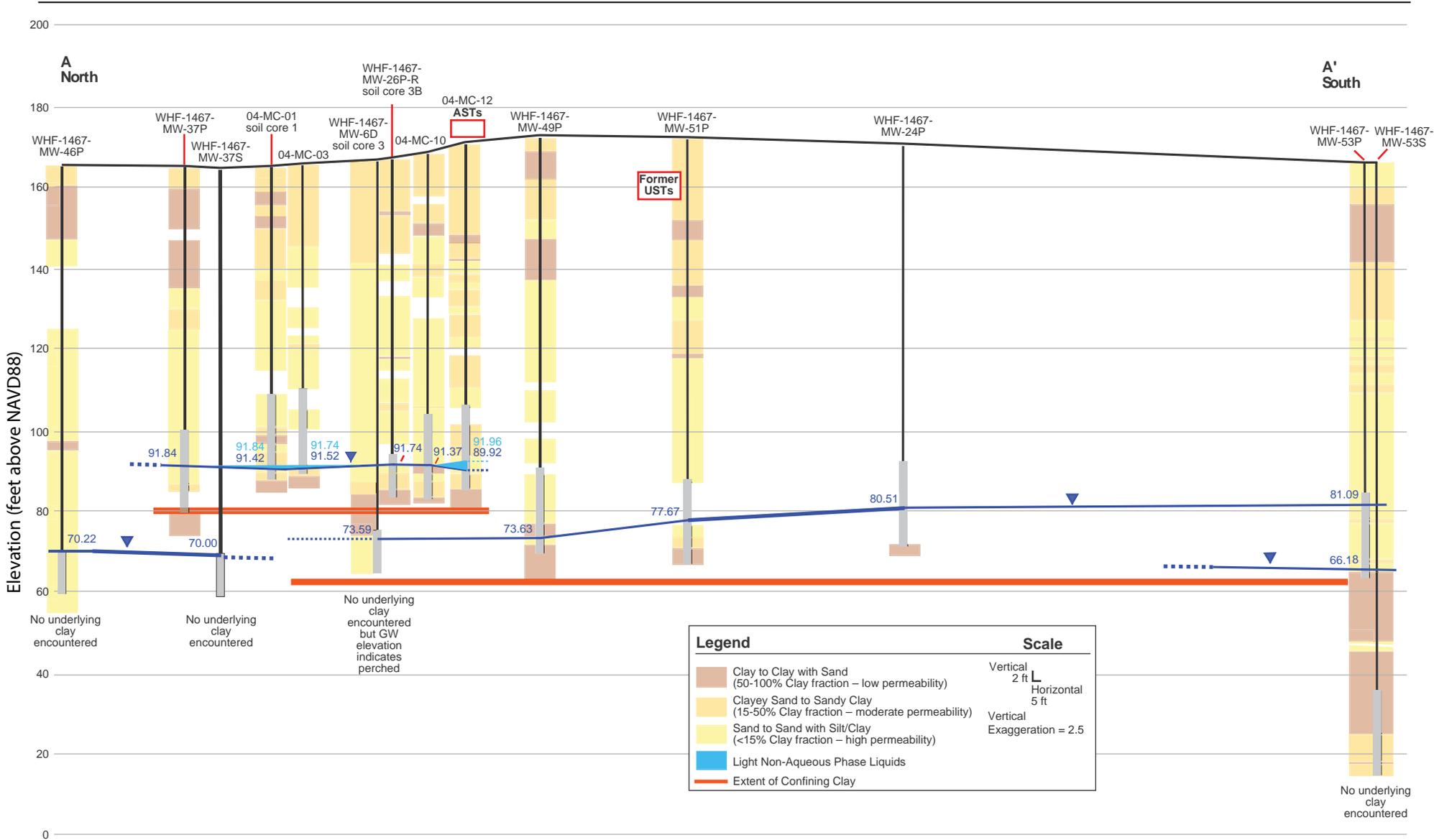


FIGURE 2-4
 Section A-A' Soil Boring Observations
 Site 4, NAS Whiting Field, Milton, Florida



3.0 Bioventing Pilot Study

The bioventing system included a blower to inject air into the subsurface, basic monitoring equipment, and MPs at various locations near the injection well to monitor subsurface soil vapor conditions. The details of necessary equipment and the installation of MPs and performance monitoring are provided in Pilot Study Work Plan (AGVIQ-CH2M HILL, 2014).

The bioventing pilot study included injecting ambient air into the subsurface at monitoring well 04-MC-10 at a target flow rate of 40 standard cubic feet per meter (scfm) and monitoring pressure response and soil vapor parameters (O₂, CO₂, CH₄, LEL, and TVH) to determine the operational parameters for a full-scale bioventing system at the site. In order to monitor the system, an additional 12 monitoring points (VZMPs) were installed, which included analytical sampling of the soil in the VZMP intervals.

Because the injection of air into the subsurface displaces a portion of the existing soil vapor, monitoring of vapor migration also was conducted during the pilot study. Screening data (FID response and LEL) was used to determine if vapors concentrations were increasing or vapors were migrating to areas beyond the pilot study area. Monitoring of VZMPs, select monitoring/SVE wells, and available utility structures (e.g., manholes and drop inlets) was conducted for this purpose.

Soil vapor analytical samples were also collected from the VZMPs and monitoring/SVE wells prior to and following completion of the pilot study. These samples were analyzed for VOCs using EPA Method TO-15.

3.1 Vadose Zone Monitoring

The well network for this bioventing pilot study included one existing monitoring well (04-MC-10), which was used as a bioventing air injection well, and three new nested VZMP clusters (VZMP1, VZMP2, and VZMP3). In addition, 14 existing monitoring wells and SVE wells were monitored to supplement the VZMP data. The VZMPs were installed from November 4 through 6, 2014. The locations and screen depths for these VZMPs were completed in fuel contaminated soils, which was a critical requirement for bioventing pilot tests.

The VZMPs are located radially from 04-MC-10 at distances of approximately 20 feet (VZMP1), 60 feet (VZMP2), and 100 feet (VZMP3) to the south, west-northwest, and north, respectively. These distances were selected to determine the oxygen ROI achieved through air injection. Table 3-1 presents the construction details of the MPs and Figure 3-1 presents the VZMP layout.

3.1.1 Soil Sampling During VZMP Installation

The VZMP vertical soil sample intervals were determined in the field based on FID soil screening results. Generally the VZMP sample intervals were biased toward areas with higher FID readings. In the event that field conditions revealed a low permeability zone within a targeted sampling interval, the MP of the VZMP was adjusted above or below that zone. The shallower screened intervals were intended to monitor vertical changes in pressure and soil vapor. The FID results and lithology with screen intervals are presented in Table A-1 in Appendix A. Appendix B includes the VZMP boring logs and other pertinent field information. Appendix C includes the daily Contractor Production Reports and Contractor Quality Control Reports.

Soil at each screened interval was sampled and submitted for offsite laboratory analysis to characterize the sample interval. The soil samples were analyzed for VOCs, PAHs, TRPH, hydrocarbon speciation, and lead. The soil laboratory results and data summary tables are presented in Appendix D.

TABLE 3-1
Pilot Study Monitoring Points and Construction Details
Site 4, NAS Whiting Field, Milton Florida

Well ID	Screen Interval (ft bls)	Diameter (inches)	Screen Slot Size (inches)
VZMP1-16	16 - 17	1	0.02
VZMP1-34	34 - 35	1	0.02
VZMP1-60	61 - 62	1	0.02
VZMP1-75	73 - 74	1	0.02
VZMP2-16	16 - 17	1	0.02
VZMP2-42	42 - 43	1	0.02
VZMP2-63	62 - 63	1	0.02
VZMP2-69	68 - 69	1	0.02
VZMP3-8	8 - 9	1	0.02
VZMP3-36	36 - 37	1	0.02
VZMP3-57	56 - 57	1	0.02
VZMP3-69	68 - 69	1	0.02
04-MC-10	64.3 - 84.3	2	0.02
WHF-1467-MW 26P-R	73 - 83	4	0.01
WHF-1467-MW-37S *	95 - 105	2	0.01
WHF-1467-MW-45P	70 - 90	2	0.01
WHF-1467-MW-49P	80 - 100	2	0.01
04-MC-01	56.5 - 76.5	2	0.01
04-SVE-01	28.5 - 48.5	2	0.02
04-MC-02	56.8 - 76.8	2	0.01
04-SVE-02	35.5 - 55.5	2	0.02
04-MC-04	59.5 - 79.5	2	0.01
04-SVE-04	35 - 55	2	0.02
04-MC-09	58.5 - 78.5	2	0.01
04-SVE-09	27.5 - 47.5	2	0.02
04-MC-11	64.5 - 84.5	2	0.01
04-SVE-11	35.5 - 55.5	2	0.02

* Well WHF-1467-MW-37S was monitored in place of WHF-1467-MW37P (see Section 3.2.3). The well completion details are estimated as they were unavailable from the contractor.



Legend

- Approximate VZMP
- Existing Upper Perched MW
- Existing Sand-and-Gravel Well
- Existing Lower Perched MW
- Existing TW
- Existing MC - SVE Cluster
- Existing Soil Boring
- Abandoned AVGAS Pipeline
- Site 4 Boundary
- IR Sites

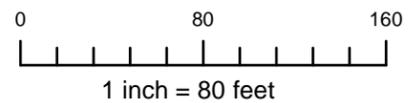


FIGURE 3-1
 Approximate VZMP Layout
 Site 4, NAS Whiting Field,
 Milton, Florida

3.2 Pilot Study Implementation

The bioventing pilot test included the following:

1. Baseline concentrations of O₂, CO₂, and TVH in soil vapor were determined.
2. The blower system was used to inject air into the bioventing air injection well (04-MC-10) and pressure and soil vapor field measurements were made to determine the impact of oxygen addition in the MPs, including monitoring wells, VZMPs, and SVE wells to estimate a radius of pressure and oxygen influence at the site.
3. The air supply was turned off and the soil vapor measurements were used to estimate the rate of oxygen uptake in the subsurface (in-situ respiration rate).

In addition, field monitoring was conducted to determine if the potential for vapor migration to occupied areas was significant. Vapor monitoring for this purpose is also discussed in this section.

3.2.1 Baseline Soil Vapor Conditions

Prior to beginning the pilot study, ambient field conditions (O₂, CO₂, LEL, and TVH) in soil vapor and analytical soil vapor samples were collected from the MPs. The purging and soil vapor sample collection procedure were completed for each MP. The data tables for the soil vapor monitoring are provided in Appendix A. Analytical samples were collected in a Tedlar bag for laboratory analysis using EPA Method TO-15.

3.2.2 Bioventing Operation

Following completion of the baseline sampling, the blower was connected to the injection well (04-MC-10). Air injection commenced at 8:00 AM on December 9, 2014 and ceased at 10:09 AM on December 15, 2014. The blower unit was a Rietschle 7.5-hp DLR 100, which was trailer-mounted. The blower system included a diesel generator and flow control systems.

The target air flow rate was 40 scfm for the pilot study. Air flow measurements generally were made concurrently with the pressure monitoring and/or the soil vapor monitoring to ensure the system was providing air at the target flow rate. The flow rate was calculated using the differential pressure (Pitot tube) and the Bernoulli Equation. The actual flow rate, derived from the differential pressure, was converted to standard units (scfm) using the Ideal Gas Law. The measured flow required infrequent and minor adjustments to maintain the target 40 scfm for the period of the pilot study.

3.2.3 Pressure Influence Testing

Pressure measurements were recorded following startup of the bioventing system to determine the areal extent of pressure influences associated with the injection of air into the subsurface at Site 4. Table 3-2 presents the pressure readings and the calculated pressure change (adjusted to a 30-minute interval) for the soil vapor MPs.

As seen from the pressure data, pressure changes (adjusted to a 30-minute interval) were less than 10 percent by about 12:30 to 3:30 PM in all wells except VZMP1-16, WHF-1467-MW-49P, and WHF-1467-MW-37P. None of these wells were used in estimating the ROI, as summarized below.

TABLE 3-2
 Pressure Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	Pressure (inches H ₂ O)	Pressure Change (%/30 min)
VZMP1-75	12/9/2014 8:25	0.78	-
	12/9/2014 8:40	0.78	0.0%
	12/9/2014 9:01	0.82	5.7%
	12/9/2014 9:26	0.84	2.4%
	12/9/2014 9:46	0.91	10.5%
	12/9/2014 10:06	0.92	1.5%
	12/9/2014 10:26	1.02	15.0%
	12/9/2014 11:01	1.24	18.9%
	12/9/2014 11:36	1.43	16.3%
	12/9/2014 12:23	1.81	24.3%
	12/9/2014 13:30	2.23	18.8%
	12/9/2014 14:31	2.44	10.3%
12/9/2014 15:28	2.53	4.7%	
VZMP1-60	12/9/14 8:25	0.3	-
	12/9/2014 8:40	0.29	-2.0%
	12/9/2014 9:01	0.33	5.7%
	12/9/2014 9:26	0.35	2.4%
	12/9/2014 9:46	0.53	27.0%
	12/9/2014 10:06	0.56	4.5%
	12/9/2014 10:26	0.55	-1.5%
	12/9/2014 11:01	0.78	19.7%
	12/9/2014 11:36	0.96	15.4%
	12/9/2014 12:23	1.35	24.9%
	12/9/2014 13:30	1.75	17.9%
	12/9/2014 14:31	1.97	10.8%
12/9/2014 15:28	2	1.6%	
VZMP1-34	12/9/2014 8:26	-0.06	-
	12/9/2014 8:41	-0.08	-4.0%
	12/9/2014 9:02	-0.04	5.7%
	12/9/2014 9:26	-0.01	3.7%
	12/9/2014 9:46	0	1.5%
	12/9/2014 10:06	0.02	3.0%
	12/9/2014 10:26	0.14	18.0%
	12/9/2014 11:01	0.33	16.3%
	12/9/2014 11:36	0.54	18.0%
	12/9/2014 12:23	0.89	22.3%
	12/9/2014 13:30	1.27	17.0%
	12/9/2014 14:31	1.5	11.3%
12/9/2014 15:28	1.51	0.5%	
VZMP1-16	12/9/2014 8:26	0	-
	12/9/2014 8:41	0	0.0%
	12/9/2014 9:02	0.01	1.4%
	12/9/2014 9:27	0.02	1.2%
	12/9/2014 9:46	0.01	-1.6%
	12/9/2014 10:06	0.02	1.5%
	12/9/2014 10:26	0.06	6.0%
	12/9/2014 11:01	0.04	-1.7%
	12/9/2014 11:36	0.02	-1.7%
	12/9/2014 12:24	-0.04	-3.7%
	12/9/2014 13:30	-0.01	1.4%
	12/9/2014 14:31	-0.02	-0.5%
12/9/2014 15:28	0	1.1%	
WHF-1467-MW-26P-R	12/9/2014 8:27	0.57	-
	12/9/2014 8:41	0.54	-6.4%
	12/9/2014 9:03	0.58	5.5%
	12/9/2014 9:29	0.62	4.6%
	12/9/2014 9:49	0.65	4.5%
	12/9/2014 10:10	0.7	7.1%
12/9/2014 10:29	0.8	15.8%	

TABLE 3-2
 Pressure Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	Pressure (inches H ₂ O)	Pressure Change (%/30 min)
	12/9/2014 11:03	1.01	18.5%
	12/9/2014 11:39	1.23	18.3%
	12/9/2014 12:27	1.59	22.5%
	12/9/2014 13:33	1.98	17.7%
	12/9/2014 14:34	2.21	11.3%
	12/9/2014 15:31	2.21	0.0%
04-MC-09	12/9/2014 8:28	0.11	-
	12/9/2014 8:42	0.07	-8.6%
	12/9/2014 9:03	0.14	10.0%
	12/9/2014 9:30	0.17	3.3%
	12/9/2014 9:50	0.2	4.5%
	12/9/2014 10:10	0.25	7.5%
	12/9/2014 10:30	0.36	16.5%
	12/9/2014 11:04	0.54	15.9%
	12/9/2014 11:40	0.79	20.8%
	12/9/2014 12:27	1.13	21.7%
	12/9/2014 13:34	1.52	17.5%
	12/9/2014 14:34	1.73	10.5%
	12/9/2014 15:33	1.74	0.5%
04-SVE-09	12/9/2014 8:28	0.07	-
	12/9/2014 8:42	0.04	-6.4%
	12/9/2014 9:04	0.08	5.5%
	12/9/2014 9:30	0.15	8.1%
	12/9/2014 9:50	0.17	3.0%
	12/9/2014 10:10	0.2	4.5%
	12/9/2014 10:30	0.32	18.0%
	12/9/2014 11:04	0.51	16.8%
	12/9/2014 11:40	0.74	19.2%
	12/9/2014 12:27	1.09	22.3%
	12/9/2014 13:33	1.44	15.9%
	12/9/2014 14:34	1.65	10.3%
	12/9/2014 15:34	1.68	1.5%
04-MC-11	12/9/2014 8:29	0.15	-
	12/9/2014 8:42	0.14	-2.3%
	12/9/2014 9:08	0.19	5.8%
	12/9/2014 9:29	0.24	7.1%
	12/9/2014 9:39	0.26	6.0%
	12/9/2014 9:49	0.26	0.0%
	12/9/2014 10:09	0.9	96.0%
	12/9/2014 10:28	0.44	-72.6%
	12/9/2014 11:02	0.62	15.9%
	12/9/2014 11:38	0.83	17.5%
	12/9/2014 12:26	1.2	23.1%
	12/9/2014 13:32	1.62	19.1%
	12/9/2014 14:33	1.8	8.9%
	12/9/2014 15:36	1.8	0.0%
04-SVE-11	12/9/2014 8:29	0.01	-
	12/9/2014 8:42	0	-2.3%
	12/9/2014 9:08	0.05	5.8%
	12/9/2014 9:29	0.09	5.7%
	12/9/2014 9:39	0.13	12.0%
	12/9/2014 9:49	0.12	-3.0%
	12/9/2014 10:09	0.52	60.0%
	12/9/2014 10:28	0.3	-34.7%
	12/9/2014 11:02	0.48	15.9%
	12/9/2014 12:26	1.04	20.0%
	12/9/2014 13:32	1.42	17.3%
	12/9/2014 14:33	1.64	10.8%
	12/9/2014 15:30	1.62	-1.1%

TABLE 3-2
 Pressure Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	Pressure (inches H ₂ O)	Pressure Change (%/30 min)
04-MC-04	12/9/2014 8:30	0.04	-
	12/9/2014 8:44	0.06	4.3%
	12/9/2014 9:09	0.06	0.0%
	12/9/2014 9:33	0.08	2.5%
	12/9/2014 9:53	0.14	9.0%
	12/9/2014 10:13	0.17	4.5%
	12/9/2014 10:33	0.25	12.0%
	12/9/2014 11:07	0.51	22.9%
	12/9/2014 11:43	0.72	17.5%
	12/9/2014 12:30	1.04	20.4%
	12/9/2014 13:39	1.45	17.8%
	12/9/2014 14:37	1.65	10.3%
	12/9/2014 15:36	1.63	-1.0%
04-SVE-04	12/9/2014 8:30	0.01	-
	12/9/2014 8:44	0.01	0.0%
	12/9/2014 9:09	0.03	2.4%
	12/9/2014 9:33	0.06	3.7%
	12/9/2014 9:53	0.07	1.5%
	12/9/2014 10:13	0.14	10.5%
	12/9/2014 10:33	0.24	15.0%
	12/9/2014 11:07	0.48	21.2%
	12/9/2014 11:43	0.66	15.0%
	12/9/2014 12:30	1.01	22.3%
	12/9/2014 13:39	1.43	18.3%
	12/9/2014 14:37	1.62	9.8%
	12/9/2014 15:36	1.58	-2.0%
04-MC-02	12/9/2014 8:31	0.13	-
	12/9/2014 8:45	0.08	-10.7%
	12/9/2014 9:12	0.18	11.1%
	12/9/2014 9:36	0.25	8.7%
	12/9/2014 9:56	0.24	-1.5%
	12/9/2014 10:15	0.26	3.2%
	12/9/2014 10:35	0.41	22.5%
	12/9/2014 11:09	0.63	19.4%
	12/9/2014 11:46	0.87	19.5%
	12/9/2014 12:33	1.17	19.1%
	12/9/2014 13:43	1.56	16.7%
	12/9/2014 14:39	1.72	8.6%
	12/9/2014 15:39	1.75	1.5%
04-SVE-02	12/9/2014 8:32	0	-
	12/9/2014 8:45	0	0.0%
	12/9/2014 9:12	0.06	6.7%
	12/9/2014 9:36	0.12	7.5%
	12/9/2014 9:56	0.13	1.5%
	12/9/2014 10:15	0.13	0.0%
	12/9/2014 10:35	0.29	24.0%
	12/9/2014 11:09	0.52	20.3%
	12/9/2014 11:46	0.72	16.2%
	12/9/2014 12:34	1.06	21.3%
	12/9/2014 13:43	1.43	16.1%
	12/9/2014 14:39	1.58	8.0%
	12/9/2014 15:39	1.6	1.0%
VZMP2-69	12/9/2014 8:46	0	-
	12/9/2014 9:05	0.01	1.6%
	12/9/2014 9:31	0.07	6.9%
	12/9/2014 9:50	0.09	3.2%
	12/9/2014 10:11	0.13	5.7%
	12/9/2014 10:31	0.25	18.0%
	12/9/2014 11:04	0.43	16.4%

TABLE 3-2
 Pressure Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	Pressure (inches H ₂ O)	Pressure Change (%/30 min)
	12/9/2014 11:41	0.68	20.3%
	12/9/2014 12:28	1.01	21.1%
	12/9/2014 13:35	1.4	17.5%
	12/9/2014 14:35	1.61	10.5%
	12/9/2014 15:35	1.62	0.5%
VZMP2-63	12/9/2014 8:46	0	-
	12/9/2014 9:06	0.01	1.5%
	12/9/2014 9:31	0.06	6.0%
	12/9/2014 9:50	0.09	4.7%
	12/9/2014 10:11	0.12	4.3%
	12/9/2014 10:31	0.25	19.5%
	12/9/2014 11:04	0.41	14.5%
	12/9/2014 11:41	0.68	21.9%
	12/9/2014 12:28	1.01	21.1%
	12/9/2014 13:35	1.41	17.9%
	12/9/2014 14:35	1.63	11.0%
	12/9/2014 15:34	1.62	-0.5%
VZMP2-42	12/9/2014 8:47	-0.07	-
	12/9/2014 9:06	-0.04	4.7%
	12/9/2014 9:32	0	4.6%
	12/9/2014 9:50	0	0.0%
	12/9/2014 10:11	0.02	2.9%
	12/9/2014 10:31	0.14	18.0%
	12/9/2014 11:04	0.31	15.5%
	12/9/2014 11:41	0.55	19.5%
	12/9/2014 12:28	0.87	20.4%
	12/9/2014 13:35	1.3	19.3%
	12/9/2014 14:35	1.49	9.5%
	12/9/2014 15:34	1.49	0.0%
VZMP2-16	12/9/2014 8:47	-0.1	-
	12/9/2014 9:06	-0.07	4.7%
	12/9/2014 9:32	-0.04	3.5%
	12/9/2014 9:51	-0.01	4.7%
	12/9/2014 10:11	0	1.5%
	12/9/2014 10:31	0.08	12.0%
	12/9/2014 11:05	0.28	17.6%
	12/9/2014 11:41	0.52	20.0%
	12/9/2014 12:28	0.86	21.7%
	12/9/2014 13:35	1.28	18.8%
	12/9/2014 14:35	1.47	9.5%
	12/9/2014 15:35	1.47	0.0%
WHF-1467-MW-49P	12/9/2014 8:48	0.01	-
	12/9/2014 9:07	0.01	0.0%
	12/9/2014 9:28	0.02	1.4%
	12/9/2014 9:48	0	-3.0%
	12/9/2014 10:08	0.02	3.0%
	12/9/2014 10:28	0.02	0.0%
	12/9/2014 11:02	0.01	-0.9%
	12/9/2014 11:38	0.03	1.7%
	12/9/2014 12:25	0.04	0.6%
	12/9/2014 13:31	0	-1.8%
	12/9/2014 14:32	0.04	2.0%
	12/9/2014 15:29	0	-2.1%
04-MC-01	12/9/2014 8:50	0.01	-
	12/9/2014 9:10	0.01	0.0%
	12/9/2014 9:34	0.05	5.0%
	12/9/2014 9:54	0.05	0.0%
	12/9/2014 10:13	0.1	7.9%
	12/9/2014 10:33	0.2	15.0%

TABLE 3-2
 Pressure Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	Pressure (inches H ₂ O)	Pressure Change (%/30 min)
	12/9/2014 11:07	0.45	22.1%
	12/9/2014 11:44	0.65	16.2%
	12/9/2014 12:31	1.04	24.9%
	12/9/2014 13:41	1.42	16.3%
	12/9/2014 14:41	1.58	8.0%
	12/9/2014 15:37	1.56	-1.1%
04-SVE-01	12/9/2014 8:50	-0.04	-
	12/9/2014 9:10	-0.05	-1.5%
	12/9/2014 9:34	0	6.3%
	12/9/2014 9:54	0	0.0%
	12/9/2014 10:13	0.03	4.7%
	12/9/2014 10:33	0.13	15.0%
	12/9/2014 11:07	0.37	21.2%
	12/9/2014 11:44	0.54	13.8%
	12/9/2014 12:31	0.96	26.8%
	12/9/2014 13:41	1.37	17.6%
	12/9/2014 14:41	1.5	6.5%
	12/9/2014 15:37	1.47	-1.6%
VZMP3-69	12/9/2014 8:51	-0.04	-
	12/9/2014 9:11	-0.02	3.0%
	12/9/2014 9:35	0	2.5%
	12/9/2014 9:55	0.03	4.5%
	12/9/2014 10:13	0.05	3.3%
	12/9/2014 10:34	0.18	18.6%
	12/9/2014 11:08	0.3	10.6%
	12/9/2014 11:45	0.59	23.5%
	12/9/2014 12:32	0.95	23.0%
	12/9/2014 13:41	1.33	16.5%
	12/9/2014 14:38	1.45	6.3%
	12/9/2014 15:37	1.48	1.5%
VZMP3-57	12/9/2014 8:51	-0.01	-
	12/9/2014 9:11	0	1.5%
	12/9/2014 9:35	0.02	2.5%
	12/9/2014 9:55	0.06	6.0%
	12/9/2014 10:14	0.11	7.9%
	12/9/2014 10:34	0.21	15.0%
	12/9/2014 11:08	0.43	19.4%
	12/9/2014 11:45	0.63	16.2%
	12/9/2014 12:32	0.98	22.3%
	12/9/2014 15:38	1.36	6.1%
	12/9/2014 14:38	1.43	-3.5%
	12/9/2014 15:38	1.48	2.5%
VZMP3-36	12/9/2014 8:52	-0.08	-
	12/9/2014 9:12	-0.06	3.0%
	12/9/2014 9:36	0	7.5%
	12/9/2014 9:55	0	0.0%
	12/9/2014 10:14	0.03	4.7%
	12/9/2014 10:34	0.15	18.0%
	12/9/2014 11:08	0.36	18.5%
	12/9/2014 11:45	0.56	16.2%
	12/9/2014 12:32	0.89	21.1%
	12/9/2014 13:38	1.29	18.2%
	12/9/2014 14:38	1.42	6.5%
	12/9/2014 15:38	1.44	1.0%
VZMP3-8	12/9/2014 8:52	-0.06	-
	12/9/2014 9:12	-0.04	3.0%
	12/9/2014 9:36	-0.01	3.7%
	12/9/2014 9:55	0	1.6%
	12/9/2014 10:14	0.01	1.6%

TABLE 3-2
 Pressure Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	Pressure (inches H ₂ O)	Pressure Change (%/30 min)
	12/9/2014 10:34	0.1	13.5%
	12/9/2014 11:08	0.25	13.2%
	12/9/2014 11:45	0.4	12.2%
	12/9/2014 12:32	0.66	16.6%
	12/9/2014 13:38	0.93	12.3%
	12/9/2014 14:38	1.05	6.0%
	12/9/2014 15:39	1.06	0.5%
WHF-1467-MW-45P	12/9/2014 8:53	-0.17	-
	12/9/2014 9:13	-0.15	3.0%
	12/9/2014 9:37	-0.09	7.5%
	12/9/2014 9:57	-0.08	1.5%
	12/9/2014 10:16	-0.04	6.3%
	12/9/2014 10:37	0.05	12.9%
	12/9/2014 11:11	0.25	17.6%
	12/9/2014 11:47	0.46	17.5%
	12/9/2014 12:34	0.75	18.5%
	12/9/2014 13:45	1.15	16.9%
	12/9/2014 14:42	1.38	12.1%
	12/9/2014 15:40	1.32	-3.1%
WHF-1467-MW-37P	12/9/2014 8:55	0	-
	12/9/2014 9:14	0.01	1.6%
	12/9/2014 9:38	0.02	1.3%
	12/9/2014 9:59	0.1	11.4%
	12/9/2014 10:18	0.08	-3.2%
	12/9/2014 10:38	0.1	3.0%
	12/9/2014 11:12	0.12	1.8%
	12/9/2014 11:48	0.11	-0.8%
	12/9/2014 12:36	0.12	0.6%
	12/9/2014 13:46	0.09	-1.3%
	12/9/2014 14:44	0.1	0.5%
	12/9/2014 15:42	0	-5.2%

VZMP1-16 is a shallow MP and was installed 20 feet to the south of the injection point. This MP was installed primarily to monitor vertical vapor migration into the shallow zone in order to identify potential vapor migration concerns (as was VZMP2-16, and VZMP3-8). Absence of pressure influence in VZMP1-16 indicates that pressure influences are likely more horizontal than vertical although pressure influences were observed in the other shallow VZMPs.

Monitoring well WHF-1467-MW-49P was damaged before the pilot study started, apparently by a heavy truck that ran over the well vault and forced it down onto the well casing. The casing was broken at the cap. The field team installed a rubber sleeve between the casing and the pressure valve extension. When pressure changes readings were not observed in this well, the data from this well was disregarded in estimating the ROI as it could have also been damaged below land surface.

The data collected for WHF-1467-MW-37P were actually from WHF-1467-MW-37S. WHF-1467-MW-37S was mistakenly identified as WHF-1467-MW-37P and the error was not identified until the pilot study was complete. Consequently, the data collected were for the shallow zone and not used in estimating the ROI.

The pressure data collected as part of the pilot study indicate that all of the wells in the 15- to 80-foot zone were influenced by the addition of oxygen at 04-MC-10, except for VZMP1-16. The fact that some shallow and deep wells did not show pressure changes indicates that the horizontal flow

of air is preferential to vertical flow. However, many of the shallow wells did show pressure influences.

3.2.4 Oxygen Influence Testing

During operation of the bioventing system, O₂, CO₂, and TVH measurements were made in each monitoring point. These field measurements were used to 1) determine the areal extent of oxygen influence and 2) to determine which wells would be used to for the respiration testing. Initial oxygen readings generally were higher than expected in a subsurface environment. Baseline oxygen levels were elevated in most of the wells having near-ambient oxygen levels (21 percent). It was concluded that the high oxygen levels were most likely due to atmospheric pressure forcing oxygen into the wells. Atmospheric oxygen influence would be limited around the soil vapor MPs, but this complicated the initial selection of MPs for the respiration testing as the goal is to select wells with initial low oxygen readings.

Table 3-3 summarizes O₂, CO₂, and TVH measurements. The TVH readings were of limited value as the contaminant concentrations in the subsurface generally were above the upper threshold for combustion resulting in the flame being extinguished during sampling (i.e., flame out [FO]).

Because of the high initial oxygen levels in many of the MPs, oxygen influences were evaluated primarily by changes in oxygen concentrations over time (> 5 percent). MPs where initial soil vapor oxygen levels declined and subsequently increased were considered to have been influenced by the bioventing system. The rationale for this conclusion is that as oxygen is added at the injection point (04-MC-10), the initial soil vapor would be displaced by surrounding soil vapor with low oxygen and later by injected oxygen. While oxygen levels fluctuated, likely due to mixing effects, this was the general trend in most MPs. Some MPs also showed a subsequent decline in oxygen concentrations (e.g., WHF-1467-MW-45P, VZMP2-16, VZMP3-8, VZMP3-36, and VZMP3-69). The reason for this change is uncertain, although it could be the result of circulating soil vapor of differing oxygen concentrations in the subsurface, suggesting that the bioventing system did impact these MPs. Also, oxygen levels in VZMP1-16, WHF-1467-MW-37S and WHF-1467-MW-49 were elevated throughout the study, making it impossible to determine if oxygen addition had an impact on these MPs.

As noted in the previous section, the well casing of monitoring well WHF-1467-MW-49P was damaged and the compromised casing may have extended below the surface, making it impossible for the field team to observe the full extent of the damage. Consequently, data from this well are suspect and were discarded in the evaluation of the oxygen ROI.

Based on the soil vapor monitoring, the bioventing system appears to potentially have impacted all of the wells in the 15- to 80-foot zone except for VZMP1-16 and many of the MPs in the shallow zone. These data support the pressure influence conclusions that air flow was primarily horizontal but did have a vertical component.

The oxygen data were also reviewed to determine which wells would be monitored for the respiration testing. Respiration test wells were identified based on the following criteria:

- Location in contaminated soil
- Baseline oxygen readings of less than 2 percent.
- Oxygen increased to at least 10 percent as a result of bioventing

Although several wells had baseline oxygen readings of less than 5 percent, none of the site wells met all of the selection criteria. Consequently, professional judgment was used in addition to the

specified selection criteria. Review of the soil and FID data indicated that all wells generally were located within contaminated soil.

Wells 04-SVE-01, 04-MC-04, 04-SVE-04, 04-MC-09, 04-SVE-09, 04-MC-11, 04-SVE-11, WHF-1467-MW-26P-R, VZMP1-35, VZMP1-62, VZMP1-74, VZMP2-63, VZMP2-69, and VZMP3-57 all exhibited low oxygen levels near the beginning of the bioventing operational period and subsequently increased to 10 percent or greater oxygen by the end of the study period. In addition, the injection well (04-MC-10) and the adjacent SVE well (04-SVE-10) were included in the respiration testing.

TABLE 3-3
Soil Gas Monitoring Results
Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
04-MC-01	12/8/14 8:20	4.9	12.5	FO
	12/9/2014 14:36	22.1	0.2	1447
	12/9/2014 16:10	21.4	0.2	640
	12/10/2014 11:35	20.9	0.7	3.7
	12/10/2014 15:14	0.6	14	FO
	12/11/2014 8:33	20.4	0.1	144000
	12/11/2014 11:30	21.5	0	180000
	12/11/2014 14:13	21.2	0	42000
	12/12/2014 9:55	20.8	0.2	65500
	12/12/2014 16:30	5.8	12.4	FO
	12/13/2014 15:04	11.2	9.1	FO
12/15/2014 9:08	17.2	4.9	375400	
04-SVE-01	12/8/14 8:24	13.1	6.4	44000
	12/9/2014 14:34	22	0	625
	12/9/2014 16:12	3.5	11.5	FO
	12/10/2014 11:28	0.4	14.3	FO
	12/10/2014 15:16	0.1	14.3	FO
	12/11/2014 8:35	0	15.1	FO
	12/11/2014 11:32	0	14.2	FO
	12/11/2014 14:15	0	14.4	FO
	12/12/2014 9:57	0.3	14.4	FO
	12/12/2014 16:33	0	14.6	FO
	12/13/2014 15:06	12.5	13.3	FO
12/15/2014 9:11	10.4	10	FO	
04-MC-02	12/8/14 8:25	21.5	0	325
	12/9/2014 13:30	21.6	0.2	1120
	12/9/2014 14:23	21.7	0.2	1198
	12/9/2014 15:56	20.9	0	2368
	12/10/2014 8:35	19.5	0.6	3317
	12/10/2014 11:09	18.4	1.8	31000
	12/10/2014 14:56	13	4.9	FO
	12/11/2014 8:19	6.9	9.4	FO

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/11/2014 11:15	9.7	9.3	FO
	12/11/2014 13:53	12.7	7.2	FO
	12/12/2014 9:38	15.8	5.3	FO
	12/12/2014 16:13	17.3	4.3	332900
	12/13/2014 14:49	18.8	2.9	250000
	12/15/2014 8:51	19.1	1.8	226000
04-SVE-02	12/8/2014 8:26	21.6	0	207
	12/9/2014 13:27	22.2	0	269
	12/9/2014 14:21	21.2	0.4	2120
	12/9/2014 15:53	9.3	7.4	FO
	12/10/2014 8:33	13.6	5.6	FO
	12/10/2014 11:07	8.2	8.3	FO
	12/10/2014 14:54	2.4	11.8	FO
	12/11/2014 8:17	2.7	13	FO
	12/11/2014 11:13	3.3	12.6	FO
	12/11/2014 13:55	12	10.3	FO
	12/12/2014 9:36	15.9	17.4	FO
	12/12/2014 16:15	18.1	4.8	332900
	12/13/2014 14:51	20.3	0.8	299000
	12/15/2014 8:53	19.8	0.6	350000
04-MC-04	12/9/2014 13:34	22.3	0	FO
	12/9/2014 14:40	8.7	8.3	FO
	12/9/2014 16:15	6	9.1	FO
	12/10/2014 8:53	14.1	6.3	FO
	12/10/2014 11:35	0	13.8	FO
	12/10/2014 15:20	2	13.5	FO
	12/11/2014 8:39	6.2	12.7	FO
	12/11/2014 11:37	9.3	10.98	FO
	12/11/2014 14:20	11.6	8.8	FO
	12/12/2014 10:02	15.3	6	FO
	12/12/2014 16:36	17	4.6	332900
	12/13/2014 15:08	18.5	3.3	332900
	12/15/2014 9:13	19.1	2.1	375000
04-SVE-04	12/8/2014 8:27	12.4	7.3	FO
	12/9/2014 13:37	22.1	0	FO
	12/9/2014 14:38	6	9.4	FO
	12/9/2014 16:14	0	14.1	FO
	12/10/2014 8:51	15.2	3.5	FO
	12/10/2014 11:33	0	13.8	FO
	12/10/2014 15:22	0.8	13.7	FO

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/11/2014 8:40	1.5	14.2	FO
	12/11/2014 11:35	9.8	10.3	FO
	12/11/2014 14:22	13.9	7.9	FO
	12/12/2014 10:00	18	4.7	332900
	12/12/2014 16:38	19.6	2.5	332900
	12/13/2014 15:10	20.5	1	332900
	12/15/2014 9:15	20.2	0.7	375400
04-MC-09	12/8/2014 8:10	8.5	13.7	FO
	12/9/2014 11:50	1	14.5	FO
	12/9/2014 12:52	0.7	14.3	FO
	12/9/2014 13:52	0.8	14	FO
	12/9/2014 15:23	0.2	14.4	FO
	12/10/2014 7:28	0	16.1	FO
	12/10/2014 10:16	11.4	6.1	FO
	12/10/2014 14:03	0.6	14.4	FO
	12/11/2014 7:44	7.9	10.5	FO
	12/11/2014 10:14	11.5	8.7	FO
	12/11/2014 13:11	15.3	5.5	FO
	12/12/2014 9:02	17	3.8	FO
	12/12/2014 15:38	18.7	2.3	FO
	12/13/2014 14:13	20	0.1	332900
	12/15/2014 8:13	19.8	0.2	375400
04-SVE-09	12/8/2014 8:11	3	13.2	FO
	12/9/2014 11:47	0	13.7	FO
	12/9/2014 12:50	0	13.6	FO
	12/9/2014 13:48	0.5	14.2	FO
	12/9/2014 15:21	0.3	14.5	FO
	12/10/2014 7:27	0	16.2	FO
	12/10/2014 10:12	4.5	11.6	FO
	12/10/2014 14:06	0.5	14.6	FO
	12/11/2014 7:42	7.9	11.6	FO
	12/11/2014 10:16	12.9	8.7	FO
	12/11/2014 13:09	17.2	3.5	270800
	12/12/2014 9:00	18.5	2.1	332900
	12/12/2014 15:36	9.4	1.6	332900
	12/13/2014 14:15	19.8	0.3	332900
	12/15/2014 8:10	19.7	0.3	375400
04-MC-11	12/8/2014 8:09	11	9	FO
	12/8/2014 8:28	12	7.5	FO
	12/9/2014 11:40	13.8	FO	

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/9/2014 12:44	0.2	13.4	FO
	12/9/2014 13:42	0.3	13.3	FO
	12/9/2014 15:16	0	13.6	FO
	12/10/2014 7:20	0	15.7	FO
	12/10/2014 10:00	17	3.1	FO
	12/10/2014 13:50	16.1	4.2	FO
	12/11/2014 7:33	18.1	2.1	270800
	12/11/2014 10:05	19.4	1.3	270800
	12/11/2014 13:03	19.3	0.9	270800
	12/11/2014 15:00	21.9	0	FO
	12/12/2014 8:53	19	0.8	332900
	12/12/2014 15:29	20	0.5	FO
	12/13/2014 14:06	19.9	0.3	332900
	12/15/2014 8:00	19.7	0.3	375400
04-SVE-11	12/8/2014 8:12	3.6	10.4	FO
	12/9/2014 11:42	2.4	10.6	FO
	12/9/2014 12:40	2.6	10.1	FO
	12/9/2014 13:40	0.3	13.4	FO
	12/9/2014 15:14	0.3	13.6	FO
	12/10/2014 7:22	0	15.4	FO
	12/10/2014 10:03	8	8.9	FO
	12/10/2014 13:53	2.5	13.1	FO
	12/11/2014 7:31	11.3	9.4	FO
	12/11/2014 10:07	15.1	6.5	270800
	12/11/2014 13:01	18.2	2.6	270800
	12/11/2014 15:02	21.8	0	FO
	12/12/2014 8:51	18.5	1.8	332900
	12/12/2014 15:27	19.7	1	FO
	12/13/2014 14:08	19.7	0.7	332900
	12/15/2014 8:02	19.6	0.3	375400
WHF-1467-MW-26P-R	12/8/2014 8:17	8	10.6	FO
	12/9/2014 11:45	3.1	12.5	FO
	12/9/2014 12:47	3.3	12.2	FO
	12/9/2014 13:46	3	12.1	FO
	12/9/2014 15:18	2.4	12.5	FO
	12/10/2014 7:24	0.9	15.5	FO
	12/10/2014 10:07	1.7	13.3	FO
	12/10/2014 13:59	2.6	12.6	FO
	12/11/2014 7:37	6.3	10.7	FO
	12/11/2014 10:11	8.3	9.8	FO

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/11/2014 13:06	9.1	8.6	FO
	12/12/2014 8:56	12.6	6.2	FO
	12/12/2014 15:31	13.1	6	FO
	12/13/2014 14:10	14.7	4.7	FO
	12/15/2014 8:06	20.2	0.1	FO
WHF-1467-MW-37S	12/9/2014 14:44	18.5	0	380
	12/9/2014 16:19	19.4	0.1	535
	12/10/2014 9:00	20.9	0	525
	12/10/2014 11:41	22.2	0	1050
	12/10/2014 15:28	19.3	0	78000
	12/11/2014 8:45	19.7	0.1	236000
	12/11/2014 11:41	20.7	0	105000
	12/11/2014 14:25	20	0	101700
	12/12/2014 10:05	20	0	90400
	12/12/2014 16:43	21	0	17700
	12/13/2014 15:14	21.2	0	261100
	12/15/2014 9:19	18.5	0	295000
WHF-1467-MW-45P	12/8/2014 8:18	5.6	11.1	FO
	12/9/2014 13:22	0.5	12.8	FO
	12/9/2014 14:17	0.2	13	FO
	12/9/2014 15:49	0	13.2	FO
	12/10/2014 8:28	20.6	0.1	FO
	12/10/2014 11:03	14	5.2	FO
	12/10/2014 14:47	0.9	12.5	FO
	12/11/2014 8:14	0	14.1	FO
	12/11/2014 11:10	0.2	12.9	FO
	12/11/2014 13:50	0.2	12.8	FO
	12/12/2014 9:42	0.9	12.8	FO
	12/12/2014 16:10	0	13.2	FO
	12/13/2014 14:45	0	12.9	FO
	12/15/2014 8:47	0	13.4	FO
WHF-1467-MW-49P	12/8/2014 8:04	21.4	0	1800
	12/9/2014 13:16	22.9	0	967
	12/9/2014 14:10	22.4	0	843
	12/9/2014 15:44	22	0	437
	12/10/2014 8:18	20.6	0.2	1140
	12/10/2014 10:56	21.5	0	396
	12/10/2014 14:38	19.7	0.6	162000
	12/11/2014 8:10	18.1	0.8	86000
	12/11/2014 11:05	20.2	0.4	106000

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/11/2014 13:41	19.3	0.6	78600
	12/12/2014 9:26	19.5	0.3	160300
	12/12/2014 16:06	20.1	0.4	171100
	12/13/2014 14:39	17.9	1.1	226000
	12/15/2014 8:03	12.9	3	FO
VZMP1-16	12/8/2014 7:35	21.6	0	80000
	12/9/2014 12:02	22.5	0	6100
	12/9/2014 13:06	22.7	0	1300
	12/9/2014 14:02	22.5	0	121
	12/9/2014 15:35	21.8	0	190
	12/10/2014 8:08	20.2	0.1	40
	12/10/2014 10:48	21.7	0	30
	12/10/2014 14:22	20.7	0	88000
	12/11/2014 7:58	19.6	0.1	71500
	12/11/2014 10:53	20.4	0	67500
	12/11/2014 13:29	20.8	0	109700
	12/12/2014 9:16	20.1	0	26500
	12/12/2014 15:52	21	0	122000
	12/13/2014 14:29	20.7	0	134000
	12/15/2014 8:32	19.8	0	277500
VZMP1-34	12/8/2014 7:37	0.8	13.3	FO
	12/9/2014 12:04	0	12.9	FO
	12/9/2014 13:08	0.2	12.8	FO
	12/9/2014 14:04	0.2	12.9	FO
	12/9/2014 15:37	0	13.2	FO
	12/10/2014 8:10	2.5	11.9	FO
	12/10/2014 10:50	8.5	8.2	FO
	12/10/2014 14:27	0	13.2	FO
	12/11/2014 8:00	0	14.1	FO
	12/11/2014 10:55	20.9	0	50000
	12/11/2014 13:31	0.4	13.2	FO
	12/12/2014 9:18	14.6	5	FO
	12/12/2014 15:54	1.3	13.8	FO
	12/13/2014 14:31	4.1	12.5	FO
	12/15/2014 8:34	19.3	10.1	FO
VZMP1-60	12/8/2014 7:40	5.1	10.7	24600
	12/9/2014 12:06	1.7	13.1	FO
	12/9/2014 13:10	21.5	0.5	FO
	12/9/2014 14:06	21.2	0.3	FO
	12/9/2014 15:39	20.9	0.2	FO

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/10/2014 8:12	19.8	0.1	FO
	12/10/2014 10:52	21	0	FO
	12/10/2014 14:29	20.1	0.1	277000
	12/11/2014 8:02	19.6	0.2	115000
	12/11/2014 10:57	20.9	0	160000
	12/11/2014 13:35	20.7	0	270800
	12/12/2014 9:20	20.2	0.1	332900
	12/12/2014 15:56	20.8	0	214000
	12/13/2014 14:33	20.5	0	332900
	12/15/2014 8:36	20.1	0.1	137100
VZMP1-75	12/8/2014 8:02	8.1	8.8	FO
	12/9/2014 12:08	8.2	8	FO
	12/9/2014 13:12	21.1	1.4	FO
	12/9/2014 14:08	20.9	1.1	FO
	12/9/2014 15:41	20.6	0.7	FO
	12/10/2014 8:14	20	0.2	FO
	12/10/2014 10:54	21.6	0	FO
	12/10/2014 14:32	20.4	0	FO
	12/11/2014 8:04	19.7	0.1	23500
	12/11/2014 10:59	20.9	0	270800
	12/11/2014 13:37	20.6	0	FO
	12/12/2014 9:22	20	0	FO
	12/12/2014 15:58	20.7	0	332900
	12/13/2014 14:35	20.3	0	FO
	12/15/2014 8:38	20	0	355000
VZMP2-16	12/8/2014 7:50	2.3	9.7	48000
	12/9/2014 11:52	0	10.4	FO
	12/9/2014 12:56	0	10.3	FO
	12/9/2014 13:54	0.2	10.3	FO
	12/9/2014 15:25	0	10.5	FO
	12/10/2014 7:32	19.8	0.1	FO
	12/10/2014 7:42	0	11.6	FO
	12/10/2014 10:20	20.7	0	75
	12/10/2014 14:09	9.3	5.1	FO
	12/11/2014 7:48	0.4	10.6	FO
	12/11/2014 10:22	0.8	10.1	FO
	12/11/2014 13:16	0.9	9.7	FO
	12/12/2014 9:04	2.2	9.6	FO
	12/12/2014 15:42	0.5	10.4	FO
	12/13/2014 14:18	0	10.8	FO

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/15/2014 8:16	1.2	11.1	FO
VZMP2-42	12/8/2014 8:07	2	12.9	FO
	12/9/2014 11:54	0	14.2	FO
	12/9/2014 12:58	0.1	14.1	FO
	12/9/2014 13:56	0	14.1	FO
	12/9/2014 15:27	0	14.6	FO
	12/10/2014 7:46	0	15.6	FO
	12/10/2014 10:23	20.5	0.3	FO
	12/10/2014 14:12	3	13.7	FO
	12/11/2014 7:50	1.3	15.5	FO
	12/11/2014 10:25	5	15.2	FO
	12/11/2014 13:18	8.9	14.1	FO
	12/12/2014 9:06	9.1	14.4	FO
	12/12/2014 15:44	16.2	7.9	FO
	12/13/2014 14:20	17.7	4.1	332900
	12/15/2014 8:18	18.3	2.3	375400
VZMP2-63	12/8/2014 8:06	8	11	FO
	12/9/2014 11:56	0.3	13.9	FO
	12/9/2014 13:00	0.6	13.7	FO
	12/9/2014 13:58	0.4	13.7	FO
	12/9/2014 15:29	0.4	14.2	FO
	12/10/2014 7:48	0	15.6	FO
	12/10/2014 10:25	16.6	5.3	FO
	12/10/2014 14:14	18.5	3.4	FO
	12/11/2014 7:52	17.7	3.1	FO
	12/11/2014 10:27	19.3	0.6	145000
	12/11/2014 13:20	19.8	0.4	FO
	12/12/2014 9:08	20.2	0.1	332900
	12/12/2014 15:46	20.3	0.2	FO
	12/13/2014 14:22	19.9	0.2	332900
	12/15/2014 8:20	19.8	0.1	375400
VZMP2-69	12/8/2014 8:05	3	13.9	157800
	12/9/2014 11:58	0.3	13.9	FO
	12/9/2014 13:02	0.6	13.8	FO
	12/9/2014 13:59	0.4	13.7	FO
	12/9/2014 15:31	0.3	14.4	FO
	12/10/2014 7:50	0	15.3	FO
	12/10/2014 10:41	21.4	0	FO
	12/10/2014 14:16	7	11.2	FO
	12/11/2014 7:54	8.9	11.1	FO

TABLE 3-3
 Soil Gas Monitoring Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/11/2014 10:30	16.5	9.2	179000
	12/11/2014 13:22	19.6	0.2	FO
	12/12/2014 9:10	18.5	3.1	FO
	12/12/2014 15:48	20	0.5	FO
	12/13/2014 14:24	19.6	0.3	332900
	12/15/2014 8:22	19.5	0.3	375400
VZMP3-8	12/8/2014 8:21	9.5	9	10000
	12/9/2014 14:25	0.5	14.2	FO
	12/9/2014 16:00	0	14.7	FP
	12/10/2014 8:41	19.3	0.6	FO
	12/10/2014 11:18	5.3	11	FO
	12/10/2014 15:06	0	14.7	FO
	12/11/2014 8:23	3.1	12.5	FO
	12/11/2014 11:19	4.3	11.8	FO
	12/11/2014 14:01	0.4	13.4	FO
	12/12/2014 9:45	6.3	10.1	FO
	12/12/2014 16:19	0.4	13.8	FO
	12/13/2014 14:53	0.1	14.5	FO
	12/15/2014 8:57	0	15	FO
VZMP3-36	12/8/2014 8:19	16.9	3.1	7590
	12/9/2014 14:27	0.2	14.5	FO
	12/9/2014 16:02	0	14.8	FO
	12/10/2014 8:43	20.9	0.1	277700
	12/10/2014 11:20	13.8	5.4	FO
	12/10/2014 15:08	0.4	14.4	FO
	12/11/2014 8:25	2.6	12.9	FO
	12/11/2014 11:21	0.1	14.3	FO
	12/11/2014 14:03	0.3	14.2	FO
	12/12/2014 9:47	1.6	13.7	FO
	12/12/2014 16:21	0.7	14.7	FO
	12/13/2014 14:55	3.4	13.7	FO
	12/15/2014 8:59	8.4	10.4	FO
VZMP3-57	12/8/2014 8:22	20.3	0.8	4315
	12/9/2014 14:29	0.2	14.4	FO
	12/9/2014 16:04	0	14.7	FO
	12/10/2014 8:45	21	0	FO
	12/10/2014 11:22	0	14.6	FO
	12/10/2014 15:04	0.1	14.7	FO
	12/11/2014 8:27	0.1	15.5	FO
	12/11/2014 11:23	1	14	FO

TABLE 3-3
Soil Gas Monitoring Results
Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ (%)	CO ₂ (ppm)	TVH (ppm)
	12/11/2014 14:05	1.6	13	FO
	12/12/2014 9:49	1.5	14.4	FO
	12/12/2014 16:23	10.7	12	FO
	12/13/2014 14:57	13.3	9.9	FO
	12/15/2014 9:01	19.6	1.2	375000
VZMP3-69	12/8/2014 8:16	11.2	7.8	FO
	12/9/2014 14:32	4.9	10.5	FO
	12/9/2014 16:06	0	14.6	FO
	12/10/2014 8:47	21	0	277700
	12/10/2014 11:24	9.3	7.8	FO
	12/10/2014 15:10	7.9	8.4	FO
	12/11/2014 8:29	1	13.6	FO
	12/11/2014 11:25	0.3	14.1	FO
	12/11/2014 14:07	0.2	14.2	FO
	12/12/2014 9:51	0.7	14.1	FO
	12/12/2014 16:25	0.1	14.5	FO
	12/13/2014 14:59	0.4	14.3	FO
	12/15/2014 9:03	3.6	14.2	FO

Notes:
 NM = Not measured
 FO = Flamed out
 TVH = Total Volatile Hydrocarbon

3.2.5 Vapor Migration Monitoring

Prior to beginning air injections, a TVH meter was used to collect baseline TVH soil vapor concentrations in accessible manholes within 150 feet of the 04-MC-10 injection well. Two locations were identified; one was a water line just south of the injection point, which allowed vertical monitoring near the injection point and one was a storm sewer inlet northeast of the injection point, near Building 3227A. At daily intervals during the air injection, these locations were sampled to determine if hydrocarbon vapors were increasing. All readings at both locations were below 10 percent LEL during the pilot study, as summarized in Table 3-4. If LEL readings exceeding 10 percent were observed during operation of the bioventing system, the system would be shut down.

In addition, the shallow VZMPs were monitored for potential hydrocarbon vapor migration. The shallow VZMP 100 feet to the north (VZMP3-8) of the injection well was considered particularly important in understanding the potential for vapor migration to the nearby buildings.

TABLE 3-4
Pilot Study LEL Data
Site 4, NAS Whiting Field, Milton Florida

Date Time	LEL %
Storm Drain	
12/9/14 7:45	5%
12/9/14 16:20	1%
12/10/14 8:00	3%
12/10/14 15:35	2%
12/11/14 7:30	2%
12/11/14 15:07	3%
12/12/14 10:10	3%
12/12/14 16:45	7%
12/13/14 14:04	2%
12/15/14 9:24	8%
Water Vault	
12/9/14 7:45	2%
12/9/14 16:20	0%
12/10/14 7:52	3%
12/10/14 15:35	1%
12/11/14 7:30	2%
12/11/14 15:05	2%
12/12/14 10:15	2%
12/12/14 16:47	5%
12/12/14 14:05	2%
12/15/14 9:27	8%

3.2.5.1 Sampling and Analysis

All samples were collected in accordance with the EPA Region IV Field Branch Quality System and Technical Procedures (2007) and FDEP SOPs for Field Activities, FDEP-SOP-001/01 (2008). The sampling team were qualified under the Navy Installation Restoration Chemical Data Quality Manual, 1999 sampling requirements. All sample analyses were performed by a Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP) accredited laboratory. The details of sampling and analysis associated with the pilot study are described in detail in the Pilot Study Work Plan (CH2M HILL, 2014). Complete analytical data that were collected at the time of VZMP installation, and pre-and post-pilot study data are provided in Appendix D.

A summary of VOCs detections (including BTEX compounds) from pre-and post-pilot study is presented in Table 3-5. Of the 25 MPs that were evaluated, 6 MPs (04-MC-09, 04-SVE-04, VZMP2-16, VZMP2-63, VZMP2-69, and VZMP3-69) showed 50 to 60 percent reduction in total VOCs concentrations, 4 MPs (04-MC-04, 04-SVE-11, VZMP1-16, and VZMP1-75) showed 60 to 70 percent reduction, 4 MPs (WHF-1467-MW-49P, VZMP1-34, VZMP1-60, and VZMP2-42) showed 70 to 80 percent reduction, 1 MP (04-MC-01) showed 80 to 90 percent reduction and 5 MPs (04-MC-10, 04-MC-11, WHF-1467-MW-26P-R, WHF-1467-MW-45P, and 04-SVE-11) showed more than 90 percent reduction in total VOCs concentration from pre-and post-pilot scale implementation of bioventing system.

TABLE 3-5
 Pre- and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
		Sample Date:	12/8/2014	1/22/2015	
04-MC-01	1,1,2-Trichloro-1,2,2-Trifluoroethane	20,000	=	1,100	U
	Methyl Ethyl Ketone (2-Butanone)	8,000	J	1,400	U
	Benzene	11,000	J	1,100	U
	Cyclohexane	230,000	=	11,000	=
	Toluene	99,000	=	17,000	=
	Ethylbenzene	4,300	J	2,600	J
	m,p-Xylene	17,000	J	13,000	=
	Methylcyclohexane	230,000	=	31,000	=
	o-Xylene	10,000	U	1,600	J
Total Detections		619,300		76,200	
	Sample Date	12/8/2014		2/2/2015	
04-MC-04	Benzene	11,000	J	3,800	J
	Cyclohexane	210,000	=	88,000	=
	Toluene	300,000	=	65,000	=
	Ethylbenzene	14,000	J	3,200	U
	m,p-Xylene	77,000	=	9,900	J
	Methylcyclohexane	310,000	=	140,000	=
	Methylene Chloride	20,000	U	4,900	J
Total Detections		922,000		311,600	
	Sample Date	12/8/2014		1/22/2015	
04-MC-09	1,1,2-Trichloro-1,2,2-Trifluoroethane	23,000	J	8,500	U
	Benzene	11,000	J	8,000	U
	Cyclohexane	370,000	=	160,000	=
	Toluene	450,000	=	170,000	=
	Ethylbenzene	10,000	J	8,000	U
	m,p-Xylene	110,000	=	26,000	J
	o-Xylene	12,000	J	7,500	U
	Methylcyclohexane	560,000	=	250,000	=
	Chloroform	21,000	U	14,000	J
Total Detections		1,546,000		620,000	
	Sample Date	12/8/2014		1/22/2015	
04-MC-10	1,1,2-Trichloro-1,2,2-Trifluoroethane	9,300	J	570	U
04-MC-10	Benzene	45,000	=	530	U
	Cyclohexane	460,000	=	5,000	=
	Toluene	1,800,000	=	34,000	=
	Ethylbenzene	13,000	J	3,400	=

TABLE 3-5
 Pre-and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
	m,p-Xylene	170,000	=	18,000	=
	o-Xylene	20,000	J	2,000	=
	Methylcyclohexane	610,000	=	18,000	=
	Methylene Chloride	20,000	U	2,700	=
Total Detections		3,127,300		83,100	
Sample Date		12/8/2014		1/22/2015	
04-MC-11	Methyl Ethyl Ketone (2-Butanone)	14,000	J	420	U
	Benzene	33,000	=	320	U
	Cyclohexane	350,000	=	3,400	=
	Toluene	570,000	=	23,000	=
	Ethylbenzene	15,000	J	2,700	=
	m,p-Xylene	120,000	=	14,000	=
	o-Xylene	18,000	J	1,800	=
	Methylcyclohexane	440,000	=	13,000	=
	Methylene Chloride	16,000	U	1,600	=
Total Detections		1,560,000		59,500	
Sample Date		12/8/2014		2/2/2015	
WHF-1467-MW-26P-R	1,1,2-Trichloro-1,2,2-Trifluoroethane	13,000	J	3,400	U
	Benzene	25,000	J	3,200	U
	Cyclohexane	590,000	=	63,000	=
	Toluene	810,000	=	10,000	=
	Ethylbenzene	15,000	J	3,200	U
	m,p-Xylene	91,000	=	7,400	J
	o-Xylene	28,000	J	3,000	U
	Methylcyclohexane	970,000	=	130,000	=
	Methylene Chloride	27,000	U	5,300	J
Total Detections		2,542,000		215,700	
Sample Date		12/8/2014		1/22/2015	
WHF-1467-MW-45P	1,1,2-Trichloro-1,2,2-Trifluoroethane	55,000	=	570	U
	Benzene	28,000	=	530	U
	Cyclohexane	350,000	=	4,300	=
	Trichloroethylene (TCE)	11,000	J	470	U
	Toluene	150,000	=	16,000	=
	Ethylbenzene	66,000	=	1,400	J
WHF-1467-MW-45P	m,p-Xylene	77,000	=	7,200	=
	Methylcyclohexane	440,000	=	15,000	=
	o-Xylene	16,000	U	740	J
Total Detections		1,177,000		44,640	

TABLE 3-5
 Pre-and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
		Sample Date	12/8/2014	1/22/2015	
WHF-1467-MW-49P	cis-1,2-Dichloroethylene	2,100	J	640	U
	Benzene	1,100	J	640	U
	Cyclohexane	11,000	=	6,000	=
	Toluene	130,000	=	18,000	=
	Ethylbenzene	6,500	=	1,500	J
	m,p-Xylene	36,000	=	7,200	=
	o-Xylene	5,000	=	770	J
	Methylcyclohexane	35,000	=	21,000	=
Total Detections		226,700		54,470	
		Sample Date	12/8/2014	1/22/2015	
04-SVE-01	1,1,2-Trichloro-1,2,2-Trifluoroethane	5,300	=	10,000	J
	cis-1,2-Dichloroethylene	2,200	J	8,100	J
	Benzene	2,400	J	4,400	U
	Cyclohexane	48,000	=	83,000	=
	Toluene	15,000	=	28,000	=
	Ethylbenzene	1,100	J	4,400	U
	m,p-Xylene	13,000	=	15,000	J
	Methylcyclohexane	50,000	=	110,000	=
Total Detections		137,000		254,100	
		Sample Date	12/8/2014	1/22/2015	
04-SVE-02	1,1,2-Trichloro-1,2,2-Trifluoroethane	320	J	190	U
	cis-1,2-Dichloroethylene	420	J	180	U
	Benzene	160	J	180	U
	Cyclohexane	2,500	=	1,500	=
	Toluene	2,900	=	6,400	=
	Ethylbenzene	380	J	700	=
	m,p-Xylene	2,500	=	4,000	=
	o-Xylene	170	J	420	J
Methylcyclohexane	3,100	=	5,500	=	
Total Detections		12,450		18,520	
		Sample Date	12/8/2014	2/2/2015	
04-SVE-04	1,1,2-Trichloro-1,2,2-Trifluoroethane	7,400	J	4,300	U
	Benzene	7,700	J	4,400	J
04-SVE-04	Cyclohexane	160,000	=	120,000	=
	Toluene	120,000	=	46,000	=
	Ethylbenzene	15,000	=	4,000	U
	m,p-Xylene	65,000	=	8,700	J

TABLE 3-5
 Pre-and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
	o-Xylene	4,500	J	3,800	U
	Methylcyclohexane	230,000	=	110,000	=
	Isopropylbenzene (Cumene)	8,000	U	5,200	J
	Methylene Chloride	8,000	U	6,600	J
Total Detections		609,600		300,900	
Sample Date		12/8/2014		1/22/2015	
04-SVE-09	1,1,2-Trichloro-1,2,2-Trifluoroethane	14,000	J	5,700	U
	Cyclohexane	170,000	=	67,000	=
	Toluene	250,000	=	87,000	=
	Ethylbenzene	9,100	J	7,000	J
	m,p-Xylene	92,000	=	35,000	=
	o-Xylene	11,000	J	5,000	U
	Methylcyclohexane	340,000	=	130,000	=
	Chloroform	17,000	U	13,000	J
Total Detections		886,100		339,000	
Sample Date		12/8/2014		1/22/2015	
04-SVE-11	Benzene	6,600	J	320	U
	Cyclohexane	140,000	=	2,800	=
	Toluene	290,000	=	20,000	=
	Ethylbenzene	6,200	J	2,400	=
	m,p-Xylene	89,000	=	13,000	=
	o-Xylene	11,000	J	1,600	=
	Methylcyclohexane	220,000	=	11,000	=
	Methylene Chloride	13,000	U	1,700	=
Total Detections		762,800		52,500	
Sample Date		12/8/2014		2/2/2015	
VZMP1-16	Benzene	14,000	J	5,200	J
	Cyclohexane	150,000	=	89,000	=
	Toluene	820,000	=	160,000	=
	Ethylbenzene	16,000	J	4,000	U
	m,p-Xylene	83,000	=	7,700	J
	o-Xylene	11,000	J	3,800	U
	Methylcyclohexane	330,000	=	160,000	=
	Methylene Chloride	27,000	U	6,400	J
Total Detections		1,424,000		428,300	
Sample Date		12/8/2014		2/2/2015	
VZMP1-34	Benzene	13,000	J	4,000	U
	Cyclohexane	280,000	=	110,000	=
	Toluene	780,000	=	170,000	=
	Ethylbenzene	17,000	J	4,000	U

TABLE 3-5
 Pre-and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
	m,p-Xylene	81,000	=	10,000	J
	o-Xylene	10,000	J	3,800	U
	Methylcyclohexane	360,000	=	140,000	=
	Methylene Chloride	27,000	U	6,500	J
Total Detections		1,541,000		436,500	
	Sample Date	12/8/2014		1/22/2015	
VZMP1-60	Benzene	51,000	=	12,000	J
	Cyclohexane	330,000	=	130,000	=
	Toluene	1,500,000	=	210,000	=
	Ethylbenzene	23,000	J	8,000	U
	m,p-Xylene	110,000	=	17,000	J
	Methylcyclohexane	430,000	=	160,000	=
	Chloroform	42,000	U	11,000	J
Total Detections		2,444,000		540,000	
	Sample Date	12/8/2014		1/22/2015	
VZMP1-75	Benzene	110,000	=	15,000	J
	Cyclohexane	450,000	=	100,000	=
	Toluene	1,800,000	=	650,000	=
	Ethylbenzene	20,000	J	12,000	J
	m,p-Xylene	100,000	=	44,000	=
	Methylcyclohexane	440,000	=	180,000	=
	Chloroform	42,000	U	10,000	J
Total Detections		2,920,000		1,011,000	
	Sample Date	12/8/2014		2/2/2015	
VZMP2-16	Acetone	70,000	J	13,000	U
	1,1,2-Trichloro-1,2,2-Trifluoroethane	7,300	J	6,300	J
	Methyl Ethyl Ketone (2-Butanone)	22,000	J	3,500	U
	Cyclohexane	27,000	J	27,000	=
	Toluene	99,000	=	50,000	=
	Ethylbenzene	8,200	J	2,700	U
	m,p-Xylene	54,000	=	14,000	J
	o-Xylene	7,600	J	2,600	J
	Methylcyclohexane	86,000	=	40,000	=
	Isopropylbenzene (Cumene)	16,000	U	5,000	J
	Tetrachloroethylene(PCE)	16,000	U	4,200	J
VZMP2-16	Methylene Chloride	16,000	U	5,700	J
Total Detections		381,100		154,800	
VZMP2-42	1,1,2-Trichloro-1,2,2-Trifluoroethane	22,000	J	5,700	U

TABLE 3-5
 Pre-and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
	Cyclohexane	190,000	=	77,000	=
	Toluene	240,000	=	17,000	=
	Ethylbenzene	13,000	J	5,300	U
	m,p-Xylene	120,000	=	10,000	U
	o-Xylene	14,000	J	5,000	U
	Methylcyclohexane	370,000	=	110,000	=
	Chloroform	28,000	U	11,000	J
Total Detections		969,000		215,000	
Sample Date		12/8/2014		2/2/2015	
VZMP2-63	Trichlorofluoromethane	43,000	=	4,300	U
	1,1,2-Trichloro-1,2,2-Trifluoroethane	44,000	=	6,000	J
	Benzene	18,000	J	11,000	J
	Cyclohexane	310,000	=	210,000	=
	Toluene	340,000	=	130,000	=
	Ethylbenzene	17,000	J	4,000	U
	m,p-Xylene	140,000	=	11,000	J
	o-Xylene	18,000	J	3,800	U
	Methylcyclohexane	440,000	=	190,000	=
	Methylene Chloride	27,000	U	6,300	J
Total Detections		1,370,000		564,300	
Sample Date		12/8/2014		2/2/2015	
VZMP2-69	1,1,2-Trichloro-1,2,2-Trifluoroethane	34,000	=	6,200	J
	Benzene	26,000	J	16,000	J
	Cyclohexane	350,000	=	230,000	=
	Toluene	430,000	=	180,000	=
	Ethylbenzene	15,000	J	5,300	U
	m,p-Xylene	71,000	=	10,000	U
	o-Xylene	11,000	J	5,000	U
	Methylcyclohexane	390,000	=	200,000	=
	Methylene Chloride	27,000	U	8,500	J
Total Detections		1,327,000		640,700	
Sample Date		12/8/2014		1/22/2015	
VZMP3-36	1,1,2-Trichloro-1,2,2-Trifluoroethane	2,300	=	8,900	J
	cis-1,2-Dichloroethylene	740	J	3,200	U
VZMP3-36	Benzene	940	J	3,200	U
	Cyclohexane	18,000	=	37,000	=
	Toluene	6,100	=	39,000	=
	Ethylbenzene	620	J	5,800	J

TABLE 3-5
 Pre-and Post-Pilot Test Data - Detections
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte	Results			
	m,p-Xylene	14,000	=	25,000	=
	o-Xylene	1,200	=	3,000	U
	Methylcyclohexane	19,000	=	75,000	=
Total Detections		62,900		190,700	
Sample Date		12/8/2014		1/22/2015	
VZMP3-57	1,1,2-Trichloro-1,2,2-Trifluoroethane	1,700	=	17,000	U
	cis-1,2-Dichloroethylene	810	J	16,000	U
	Benzene	1,200	J	16,000	U
	Cyclohexane	20,000	=	210,000	=
	Toluene	15,000	=	110,000	=
	Ethylbenzene	940	J	16,000	U
	m,p-Xylene	22,000	=	30,000	U
	o-Xylene	1,900	=	15,000	U
	Methylcyclohexane	25,000	=	250,000	=
Total Detections		88,550		570,000	
Sample Date		12/8/2014		1/22/2015	
VZMP3-69	1,1,2-Trichloro-1,2,2-Trifluoroethane	13,000	=	2,100	U
	Methyl Ethyl Ketone (2-Butanone)	5,300	J	2,600	U
	Benzene	10,000	=	2,000	U
	Cyclohexane	200,000	=	33,000	=
	Toluene	130,000	=	68,000	=
	Ethylbenzene	4,700	J	8,800	=
	m,p-Xylene	70,000	=	34,000	=
	o-Xylene	6,000	J	3,400	J
	Methylcyclohexane	260,000	=	98,000	=
Total Detections		699,000		245,200	
Sample Date		12/8/2014		1/22/2015	
VZMP3-8	1,1,2-Trichloro-1,2,2-Trifluoroethane	10,000	=	9,200	J
	cis-1,2-Dichloroethylene	1,600	J	3,200	U
	Cyclohexane	7,300	=	21,000	=
	Toluene	2,800	=	30,000	=
	Ethylbenzene	2,200	U	5,000	J
	m,p-Xylene	6,300	=	23,000	=
VZMP3-8	Methylcyclohexane	9,400	=	48,000	=
Total Detections		39,600		136,200	
Sample Date				1/22/2015	
04-MC-02	Dichlorodifluoromethane	-		240	J

TABLE 3-5
Pre-and Post-Pilot Test Data - Detections
Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Analyte		Results	
	Methylene Chloride	-	590	J
	Cyclohexane	-	1,900	=
	Toluene	-	8,000	=
	Ethylbenzene	-	870	=
	m,p-Xylene	-	4,700	=
	o-Xylene	-	510	J
	Methylcyclohexane	-	7,100	=
Total Detections			23,910	
Sample Date			1/22/2015	
WHF-1467-MW-37P	Cyclohexane	-	1,400	=
	Toluene	-	5,700	=
	Ethylbenzene	-	660	=
	m,p-Xylene	-	3,700	=
	o-Xylene	-	410	=
	Methylcyclohexane	-	5,200	=
Total Detections			17,070	

All results are reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

= - The analyte was positively identified.

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J - The associated value is an estimated quantity.

In general, these data suggest that the wells in proximity to the air injection well (04-MC-10) showed decreasing VOC concentrations, which is likely because of displacement of soil vapor and dilution of soil vapor. It is considered unlikely that the VOC concentration reductions were related to biodegradation processes.

VOC concentrations increased over the period of the pilot study in five MPs (04-SVE-01, 04-SVE-02, VZMP3-36, VZMP3-57, and VZMP3-8). In general, these points are farther from the injection point (horizontally and/or vertically), and the increases can be attributed to soil vapor movement radially away from the air injection well. These data, combined with the low biodegradation rates, suggest that soil vapors can migrate significant distances in the subsurface during bioventing. Full scale bioventing should include vapor migration monitoring.

3.2.6 In-Situ Respiration Testing

Respiration testing was conducted immediately following the pressure/oxygen influence testing. Respiration testing was conducted from December 15, 2014 to January 22, 2015. As outlined in Section 3.2.4, the wells identified for respiration testing include 04-SVE-01, 04-MC-04, 04-SVE-04, 04-MC-09, 04-SVE-09, 04-MC-11, 04-SVE-11, WHF-1467-MW-26P-R, VZMP1-34, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, and VZMP3-57. The air injection well (04-MC-10) and the adjacent SVE well (04-SVE-10) were also monitored.

The oxygen and carbon dioxide field data collected during the respiration testing are presented in Table 3-6. Figures 3-2 through 3-6 present the respiration data graphically through December 2014. The data were evaluated over the entire period of the respiration testing period although some MPs showed fluctuating O_2/CO_2 levels followed by more rapid declines in oxygen levels (e.g., 04-SVE-

01, 04-SVE-09, 04-SVE-11, and VZMP1-34). The more rapid declines in oxygen are somewhat anomalous as the resulting oxygen utilization rates based on this subset of data were very high, while the majority of site MPs showed very low oxygen utilization rates. Additionally, these MPs often showed subsequent increases in oxygen levels. Consequently, the complete/select data were evaluated through January 22, 2015 to achieve the R²-value > 0.65 (with the exception of WHF-1467-MW26P-R for which the R²-value was 0.13) and the slope of the trend lines in Figures 3-2 through 3-6 were used to estimate the oxygen utilization rates in Table 3-7. It is possible that the extended period over which the rates were calculated has somewhat underestimated the rate of oxygen utilization.

The rate constant (k₀) was calculated for each MP from the slope of the trend line and assumes a “zero order” relationship because oxygen is not limiting the biodegradation.

The oxygen utilization rate constant for each MP was used to estimate the rate of hydrocarbon biodegradation (k_B) from the following equation in accordance with the Pilot Study Work Plan (AGVIQ-CH2M HILL, 2014).

$$k_B = -k_0 / 100 \theta_a \rho_{O_2} C / (\rho_k)$$

Where:

k_B = rate of hydrocarbon biodegradation (milligrams total petroleum hydrocarbon per kilograms of soil per day)

k₀ = rate of oxygen utilization (percent oxygen per day)

θ_a = gas-filled porosity of the soil (unit-less)

ρ_{O₂} = oxygen density (milligrams per liter)

C = hydrocarbon to oxygen ratio (1/3.5 or 0.29)

ρ_k = the soil bulk density (grams per cubic centimeter)

The calculated hydrocarbon biodegradation rates range from 3.9 to 646 mg_{TPH}/Kg_{soil}/year. Two MPs (04-SVE-01 and VZMP1-34) have biodegradation rates above 100 mg_{TPH}/Kg_{soil}/year, four MPs (04-SVE-09, 04-SVE-11, VZMP1-60 and VZMP3-57) have biodegradation rates above 70 mg_{TPH}/Kg_{soil}/year, and the remaining MPs exhibit hydrocarbon biodegradation rates of less than 50 mg_{TPH}/Kg_{soil}/year. These hydrocarbon biodegradation rates are relatively low, compared to a 135-site average rate of approximately 1,200 mg_{TPH}/Kg_{soil}/year (Air Force Civil Engineer Center, 1996). Based on the data from the respiration testing, oxygen utilization rates are well below average across the site.

TABLE 3-6
Respiratory Test Results
Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ %	CO ₂ %
04-SVE-01	12/15/14 11:38	15.2	6.4
	12/15/14 13:36	18	4
	12/15/14 15:32	16.9	4.8
	12/15/14 17:00	15.8	5.3
	12/16/14 8:29	14.5	5.9
	12/17/14 8:33	10.8	8.2
	12/18/14 8:25	6.3	10.7
	12/19/14 8:16	4	12.4
	12/23/14 9:22	4.3	12
	12/30/14 9:23	3.5	13.5
	1/22/15 12:38	7.2	10.1

TABLE 3-6
 Respiratory Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ %	CO ₂ %
04-MC-04	12/15/14 11:41	21.1	0
	12/15/14 13:40	20.3	0.9
	12/15/14 15:35	20.5	0.5
	12/15/14 17:05	20.6	0.2
	12/16/14 8:34	20.8	0.2
	12/17/14 8:36	20.5	0.2
	12/18/14 8:29	20.3	0.3
	12/19/14 8:19	20.4	0.3
	12/23/14 9:25	19.7	0.5
	12/30/14 9:25	20.2	0.5
	1/22/15 12:58	18.7	1.3
04-SVE-04	12/15/14 11:43	21	0
	12/15/14 13:42	20.9	0.1
	12/15/14 15:37	20.5	0.3
	12/15/14 17:03	20.4	0.5
	12/16/14 8:36	20.4	0.6
	12/17/14 8:38	20.1	0.9
	12/18/14 8:31	19.7	1
	12/19/14 8:21	19.8	1
	12/23/14 9:27	18.8	1.4
	12/30/14 9:27	18.5	2
	1/22/15 13:18	17.8	2.2
04-MC-09	12/15/14 11:08	20.3	0.1
	12/15/14 13:05	20.8	0.1
	12/15/14 15:04	20.8	0.1
	12/15/14 16:36	20.6	0.1
	12/16/14 7:55	20.5	0.2
	12/17/14 8:01	20.2	0.3
	12/18/14 7:52	20.2	0.4
	12/19/14 7:47	19.8	0.5
	12/23/14 8:53	18.7	0.7
	12/30/14 9:03	20.2	0.5
	1/22/15 10:25	19.4	0.9
04-SVE-09	12/15/14 11:10	20.3	0.1
	12/15/14 13:07	20.8	0.1
	12/15/14 15:06	20.1	0.4
	12/15/14 16:34	19.8	0.7
	12/16/14 7:57	19.1	1.2
	12/17/14 8:03	20.7	0.1
	12/18/14 7:54	20.7	0.1
	12/19/14 7:49	19.1	1
	12/23/14 8:55	15.8	2.6
	12/30/14 9:05	20.3	0.4
	1/22/15 10:41	15.8	2.2
04-MC-10	12/15/14 11:17	21	0
	12/15/14 13:14	21.5	0
	12/15/14 15:12	21.3	0
	12/15/14 16:42	21.2	0
	12/16/14 8:04	21.2	0
	12/17/14 8:10	20.8	0.1
	12/18/14 8:01	20.9	0.1
	12/19/14 7:54	20.6	0.1
	12/23/14 9:00	19.4	0.3
	12/30/14 8:55	20.5	0.3
	1/22/15 11:03	20.5	0.2
04-SVE-10	12/15/14 11:19	21	0
	12/15/14 13:16	21.3	0
	12/15/14 15:14	21.2	0
	12/15/14 16:44	21.1	0

TABLE 3-6
 Respiratory Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ %	CO ₂ %
	12/16/14 8:06	21.2	0
	12/17/14 8:12	20.9	0.1
	12/18/14 8:03	20.8	0.1
	12/19/14 7:56	20.5	0.1
	12/23/14 9:02	19.5	0.4
	12/30/14 8:57	19.8	0.6
	1/22/15 11:18	18.2	1.1
04-MC-11	12/15/14 11:28	21.2	0
	12/15/14 13:28	20.8	0.1
	12/15/14 15:25	20.8	0.1
	12/15/14 16:52	20.6	0.2
	12/16/14 8:19	20.7	0.3
	12/17/14 8:24	20.1	0.4
	12/18/14 8:16	20	0.6
	12/19/14 8:08	19.8	0.7
	12/23/14 9:14	19	0.8
	12/30/14 9:13	19.6	1
	1/22/15 11:21	20.7	0.2
04-SVE-11	12/15/14 11:30	21.1	0
	12/15/14 13:30	20.6	0.1
	12/15/14 15:27	20.5	0.2
	12/15/14 16:54	20.4	0.4
	12/16/14 8:21	21.5	0
	12/17/14 8:26	21	0
	12/18/14 8:18	20.7	0
	12/19/14 8:10	20.7	0
	12/23/14 9:16	16.3	2.3
	12/30/14 9:15	20.4	0.2
	1/22/15 11:40	20.8	0.2
WHF-1467-MW26P-R	12/15/14 11:14	17.4	2.6
	12/15/14 13:10	18	2.4
	12/15/14 15:10	18.1	2.2
	12/15/14 16:40	18.4	2.1
	12/16/14 8:01	18.8	1.7
	12/16/14 12:05	19.4	1.4
	12/16/14 16:05	19.1	1.6
	12/17/14 8:07	18.9	1.7
	12/18/14 7:58	19	1.7
	12/19/14 7:52	19	1.4
	12/23/14 8:58	18.1	1.4
	12/30/14 9:00	19.2	1.5
	1/22/15 8:32	19.2	1.5
VZMP1-34	12/15/14 11:45	10.4	8.8
	12/15/14 13:20	11	8.2
	12/15/14 15:17	10.3	8.8
	12/15/14 16:45	10.3	9.1
	12/16/14 8:11	9.7	9.5
	12/16/14 12:00	11.6	7.6
	12/16/14 16:00	9.4	9.4
	12/17/14 8:16	20.9	0.1
	12/18/14 8:08	8.5	10.8
	12/19/14 7:59	6.9	10.3
	12/23/14 9:07	6.3	10.7
	12/30/14 8:45	7.2	10.5
	1/22/15 10:07	6.5	9.2
VZMP1-60	12/15/14 11:22	21	0
	12/15/14 13:22	21.4	0
	12/15/14 15:19	21	0
	12/15/14 16:47	20.9	0.1

TABLE 3-6
 Respiratory Test Results
 Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date and Time	O ₂ %	CO ₂ %
	12/16/14 8:13	21	0.1
	12/17/14 8:18	21	0
	12/18/14 8:10	20	0.3
	12/19/14 8:01	19.5	0.4
	12/23/14 9:09	18.2	0.8
	12/30/14 8:47	20.5	0.3
	1/22/15 10:12	20.2	0.3
VZMP1-75	12/15/14 11:24	20.8	0
	12/15/14 13:24	21	0
	12/15/14 15:21	21	0
	12/15/14 16:49	20.8	0
	12/16/14 8:15	21.1	0
	12/17/14 8:20	21	0
	12/18/14 8:12	20.6	0.1
	12/19/14 8:03	20.3	0.1
	12/23/14 9:11	19.8	0.2
	12/30/14 8:50	20.3	0.3
	1/22/15 10:17	20.2	0.2
VZMP2-63	12/15/14 11:00	20.4	0
	12/15/14 13:00	21.1	0
	12/15/14 15:00	20.5	0.1
	12/15/14 16:30	20.7	0.1
	12/16/14 7:50	20.6	0.2
	12/17/14 7:56	20.6	0
	12/18/14 7:47	20.2	0.4
	12/19/14 7:43	19.9	0.4
	12/23/14 8:48	19.8	0.7
	12/30/14 9:08	20.2	0.6
	1/22/15 9:51	19.4	1
VZMP2-69	12/15/14 11:02	20.2	0.1
	12/15/14 13:02	20.8	0.1
	12/15/14 15:02	20.2	0.2
	12/15/14 16:32	20.4	0.2
	12/16/14 7:52	20.3	0.3
	12/17/14 7:58	20.1	0.3
	12/18/14 7:49	20.2	0.5
	12/19/14 7:45	19.7	0.5
	12/23/14 8:50	18.2	0.8
	12/30/14 9:10	20.4	0.2
	1/22/15 9:56	20.2	0.3
VZMP3-57	12/15/14 11:35	20.2	1
	12/15/14 13:34	20.3	0.9
	12/15/14 15:30	20.2	1
	12/15/14 16:56	20.1	1.2
	12/16/14 8:26	20.1	1.5
	12/17/14 8:30	19.5	1.9
	12/18/14 8:22	18.6	2.7
	12/19/14 8:13	18	3.2
	12/23/14 9:19	16.8	4.1
	12/30/14 9:20	20.4	0.4
	1/22/15 12:08	15.9	4.6

TABLE 3-7
Rate of Hydrocarbon Biodegradation
Site 4, NAS Whiting Field, Milton Florida

Monitoring Point	Date	BTEX (µg/kg)	FL-PRO (µg/kg)	k _o (%)	k _B (mg _{TPH} /Kg _{soil} /day)	k _B (mg _{TPH} /Kg _{soil} /year)
04-SVE-01	NS	NS	NS	3.44	1.77	646
04-SVE-04	6/1/2008	3.6	ND	0.08	0.04	14.8
04-MC-04	6/2/2008	1440	ND	0.05	0.03	9.3
04-SVE-09	6/5/2008	453.3	71100	0.49	0.25	92.8
04-MC-09	6/5/2008	4920 – 101,510	ND – 26,100	0.24	0.12	45.1
04-SVE-10	-	-	-	0.08	0.04	14.9
04-MC-10	-	-	-	0.23	0.12	42.6
04-SVE-11	6/15/2008	38910	48400	0.49	0.25	91.9
04-MC-11	6/16/2008	27,700 – 4,499,600	19,200 – 66,700	0.25	0.13	46.5
WHF-1467-MW26P-R	-	-	-	0.02	0.01	3.9
VZMP1-34	11/4/2014	18,530	ND	0.59	0.30	111.0
VZMP1-60	11/4/2014	38,736	ND	0.38	0.20	71.8
VZMP1-75	11/4/2014	116,736	26,800	0.15	0.08	28.0
VZMP2-63	11/5/2014	2697	ND	0.13	0.07	23.9
VZMP2-69	11/5/2014	58,230	ND	0.26	0.14	49.5
VZMP3-57	11/6/2014	14.9	ND	0.47	0.24	87.8

BTEX is the sum of detected benzene, toluene, ethylbenzene, and xylene concentrations.

NS - Not Sampled (within interval)

ND - Not detected

k_B = rate of hydrocarbon biodegradation (milligrams TPH per kilogram soil per day)

k_o = rate of oxygen utilization (percent oxygen/day)

θ_a = gas-filled porosity of the soil (unitless) = 0.2

ρ_{o2} = oxygen density (milligrams per liter, 20 degrees C assumed) = 1331

ρ_k = soil bulk density (grams per cubic centimeter) = 1.5

C = hydrocarbon to oxygen ratio (1/3.5 or .29)

k_B = rate of hydrocarbon biodegradation (milligrams TPH per kilogram soil per day)

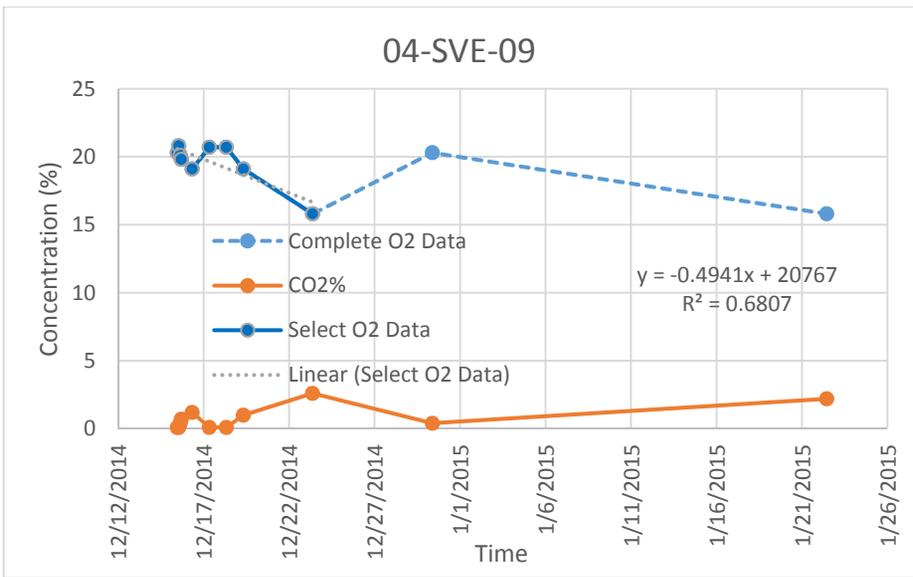
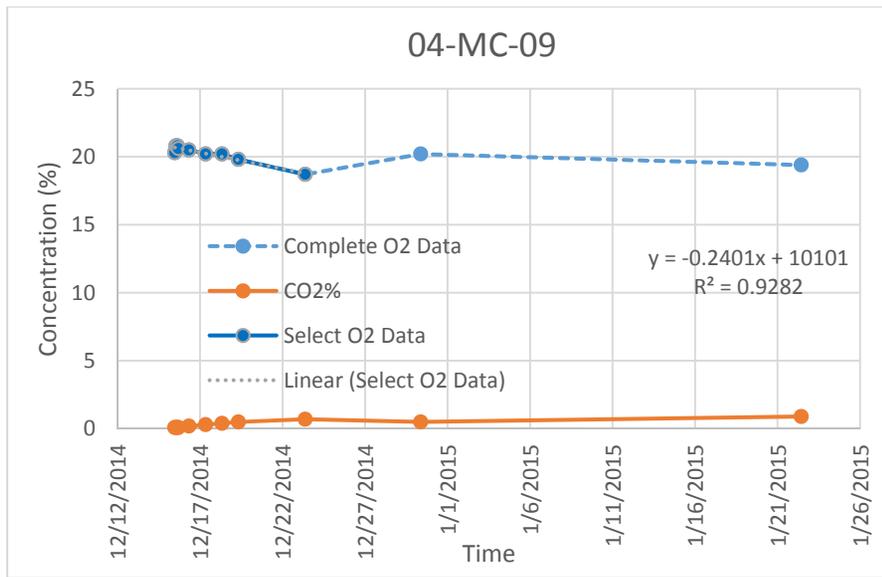
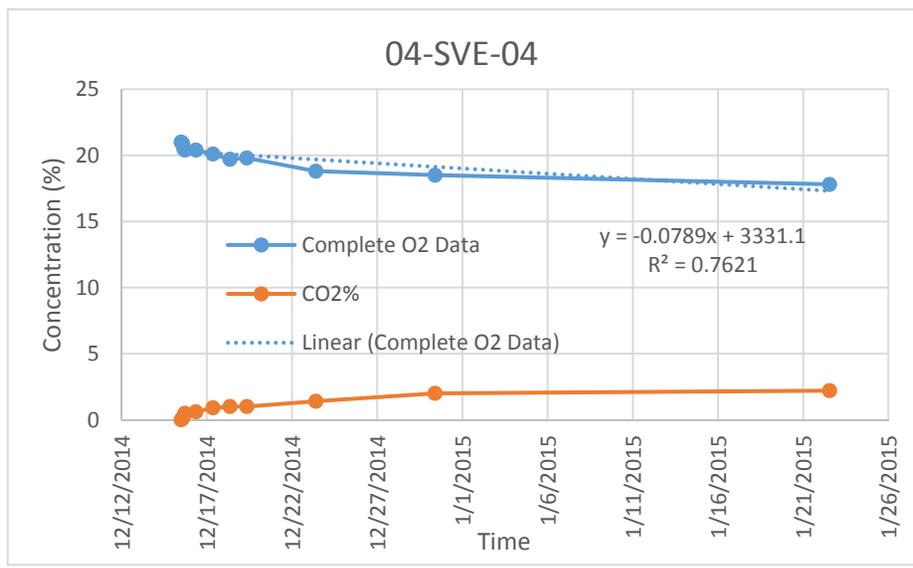
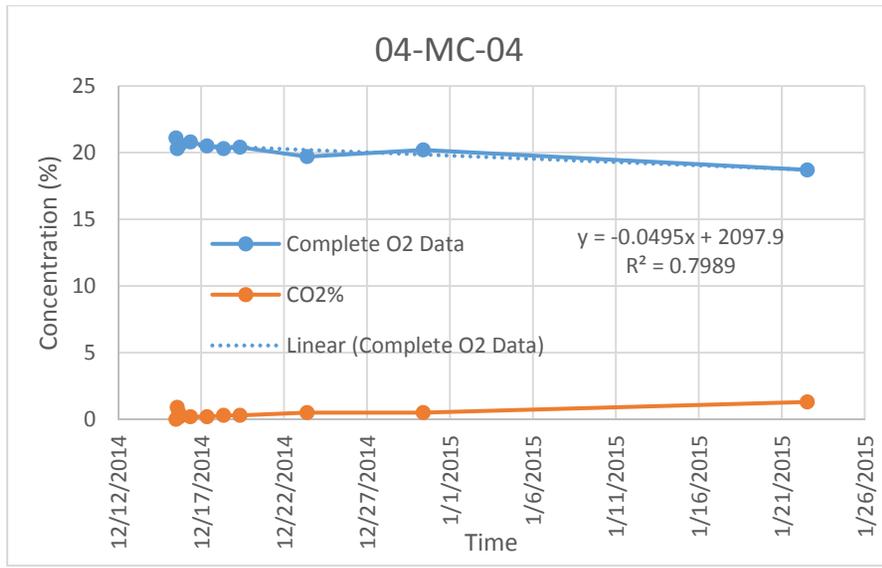


FIGURE 3-2
Oxygen Utilization Graphs, 04-MC/SVE-04 & 04-MC/SVE-09
Site 4, NAS Whiting Field, Milton Florida

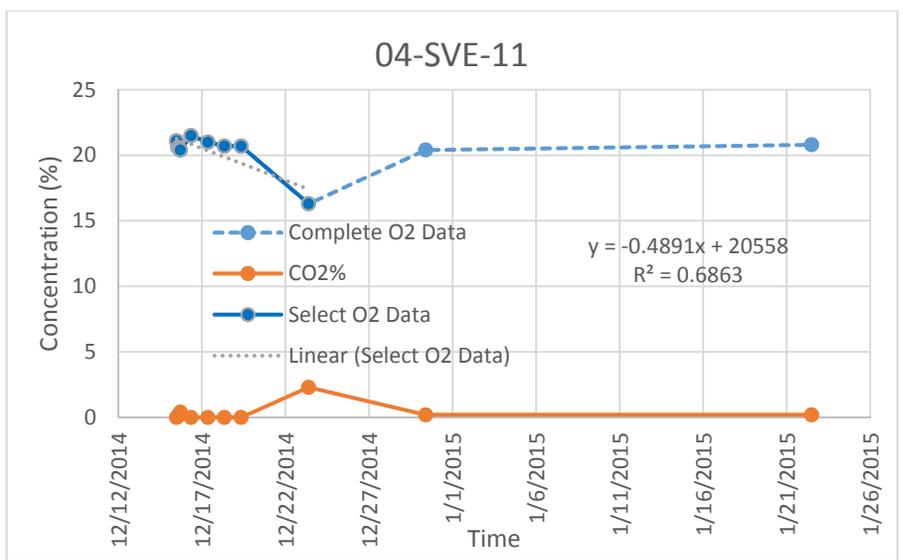
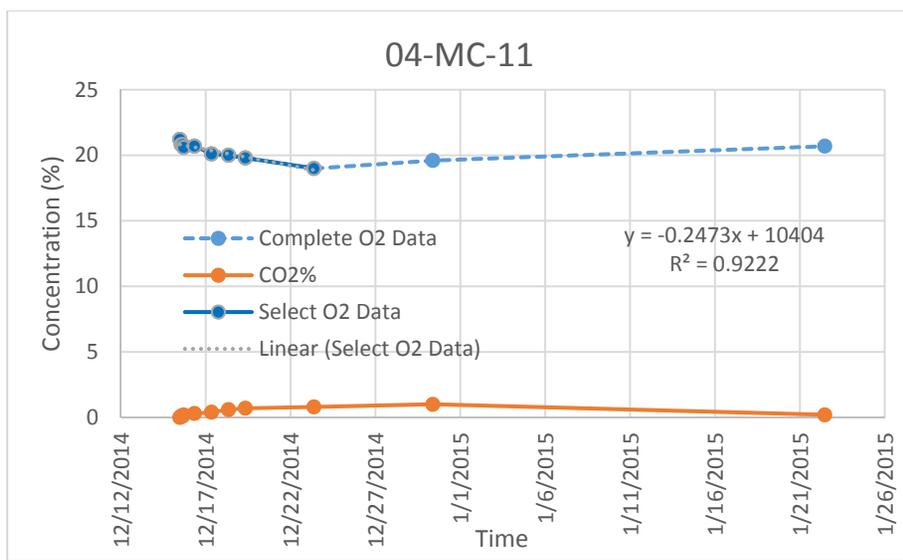
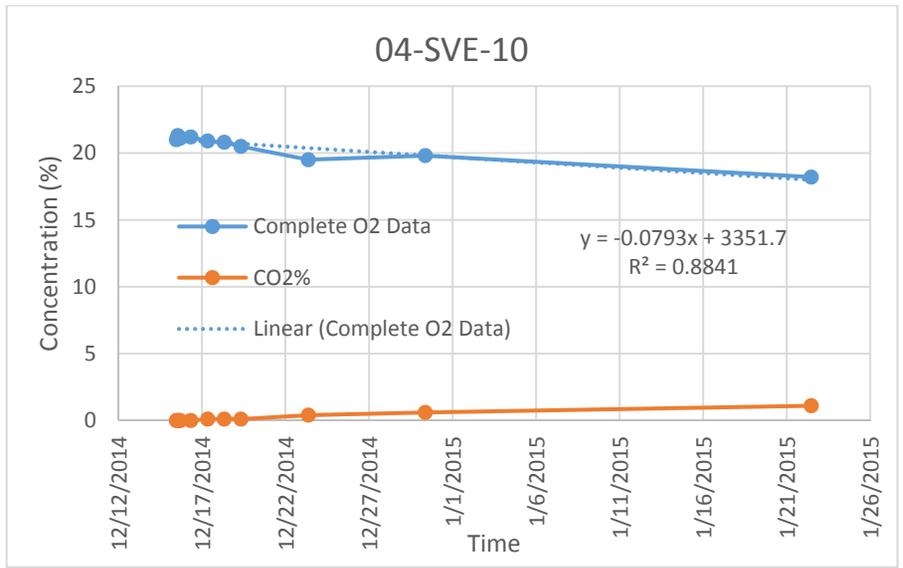
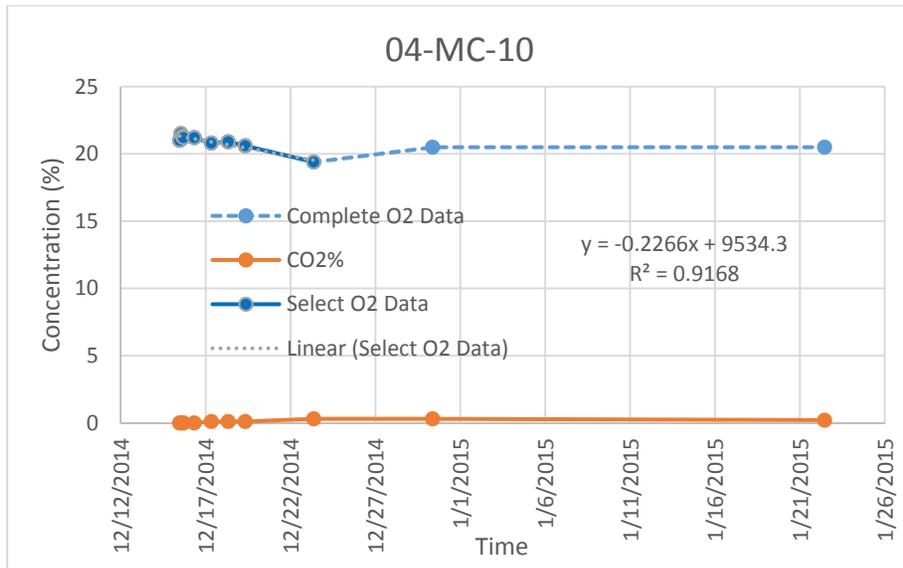


FIGURE 3-3
 Oxygen Utilization Graphs, 04-MC/SVE-10 & 04-MC/SVE-11
 Site 4, NAS Whiting Field, Milton Florida

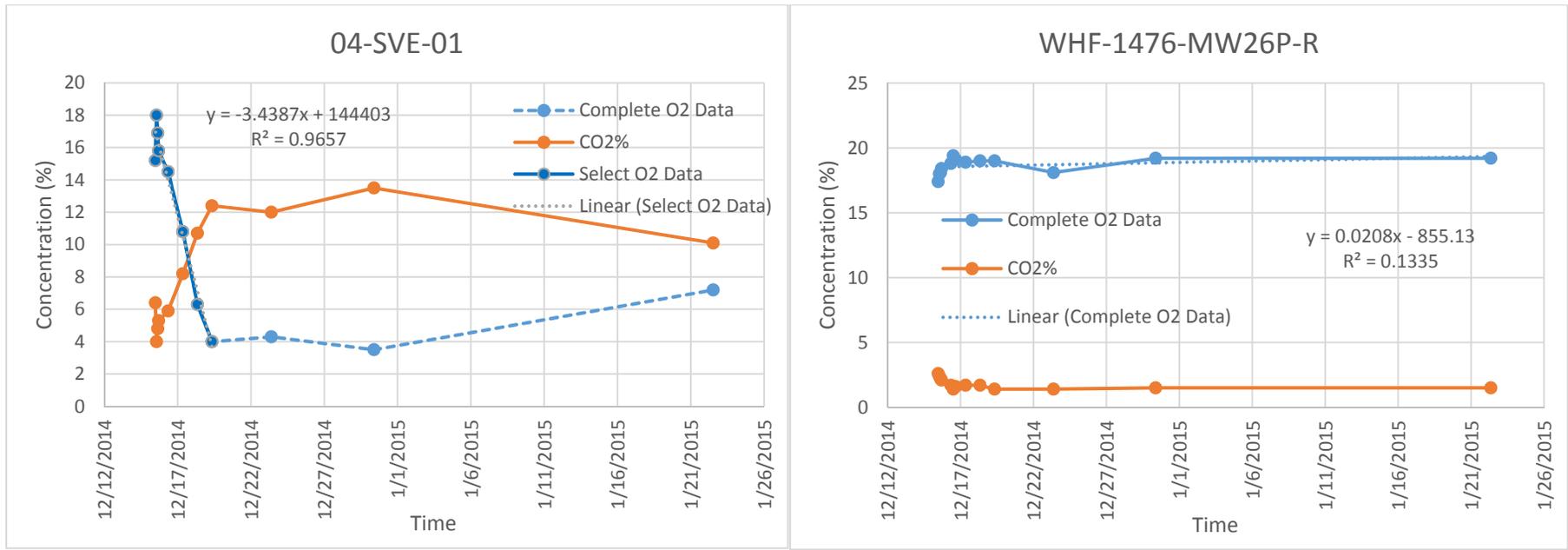


FIGURE 3-4
 Oxygen Utilization Graphs, O4-SVE- 01 & WHF-1467-MW26P-R
 Site 4, NAS Whiting Field, Milton Florida

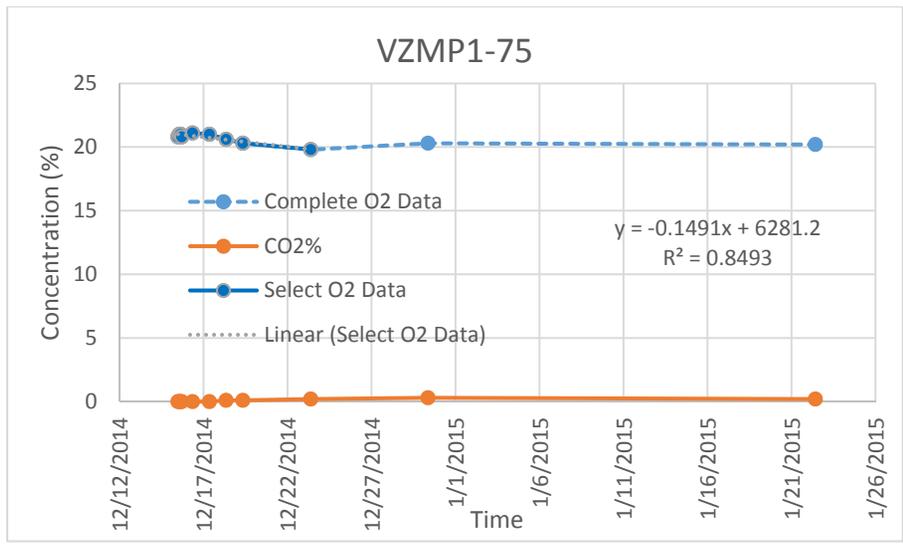
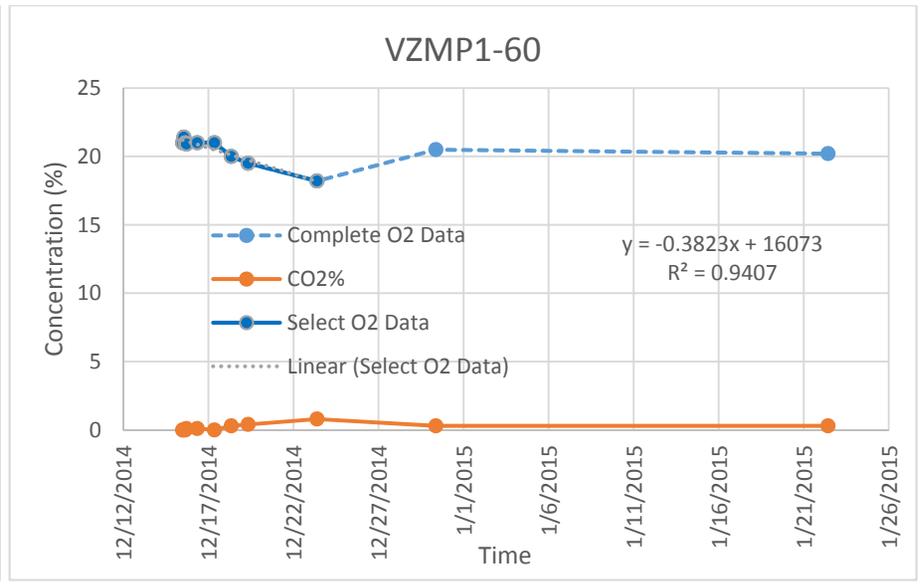
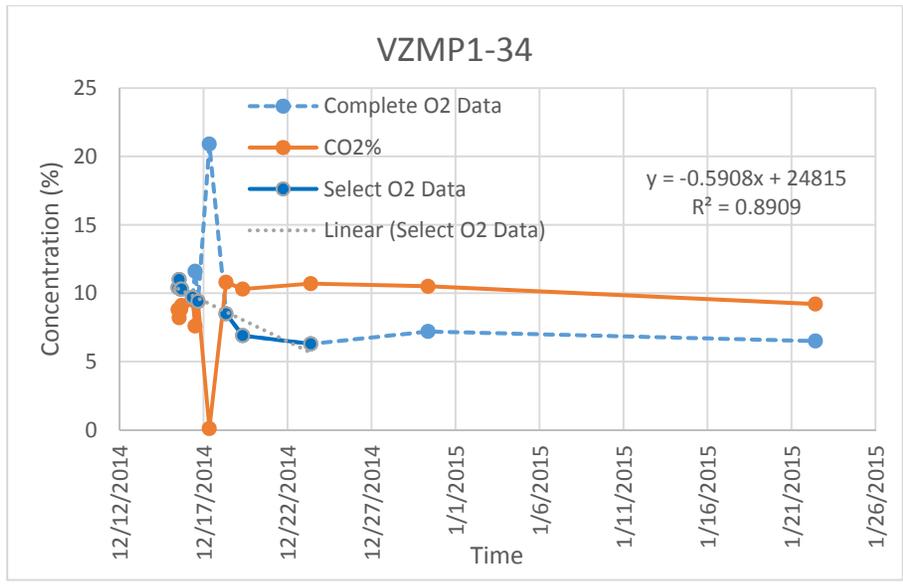


FIGURE 3-5
Oxygen Utilization Graphs, VZMP1-34, 60 & 75
Site 4, NAS Whiting Field, Milton Florida

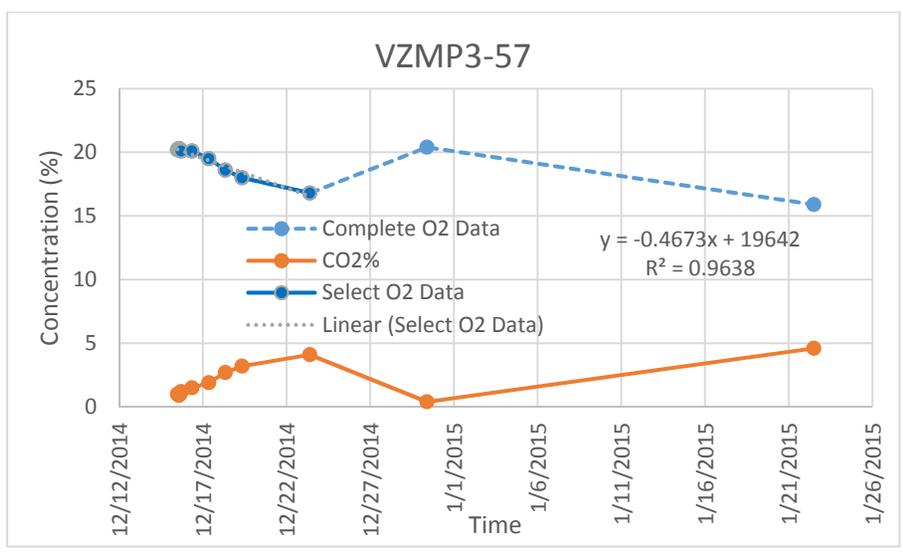
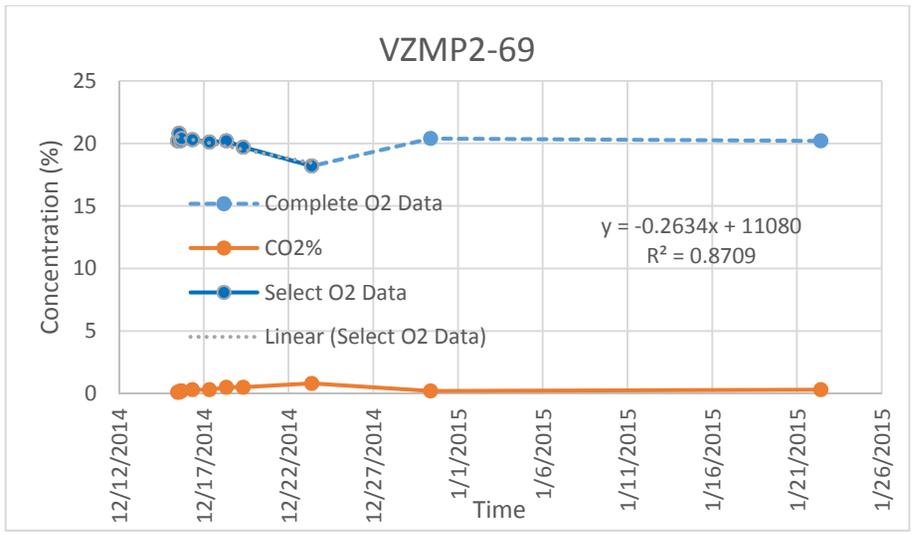
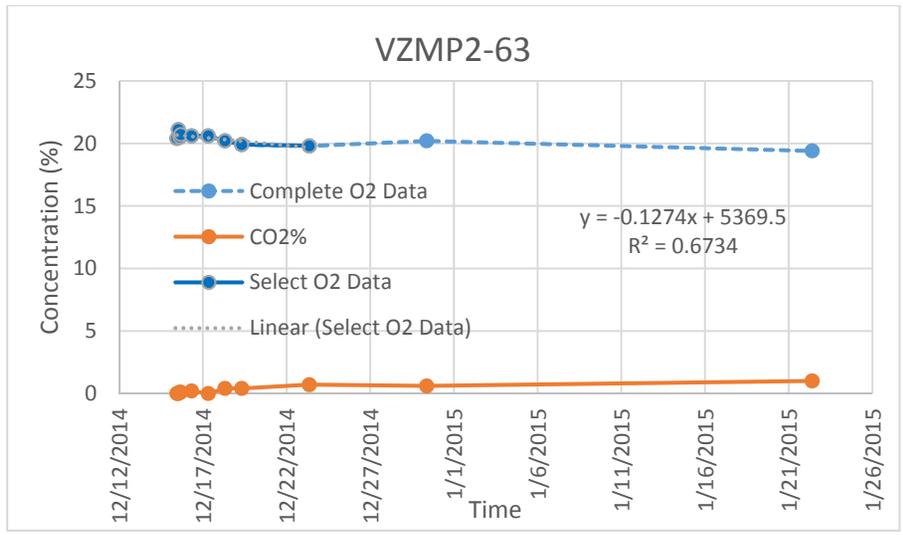


FIGURE 3-6
Oxygen Utilization Graphs, VZMP2-63, 69 & VZMP3-57
Site 4, NAS Whiting Field, Milton Florida

4.0 Waste Management

A final cleanup of all areas impacted by these site activities was performed by personnel, and equipment was decontaminated prior to leaving the site. Wastes were characterized and disposed of in accordance with the Pilot Study Work Plan (AGVIQ-CH2M HILL, 2014). Solid wastes were generated from the soil cuttings and placed into unused 55-gallon drums during drilling activities. Two representative samples were collected on November 13, 2014, and submitted to GCAL for analyses using EPA SW-846 methods for Toxicity Characteristic Leaching Procedure (TCLP) VOCs, TCLP SVOCs, TCLP metals, TCLP pesticides, TCLP herbicides, polychlorinated biphenyls (PCBs), and Corrosivity/Ignitability (CI).

Liquid wastes were generated from decontamination activities. Liquids were placed into unused 55-gallon drums. AGVIQ-CH2M HILL collected one representative sample of the liquid wastes on November 13, 2014, and submitted the sample to GCAL for analyses using EPA SW-846 methods for CI, VOCs, SVOCs, pesticides, herbicides, and Resource Conservation and Recovery Act (RCRA) 8 metals.

Analytical results from remediation derived waste sampling are included in Appendix D; soil leachate (TCLP) results are summarized in Table D-6 and soil waste analytical results are summarized in Table D-7. Liquid waste analytical results are summarized in Table D-8. Analytical results indicate that the liquid and solid waste generated was nonhazardous. Waste was disposed of as follows:

- A total of 4.9 tons of non-hazardous solid wastes were disposed of at Chesser Island Road Landfill, Inc. in Folkston, Georgia, an offsite RCRA Subtitle D facility permitted to receive such wastes (Solid Waste Permit # 2400060), State of Georgia, Department of Environmental Protection Division).
- A total of 40 gallons of non-hazardous liquid wastes were disposed of at Liquid Environmental Solutions in Jacksonville, Florida.

The Transportation and Disposal Log and signed waste profiles and waste manifests are included in Appendix E.

5.0 Results Summary

Based on the data and evaluation presented in Section 3, the following conclusions can be made:

- Pressure and flow results indicate that air can be injected (or extracted) at Site 4 with little difficulty.
- The pressure ROI was determined to include the entire monitoring network, which corresponds to a ROI of 140 feet or more.
- The oxygen ROI under the 40 scfm/6-day air injection scenario was at least 140 feet. The actual ROI is likely greater and would require a longer air injection period and additional MPs to establish steady state.
- Overall oxygen utilization rates were low with 15 of 16 vapor MPs recording oxygen utilization rates < 3.44 percent per day. These very low rates are difficult to quantify as small (e.g., < 1 percent per day) changes in O₂ and are difficult to accurately measure with field sampling techniques.
- Long-term bioventing could stimulate growth of microbes responsible for hydrocarbon degradation, resulting in increasing biodegradation rates, but the results of the pilot study are not suitable for making such a determination.

6.0 Recommendations

Based on pilot testing, Site 4 is well-suited to air injection or soil vapor extraction based on the ease of air injection (low pressure) and low energy requirements for extended air injection. Considering the target flow rate (40 scfm) and observed back pressure (pressure 10 inches of water and pressure differential of 0.5 inch of water), a 1- to 2-HP regenerative blower is expected to be appropriate for air injection at the site. This same advantage exists for soil vapor extraction, but SVE has the additional cost of air treatment.

If a full-scale remedy includes air injection into source areas, monitoring of soil vapor migration in shallow wells and underground utilities is recommended during startup of air injection. The recommended monitoring would be conducted at least weekly.

Although there are areas of higher oxygen utilization at the spill site, the overall oxygen utilization rates were very low (in the range of 1 percent or less per day). Bioventing at Site 4 could require an extended period of operation to achieve soil cleanup goals. The rate of hydrocarbon biodegradation observed during the pilot test ranged from 3.9 to 646 mg_{TPH}/Kg_{soil}/year. Given the general ubiquitous nature of hydrocarbon-degrading bacteria, it is possible that the rate of biodegradation would increase over time as bioventing is applied at the site, as populations of hydrocarbon bacteria increase in the subsurface.

Based on these considerations, AGVIQ-CH2M HILL considered remedial actions at Site 4 that could achieve the site remedial objectives and be a low energy/sustainable, low maintenance and operations, low capital cost treatment approach. It was determined that a combination of SVE and bioventing may be a possible solution for this site. Air would be extracted from a single well within the high soil vapor areas and then injected into a shallow, in situ vapor-phased bioreactor that is located near the site, but away from buildings.

The vapor-phased bioreactor would consist of a series of shallow trenches containing an optimized mix of organic mulch, gravel/sand, nutrients, and moisture to promote much higher rates of hydrocarbon biodegradation than natural bacteria at the site can produce through oxygen addition alone. Similar vapor-phased bioreactor systems have been demonstrated at gasoline contaminated sites. Alternatively, the same process could be implemented using aboveground vapor-phased bioreactors that have the potential to develop even higher rates of hydrocarbon biodegradation. The downside of aboveground reactors is that they are more sensitive and impacted by ambient temperature changes, and therefore require more maintenance.

7.0 References

- Air Force Civil Engineer Center (formerly Air Force Center for Environmental Excellence). 1996. *Bioventing Performance and Cost Results From Multiple Air Force Sites, Technology Demonstration, Final Technical Memorandum*. June.
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Appendix A

VZMP Construction Tables

TABLE A-1

VZMP Locations and Construction Details

Site 4, NAS Whiting Field, Milton Florida

VZMP Cluster	VZMP Well ID	Interval (ft)	Depth Below Surface (ft)	FID Reading (unfilt ppm)	Lithologic Description at Screen Interval		
04-VZMP-01		0-5	0		0'-17' - CLAYEY SAND (SC) - reddish brown, dry, loose, 80% fine grounded quartz sand, 20% moderate plastic fines, no odor to strong hydrocarbon odor from 15'-17'		
		5-7	5	12.3/0			
		7-17	7	10.6/0			
			9	14/0			
			11	12/0			
			13	39.1/0			
		VZMP1-16	15	1723/1			
			17-27	17		4768/1	17'-20' - SANDY CLAY (CL) - brown, damp, stiff, 75% moderate plastic fines, 25% fine grounded quartz sand, strong hydrocarbon odor
				19		3562/1	
				21		>30,000/FO	20'-27' - CLAYEY SAND (SC) - Same as 0'-17' bls, strong hydrocarbon odor
				23		Max/FO	
				25		Max/FO	
			27-37	27		Max/FO	27'-40' - SAND (SW) - very pale brown, dry, loose, fine to coarse grained quartz sand, strong hydrocarbon odor
				29		Max/FO	
				31		Max/FO	
		33	Max/FO				
VZMP1-34		35	Max/FO				
	37-47	37	Max/FO				
		39	Max/FO				
		41	Max/FO	40'-43' - CLAYEY SAND (SC) - brown, dry, loose, 85% fine quartz sand, 15% moderate plastic fines, strong hydrocarbon odor			
		43	Max/FO				
		45	Max/FO	43'-47' - CLAYEY SAND (SC) - brown, dry, dense, 70% fine grained quartz sand, 30% moderate plastic fines, strong hydrocarbon odor			
	47-57	47	Max/FO				
		49	Max/FO	47'-50' - SAND (SP) - very pale brown, dry, loose, fine grained quartz sand, strong hydrocarbon odor			
		51	Max/FO				
		53	Max/FO	50' - 60' - CLAYEY SAND (SC) - brown, dry, loose, 85% fine quartz sand, 15% moderate plastic fines, strong hydrocarbon odor			
		55	Max/FO				
	57-67	57	Max/FO				
		59	Max/FO				
VZMP1-60		61	Max/FO	60'-67' - SAND (SP) - white, dry, loose, fine			

TABLE A-1

VZMP Locations and Construction Details

Site 4, NAS Whiting Field, Milton Florida

VZMP Cluster	VZMP Well ID	Interval (ft)	Depth Below Surface (ft)	FID Reading (unfilt ppm)	Lithologic Description at Screen Interval
			63	Max/FO	grained quartz sand, strong hydrocarbon odor
			65	Max/FO	
		67-76	67	Max/FO	67'-71' - CLAYEY SAND (SC) - brown, dry, loose, 85% fine quartz sand, 15% moderate plastic fines, strong hydrocarbon odor
			69	Max/FO	
			71	Max/FO	71'-76' - SAND (SP) - white, dry, loose, fine grained quartz sand, strong hydrocarbon odor
			73	Max/FO	
	VZMP1-75		75	Max/FO	
04-VZMP-02		0-5	0		0'-13' - CLAYEY SAND (SC) - Reddish brown, dry, medium, dense, 70% fine grained quartz sand, 30% moderate plastic fines, no odor
		5-7	5	72/2	
		7-17	7	0/NM	
			9	0/NM	
			11	0/NM	
			13	0/NM	13'-16' - CLAY w/ sand (CL) - gray and brown, dry, very stiff, 90% moderate plastic fines, 10% fine quartz sand, no odor
	VZMP2-16		15	26/1	
		17-27	17	758/14	16'-24' - SAND (SP) - white to pale brown, dry, loose, fine grained quartz sand, strong hydrocarbon odor
			19	126/6	
			21	543/17	
			23	167/8	
			25	99/2	24'-25' - CLAYEY SAND (SC) - Reddish brown, dry, medium, dense, 70% fine grained quartz sand, 30% moderate plastic fines, no odor
		27-27	27	602/14	25'-27' - CLAY w/ sand (CL) - gray and brown, dry, very stiff, 90% moderate plastic fines, 10% fine quartz sand, no odor
			29	56/2	27'-30' - CLAYEY SAND (SC) - Reddish brown, dry, medium, dense, 70% fine grained quartz sand, 30% moderate plastic fines, no odor
			31	147/8	30'-32' - SANDY CLAY (CL) - brown, dry, stiff, 60% moderate plastic fines, 40% fine grained quartz sand, strong odor

TABLE A-1

VZMP Locations and Construction Details

Site 4, NAS Whiting Field, Milton Florida

VZMP Cluster	VZMP Well ID	Interval (ft)	Depth Below Surface (ft)	FID Reading (unfilt ppm)	Lithologic Description at Screen Interval
			33	0/NM	32'-37' SAND (SP) - white, dry, loose, fine grained quartz sand, strong odor
			35	14/0	
		37-47	37	24/0	37'-40' - SAND w/ Silt (SP) - brown, dry, loose, 90% fine grained quartz sand, 10% non-plastic fines, moderate odor
			39	164/4	
	VZMP2-42		41	351/12	40'-70' - SAND (SP) - white, dry, loose, fine grained quartz sand, strong odor
			43	5415/23	
			45	4627/26	
		47-57	47	5909/20	
			49	452/9	
			51	1008/16	
			53	1962/22	
			55	1911/20	
		57-67	57	1879/23	
			59	456/6	
			61	8348/41	
	VZMP2-63		63	7.4%/98	
			65	4471/34	
		67-70	67	2071/26	
	VZMP2-69		69	8.7%/112	
			70		
04-VZMP-03		0-5	0		0'-9' - CLAYEY SAND (SC) - brown, dry, medium dense to loose, 75% fine grained quartz sand, 25% moderate plastic fines, no odor
		5-7	5	0/NM	
	VZMP3-8	7-17	7	0/NM	
			9	0/NM	9'-21' - CLAY with sand (CL) - gray and brown, very stiff, dry, 90% moderate plastic fines, 10% fine grained quartz sand, no odor
			11	0/NM	
			13	0/NM	
			15	0/NM	
		17-27	17	4/1	
			19	0/NM	
			21	28/2	
			23	15/1	21'-29' - SAND with silt (SP) - pale brown, dry, loose, 90% fine grained quartz sand, 10% non-plastic fines, no odor
			25	27/0	
		27-27	27	134/5	
			29	6/0	29'-37' SAND (SW) - white to very pale brown, dry, loose, fine to coarse grained quartz sand, no odor
			31	111/6	
			33	16/1	
			35	66/2	

TABLE A-1

VZMP Locations and Construction Details

Site 4, NAS Whiting Field, Milton Florida

VZMP Cluster	VZMP Well ID	Interval (ft)	Depth Below Surface (ft)	FID Reading (unfilt ppm)	Lithologic Description at Screen Interval
VZMP3-36		37-47	37	211/9	37'-70' - SAND (SP) - white, dry, loose, fine grained quartz sand, no odor to mild hydrocarbon odor
			39	25/0	
			41	139/4	
			43	279/11	
			45	252/13	
		47-57	47	1028/26	
			49	212/10	
			51	221/8	
			53	211/11	
			55	111/6	
VZMP3-57	57-67	57	559/15		
		59	31/2		
		61	34/2		
		63	10/1		
		65	166/4		
VZMP3-69	67-70	67	93/4		
		69	242/6		
		70			

Appendix B
Field Data and Field Notes

Site 4

Date 01/22/15

Whiting Field

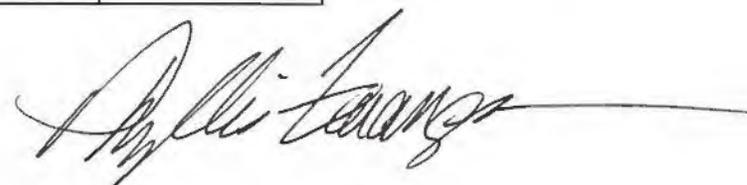
Respiration Test

Personnel JT/PZ

ID	Time	purge pressure ("H ₂ O)	CH ₄ LEL (%)	CO ₂ (%)	O ₂ (%)	TVH	notes
SVE-01	1238	NM	82.1	10.1	7.2	F0	—
MC-04	1258	NM	7100	1.3	18.7	F0	—
SVE-04	1318	NM	7100	2.2	17.8	F0	—
MC-09	1025	NM	7100	0.9	19.4	F0	—
SVE-09	1041	NM	81.9	2.2	15.8	F0	—
MC-10	1103	NM	27.4	0.2	20.5	F0	—
SVE-10	1118	NM	43.6	1.1	18.2	1.9%	—
MC-11	1121	NM	16.0	0.2	20.7	F0	—
SVE-11	1140	NM	13.2	0.2	20.8	F0	—
MW26P-R	0832	NM	64.8	1.5	19.2	F0	—
VZMP1-34	1007	NM	7100	9.2	6.5	F0	—
VZMP1-60	1012	NM	31.4	0.3	20.2	F0	—
VZMP1-75	1017	NM	24.7	0.2	20.2	F0	—
VZMP2-63	0951	NM	7100	1.0	19.4	F0	—
VZMP2-69	0956	NM	26.1	0.3	20.2	F0	—
VZMP3-57	1208	NM	7100	4.6	15.9	F0	—
VZMP3-69	—	—	—	—	—	—	—

only do the Red ones if O₂ >10%

Always do the Green



HP=29.56

©0850

Site 4

Date 12/23/2014

Respiration Test

Whiting Field

Personnel Tawris/Zerangue

ID	Time	purge pressure ("H ₂ O)	LEL (%)	CO ₂ (%)	O ₂ (%)	TVH	notes
SVE-01	0922	NM	>100	12.0	4.3	FO	—
MC-04	0925	NM	>100	0.5	19.7	FO	—
SVE-04	0927	NM	>100	1.4	18.8	13.5% FO	—
MC-09	0853	NM	>100	0.7	18.7	13.5% FO	—
SVE-09	0855	NM	>100	2.6	15.8	13.5% FO	—
MC-10	0900	NM	>100	0.3	19.4	13.5% FO	—
SVE-10	0902	NM	>100	0.4	19.5	1.23% —	—
MC-11	0914	NM	>100	0.8	19.0	13.5% FO	—
SVE-11	0916	NM	>100	2.3	16.3	FO	—
MW26P-R	0858	NM	>100	1.4	18.1	13.5% FO	—
VZMP1-34	0907	NM	>100	10.7	6.3	FO	—
VZMP1-60	0909	NM	>100	0.8	18.2	13.5% FO	—
VZMP1-75	0911	NM	>100	0.2	19.8	13.5% FO	—
VZMP2-63	0848	NM	>100	0.7	18.0	13.5% FO	—
VZMP2-69	0850	NM	>100	0.8	18.2	13.5% FO	—
VZMP3-57	0919	NM	>100	4.1	16.8	13.5% FO	—
VZMP3-69	—	—	—	—	—	—	—

only do the Red ones if O₂ >10%
 Always do the Green

BP = 30.11
@ 0850

Site 4

Date 12/30/2014

Whiting Field

Respiration Test

Personnel Towns / Zerangue

ID	Time	purge pressure ("H ₂ O)	LEL (%)	CO ₂ (%)	O ₂ (%)	TVH	notes
SVE-01	0923	NM	>100	13.5	3.5	FO	—
MC-04	0925	NM	>100	0.5	20.2	FO	—
SVE-04	0927	NM	>100	2.0	18.5	FO	—
MC-09	0903	NM	>100	0.5	20.2	FO	—
SVE-09	0905	NM	>100	0.4	20.3	135% FO	—
MC-10	0855	NM	>100	0.3	20.5	135% FO	—
SVE-10	0857	NM	>100	0.6	19.8	1.25% —	—
MC-11	0913	NM	>100	1.0	19.6	FO	—
SVE-11	0915	NM	>100	0.2	20.4	FO	—
MW26P-R	0900	NM	>100	1.5	19.2	FO	—
VZMP1-34	0845	NM	>100	10.5	7.2	FO	—
VZMP1-60	0847	NM	>100	0.3	20.5	FO	—
VZMP1-75	0850	NM	>100	0.3	20.3	FO	—
VZMP2-63	0908	NM	>100	0.6	20.2	FO	—
VZMP2-69	0910	NM	>100	0.2	20.4	FO	—
VZMP3-57	0920	NM	>100	0.4	20.4	FO	—
VZMP3-69	—	—	—	—	—	—	—

only do the Red ones if O₂ > 10%
Always do the Green





PROJECT NUMBER

391690

BORING NUMBER

VZMP-01

pg. 1 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAB Whiting Field, FL

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR: Cascade - Ocala, FL - Driller: F. Kraus

DRILLING METHOD AND EQUIPMENT USED: Sonic Rig - 6" x 8" method

WATER LEVELS (FT):

START: 11/4/14

END: 11/4/14

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)			STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION	COMMENTS		
INTERVAL (FT)	RECOVERY (%)	#/TYPE			DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	FID (unfill ppm)	Notes
0	0'-5'	100%		0'-17' - <u>CLAYEY SAND (SC)</u> - reddish brown, dry, loose, 80% fine grained quartz sand, 20% moderate plastic fines, no odor to strong hydrocarbon odor from 15'-17' bts.		Post-hole to 5' bts to clear utilities	
5	5'-7'	100%			@5' 12.3/0		
	7'-17'	100%		17'-20' - <u>SANDY CLAY (CL)</u> - brown, damp, stiff, 75% moderate plastic fines, 25% fine grained gtz sand, strong hydrocarbon odor.	@7' 10.6/0		
10				20' - (8)	@9' 14/0		
					@11' 12/0		
15					@13' 39.1/0		
					@15' 1723/1.0		
	17'-21'	100%			@17' 4768/1.0	Sample taken @ 16'-17' bts	
20					@19' 3562/		



PROJECT NUMBER

391690

BORING NUMBER

VZMP-01

pg. 2 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAS Whiting Field, FL

GROUND SURFACE ELEVATION (FT): _____ DRILLING CONTRACTOR: Cascade

DRILLING METHOD AND EQUIPMENT USED: Sonic - 6" x 8" method

WATER LEVELS (FT): _____ START: 11/4/14 END: 11/4/14

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)			STANDARD PENETRATION TEST RESULTS	SOIL DESCRIPTION	COMMENTS		
INTERVAL (FT)	RECOVERY (%)	#/TYPE	6"-6"-6" (N)	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.		
					FID (unfilt ppm)	Notes	Aquifer Properties
20				20' - 27' - <u>CLAYEY SAND (SC)</u> Same as 0'-17' bts., strong hydrocarbon odor.	@21'	MAX IS	
					MAX/FO	> 30,000 ppm	
				27' - 40' - <u>SAND (SW) (SP)</u> - Very pale brown, dry, loose, fine to coarse grained quartz sand, strong hydrocarbon odor.	@23'	FO = Flame	
					MAX/FO	OUT	
25					@25'		
					MAX/FO		
					@27'		
					MAX/FO		
	27'-37'	100%			@29'		
					MAX/FO		
30					@31'		
					MAX/FO		
					@33'		
					MAX/FO		
					@35'	Sample taken @ 34'-35' bts	32'-35' - 6/20 silica sand
					MAX/FO		Set well at 35' bts
35					@37'		35'-37' - 6/20 silica sand
					MAX/FO		
	37'-47'	100%			@39'		37'-59' 3/8" bentonite chips
					MAX/FO		
40							



CH2MHILL

PROJECT NUMBER

BORING NUMBER

Pg. 3 of 4

SOIL BORING LOG

PROJECT : LOCATION :

GROUND SURFACE ELEVATION (FT): DRILLING CONTRACTOR :

DRILLING METHOD AND EQUIPMENT USED :

WATER LEVELS (FT): START : END : LOGGER : J. Towns

DEPTH BELOW SURFACE (FT)			STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION	COMMENTS		
INTERVAL (FT)	RECOVERY (%)				DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	FID (unfilt ppm)	Notes
	#	TYPE					
40'-43'				CLAYEY SAND (SC) - brown, dry, loose, 85% fine grained gtz sand, 15% moderate plastic fines, strong hydrocarbon odor.	@41' MAX/FO		
					@43' MAX/FO		37'-59' - 3/8" bentonite chips
43'-47'				CLAYEY SAND (SC) - brown, dry, dense, 70% fine grained gtz. sand, 30% moderate plastic fines, strong hydrocarbon odor.	@45' MAX/FO		
					@47' MAX/FO		
47'-50'				SAND (SP) - very pale brown, dry, loose, fine grained gtz sand, strong hydrocarbon odor.	@49' MAX/FO		
					@51' MAX/FO		
50'-60'				CLAYEY SAND (SC) - brown, same as 40'-43' lvs.	@53' MAX/FO		
					@55' MAX/FO		
					@57' MAX/FO		
57'-67'					@59' MAX/FO		59'-62' - 1/2" silica sand

45

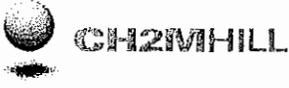
50

55

60

47'-57' 100%

57'-67' 100%



PROJECT NUMBER

BORING NUMBER

Pg. 4 of 4

391690

SOIL BORING LOG

PROJECT: Site 4

LOCATION:

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR: Cascade

DRILLING METHOD AND EQUIPMENT USED: Sonic

WATER LEVELS (FT):

START: 11/4/14

END: 11/4/14

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)		STANDARD PENETRATION TEST RESULTS 6" 6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.		
INTERVAL (FT)	RECOVERY (%)			#/TYPE	FID (unfilt ppm)	Notes
65			60'-67' SAND (SP) - white, dry, loose, fine grained qtz sand, strong hydrocarbon odor.	@61' MAX/FO	Sample taken @ 61'-62' b/s	Set well at 62' b/s
			67'-71' CLAYEY SAND (SC) - Same as 50'-60' b/s.	@63' MAX/FO		62'-64' - 6/20 silica sand
			71'-76' SAND (SP) - white, same as 60'-67' b/s.	@65' MAX/FO		64'-71' - 3/8" bentonite chips
	67'-76' 100%			@67' MAX/FO		
70				@69' MAX/FO		
				@71' MAX/FO		
				@73' MAX/FO	Sample taken @ 73'-74' b/s	71'-74' - 6/20 silica sand
				@75' MAX/FO		Set well at 74' b/s.
75						76'-74' b/s: 6/20 silica sand
			End of Boring @ 76' b/s.			



PROJECT NUMBER

361690

BORING NUMBER

VZMP-02

pg. 1 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAB Whiting Field, FL

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR: Cascade - Ocala, FL Driller: F. Kraus

DRILLING METHOD AND EQUIPMENT USED: Sonic - 6" x 8" method

WATER LEVELS (FT): Above water table START: 11/5/14

END: 11/5/14

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)			STANDARD PENETRATION	SOIL DESCRIPTION	COMMENTS		
INTERVAL (FT)	RECOVERY (%)		TEST RESULTS 6"-6"-6"-6" (N)	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	Notes	Aquifer Properties
		#/TYPE					
0				0'-13' - <u>CLAYEY SAND (SC)</u> Reddish brown, dry, medium dense, 70% fine grained quartz sand, 30% moderate plastic fines, no odor.		Post-hole to 5' b/s to clear utilities	1'-11' bentonite grout
0'-5'	100%				@5'		
5				13'-16' - <u>CLAY w/ sand (CL)</u> gray and brown, dry, very stiff, 90% moderate plastic fines, 10% fine grained qtz sand, no odor.	7 1/2		
5'-7'	100%				@7'		
7'-17'	100%			16'-24' - <u>SAND (SP)</u> - white to pale brown, dry, loose, fine grained qtz sand, strong hydrocarbon odor.	0/nm		
10					@9'		
					@11'		
					0/nm		11'-14' 3/8" bentonite chips (1 bag)
					@13'		
					0/nm		
					@15'		14'-17' 6/20 silica sand (3 bags)
15					26/1		
					@17'		Sample taken at 16'-17'
					758/14		Set well at 17' b/s
							17'-19' 6/20 silica sand (2 bags)
20					@19'		
					126/6		19'-40' 3/8" bentonite chips (15 bags)



PROJECT NUMBER

361690

BORING NUMBER

VZMP-02

Pg. 2 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAS Whiting Field

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR: Cascade

DRILLING METHOD AND EQUIPMENT USED:

Sonic - 6" x 8" method

WATER LEVELS (FT):

START:

11/5/14

END:

11/5/14

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS		
INTERVAL (FT)	RECOVERY (%)			DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	Notes	Aquifer Properties
	#/TYPE		FID (unfill ppm)			
20			24'-25' - CLAYEY SAND (SC) - Same as 0'-13' bls.	@21' 543/17		19'-40' 3/8" bentonite chips
			25'-27' - CLAY w/ sand (CL) - same as 13'-16' bls.	@23' 167/8		
25			27'-30' - CLAYEY SAND (SC) Same as 24'-25'	@25' 99/2		
			30'-32' - SANDY CLAY (CL) brown, dry, stiff, 60% moderate plastic fines, 40% fine grained qtz sand, strong odor.	@27' 602/14		
	27'-37' 100%		32'-37' - SAND (SP) - white, dry, loose, fine grained qtz sand, strong odor.	@29' 56/2		
30			37'-40' - SAND SAND w/ silt (SP) brown, dry, loose, 90% fine grained qtz sand, 10% non-plastic fines, moderate odor.	@31' 147/8		
				@33' %/nm		
				@35' 14/0		
35				@37' 24/0		
	37'-47' 100%			@39' 164/4		
40						



CH2MHILL

PROJECT NUMBER

301690

BORING NUMBER

VZMP-02

Pg. 3 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAS Whiting Field

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR: Cascade

DRILLING METHOD AND EQUIPMENT USED: Sonic - 6" x 8" method

WATER LEVELS (FT):

START: 11/5/14

END: 11/5/14

LOGGER: J. Towns

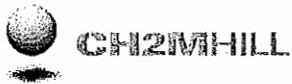
DEPTH BELOW SURFACE (FT)			STANDARD PENETRATION	SOIL DESCRIPTION	COMMENTS		
INTERVAL (FT)	RECOVERY (%)		TEST RESULTS 6"-6"-6"-6" (N)	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	Notes	Aquifer Properties
	#	TYPE					
40				40'-70' - SAND (SP) - same as 32'-37' bls.	@41' 351/12		40'-43' 6/20 silica sand. (3 bags)
					@43' 5415/23	Sample taken at 42'-43'	Set well @ 43' bls
45					@45' 4627/26		43'-45' 6/20 silica sand (2 bags)
					@47' 5909/20		45'-60' - 3/8" bentonite chips (8 bags)
47'		100%			@49' 452/9		
51'					@51' 1008/16		
50					@53' 1962/22		
					@55' 1911/20		
55					@57' 1879/23		
					@59' 456/6		
60							



PROJECT NUMBER 391690	BORING NUMBER VZMP-02	pg. 4 of 4
SOIL BORING LOG		

PROJECT: Site 4 LOCATION: NAS Whiting Field
 GROUND SURFACE ELEVATION (FT): _____ DRILLING CONTRACTOR: Cascade
 DRILLING METHOD AND EQUIPMENT USED: Sonic - 6" x 8" method
 WATER LEVELS (FT): _____ START: 11/5/14 END: 11/5/14 LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.		
	RECOVERY (%)	#/TYPE			FID (unfill ppm)	Notes	Attifier Properties
60					@61' 8348 41	Sample taken @ 62'-63'	60'-63' 6/20 silica sand (3 bags)
				@63' 7.4% 98	Set well at 63' bts.		
65					@65' 4471 34	Sample taken at 68'-69'	63'-65' 6/20 silica sand (2 bags)
				@67' 2071 26	65'-66'- 3/8" bentonite chips (1/2 bag)		
	67'-70' 100%				@69' 8.7% 112	66'-69'- 6/20 silica sand (3 bags)	Set well at 69' bts
70							69'-70'- 6/20 silica sand (2 bags)
				End of Boring @ 70' bts.			



PROJECT NUMBER

361690

BORING NUMBER

VEMP-03

pg. 1 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAS Whiting Field

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR:

Cascade - Ocala, FL Driller: F. Kraus

DRILLING METHOD AND EQUIPMENT USED:

Senje - 6" x 8" method

WATER LEVELS (FT):

START: 11/6/14

END:

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)			STANDARD PENETRATION TEST RESULTS	SOIL DESCRIPTION	COMMENTS		
INTERVAL (FT)	RECOVERY (%)	#/TYPE	6"-6"-6"-6" (N)	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	Well info	
						FID (unfilt ppm)	Notes
0				0'-9' - CLAYEY SAND (SC) brown, dry, medium dense to loose, 75% fine grained quartz sand, 25% moderate plastic fines, no odor		Post-hole to 5' bls to clear utilities	1'-3' grout
0'-5'	100%						
5				9'-21' - CLAY with sand (CL) gray and brown, very stiff, dry, 90% moderate plastic fines, 10% fine grained qtz sand, no odor.	@5'		3'-6' 3/8" bentonite chips (1 bag)
5'-7'	100%				@7'		6'-9' 6/20 silica sand (3 bags)
7'-11'	100%				@9'	Sample at 8'-9' bls	Setwell at 9' bls
10					@11'		9'-11' 6/20 silica sand (2 bags)
					@13'		11'-34' 3/8" bentonite chips (bags)
15					@15'		
					@17'		
17'-21'	100%				4/1		
20					@19'		
					@nm		



CH2MHILL

PROJECT NUMBER

361690

BORING NUMBER

VZMP-03

pg. 2 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAS Whiting Field

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR: Cascade

DRILLING METHOD AND EQUIPMENT USED: Sonic, 6" x 8" method

WATER LEVELS (FT):

START: 11/6/14

END:

LOGGER:

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-8" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS		
	RECOVERY (%)	#/TYPE			DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.		
					FID (unfill ppm)	Notes	Aquifer Properties
20				21'-29' - SAND with silt(SP) pale brown, dry, loose, 90% fine grained quartz sand, 10% non-plastic fines, no odor.	@21' 28/ 2		11'-34' 3/8" bentonite chips
25				29'-37' - SAND ^{SW} (ST) _(ST) white to very pale brown, dry, loose, fine to coarse grained qtz sand, no odor.	@25' 27/ 0		
	27'-37'	100%			@27' 134/ 5		
30				37'-70' - SAND(SP) - white, dry, loose, fine grained qtz sand, no odor to mild hydrocarbon odor.	@29' 0/ 0		
					@31' 111/ 6		
					@33' 16/ 1		
35					@35' 66/ 2		34'-37' 6/20 silica sand (3 bags)
					@37' 211/ 9	Sample taken at 36'-37' bls	Set well @ 37' bls
	37'-47'	100%			@39' 25/ 0		37'-39' 6/20 silica sand (2 bags)
40							



PROJECT NUMBER

361690

BORING NUMBER

VZMP-03

pg. 4 of 4

SOIL BORING LOG

PROJECT: Site 4

LOCATION: NAS Whiting Field

GROUND SURFACE ELEVATION (FT):

DRILLING CONTRACTOR:

DRILLING METHOD AND EQUIPMENT USED:

WATER LEVELS (FT):

START: 11/6/14

END:

LOGGER: J. Towns

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS			
	RECOVERY (%)	#/TYPE			DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.	FID (unfill ppm)	Notes	Aquifer Properties
60				Continued from pg. 3	@61'		59'-66'	
					34/2		3/8" bentonite chips	
					@63'			
					10/1			
65					@65'			
					166/4			
					@67'		66'-69'	
					93/4		6/20 silica sand (3 bags)	
67'					@69'		Set well @69' b/s	
70'	100%				242/6	Sample at 68'-69' b/s.	69'-70' - 6/20 silica sand (1 bag)	
70				End of Boring @ 70' b/s				

Location NAS Whiting Field
Project / Client Site - 4, JMI19

Date 11-4-14

J. Towns, P. Zerangue, Kraus, Whitmore, Albritton

Environmental monitoring instruments on site: MiniRAE 2000, C-102486,
ARGUS-HAZOC Vapor Analyzer, TUA Z020 #0006234, Model: TUA2020-A2E1R1 - Serial #: 202014050033, Cal Gas: Fine Environmental Services Standard Gas Zero Air, Lot # LTC 033-RR-PC, March 2016 Pine Environmental Services Compressed Gas 100 ppm Methane and Balanced Air Lot # 42152-6, Exp date: May 2015 Portacyl Calibration Gas, Balance Air 100 ppm Isobutylene, Lot # 0416FG13, Expiration Date: 05/2017
0800 Nald N95 and Respiratory -
Mating: Signed AHAs, H95 Ptas - Pre Task and Reviewed Separately
Checklist with Cascade

0845, J. Towns escorted the supply truck to the site. Cascade work Ticket # 24485
0900 J. Towns checked in with the fire department and got permission to use hydrant #18 and picked up dig permit from John Burns and

Shelby Zerangue 11-4-14

Location NAS Whiting Field
Project / Client Site - 4, JMI19

Date 11-4-14

Towns, Zerangue, Kraus, Whitmore, Albritton

Let Jim Kraus we were using keyboard #18. Waiting on the base to come to the site and do the crane inspection. J. Towns sent an e-mail to Mike Mattison for the inspection report. 0915 Calibrated monitoring instruments TUA2020: FID, Zero Air = 0, Methane = 100ppm PID, Zero Air = 0, Isobutylene = 100 ppm MiniRAE PID = 100ppm Iso, Zero Air = 0

Doug Kelly is the base crane inspector 1000 J. Towns called Jim Edens to see if VEMP1 (located 20' from the test well) could be moved west to flatter ground. In its current location, the supply truck and rig would have to set up on a steep slope making work difficult. However if it has to stay Cascade can make it work.

Jim Edens wants to keep that location. 1:00 the rig set up over VEMP1 location. The welder's screen was placed between the rig and the fuel containment wall and

Shelby Zerangue 11-4-14

6

Location NAS Whiting Field Date 11-4-14Project / Client Site-4, JM19

Towns, Zerangue, Kraus, Albriton, Whitmore

The orange checkered flag on top the drill mast.

1110 VZMP1 was hauled dug to 4' @ 5, no issues below surface. Absorbent pads were placed under the rig and crane and also around the mechanical parts that potentially leak during operations.

1115 John Hoyt arrived on site to inspect the crane. Will need Navy Crane inspection form P307, P1, P2 & P3. J. Towns will get from mine Pattison and then call Mr. Hoyt when we have them in hand.

1130 Supply truck arrived on site. Material includes: screens, risers, manhole covers, sand, bentonite and 55 gallon drums.

1200 crew went to lunch

1330 Drilling crew back on site, John Hoyt on site to inspect crane. He approved the crane and inspected us to keep the P forms in the cab of the truck at all times.

Phillip Zerangue 11-4-14

7

Location NAS Whiting Field Date 11-4-14Project / Client Site-4, JM19

Towns, Zerangue, Kraus, Albriton, Whitmore

1300 began drilling at VZMP1. Soil Gas screening every 2' and 4' total samples per tiering based on FID readings. Screens were set at highest FID readings. Soil Descriptions, comments and FID readings were logged by the Geologist on a Soil Boring Log. 1st Sample collected from VZMP01-17 @ 1320 FID Reading = 4768 + FID 1. At 27', TUA2020 kept flaming out. John stopped the drillers until he gets the issue resolved - Called Technical Support. 2nd Sample at VZMP01-35 @ 1400, FID Flame out
3rd Sample @ VZMP01-62 @ 1500, FID - Flame out, + FID 2 and 4th sample @ VZMP01-74 @ 1520, FID - Flame out
See Air Monitoring Log for Breathing Zone Readings during drilling activities
GC Samples: EB01, EB02, F-D01 and F-D02, also TB01 provided by the lab.

1545 End of drilling. J. Towns and P. Zerangue packed samples in ice.

Phillip Zerangue 11-4-14

Location NAS Whiting FieldDate 11-4-14Project / Client Site -4, JM19J. Towns, Zerangue, Kraus, Whitmore, Albritton

Cascade staged material around the bore hole to be ready to begin well construction in the morning. They also cleaned the site and drummed the drill cuttings. CHEM-Hill labeled waste drums - 6 drum water generated today. 4 drums were generated, waste included the drill cuttings and plastic used to contain the cuttings.

1630 all off site. JT & PZ went to convenient store to add ice to the samples and pack for shipping. Two coils were iced, taped and a custody seal placed on the outside. One cooler contained the COC.

1730 Shipped samples FedEx to: GCHC, Baton Rouge, LA, Tracking Numbers 771717739370 and 771717727399.
End of Work Day

11-4-14

[Signature]

Location NAS Whiting FieldDate 11-5-14Project / Client Site -4, JM19Towns, Zerangue, Kraus, Whitmore, Albritton

0650 Arrived on site. Weather: 57°F, some clouds, cool, calm, dry.

Scope of work: Complete well VZMP-01 and begin drilling VZMP-02. 0700 N/S Drilling Topics: PPE, eye training, head protection, manual lifting, walking on a slope, hydration and drilling on base. 0730 Rig and support equipment was inspected by Cascade Drilling. 0735 Cascade began installing 1" well casing in VZMP-01

0730 - Begin VZMP-01 well

construction. There will be

(4) 1" dia. VZMP wells in this

one bore hole and will be

set at 74', 62', 35', and 17' bbs.

Wells: 1" dia Schl-40 PVC,

pointed end cap, 1' of 0.02"

slotted screen, riser to surface.

VZMP-el-74:

Backfill boring

from 76' to 74'

bbs using (2) 50#

bags of 6/20 silica sand. Set

well at 74' bbs. Screen from

74' to 78' bbs. 

Location NAS Whiting Field Date 11/5/14Project / Client Site 4 - JM19

Towns, Zerangue, Kraus, Whitmore, Albriton

0730 cont. - Sand Pack: (3) 50# bags of 6/20 silica sand from 74' to 71' b/s. Seal: (5) 50# bags of 3/8" bentonite chips from 71' to 64' b/s. Chips are hydrated as they are installed.

0820 Begin VZMP-01-62 well construction.

Add (2) 50# bags of 6/20 silica sand from 64' to 62' b/s.

Set well at 62' b/s. Sand Pack: (3) 50# bags of 6/20 silica sand from 62' to 59' b/s. Seal: (15) 50# bags of 3/8" bentonite chips from 59' to 37' b/s.

0900 VZMP-01-35: Add (2) 50# bags of 6/20 silica sand from 37' to 35' b/s. Set well at 35' b/s. Sand Pack (3) 50# bags of 6/20 silica sand from 35' to 32' b/s. Seal: (8) 50# bags of 3/8" bentonite chips from 32' to 19' b/s.

(31) →

Location NAS Whiting Field Date 11/5/14Project / Client Site 4 - JM19

Towns, Zerangue, Kraus, Whitmore, Albriton

0930 - VZMP-01-17 - Add (2) 50# bags of 6/20 silica sand from 19' to 17' b/s. Set well at 17' b/s. Sand Pack: (3) 50# bags of 6/20 silica sand from 17' to 14' b/s. Seal: (1) 50# bags of 3/8" bentonite chips from 14' to 10' b/s. Hydrate chips

1010 - Grout: 10' b/s to 1' b/s using a tremie method

1040 - Finish grouting VZMP-01. One batch of grout is (1) 94# bags of type I/II Portland cement, (1/3) 50# bag of bentonite powder, 100 gal of water. Used one batch on VZMP-01.

1045 - Drilling crew broke for lunch
1110 End of lunch break, drillers return
The crew broke down rig and equip.
from VZMP-01 and moved to VZMP-02.
Soil cuttings from around the bore
hole were containerized.

Phillip Zerangue 11-5-14

Location NAS Whiting FieldDate 11-5-14Project / Client Site - 4, JM19Towns, Zerangue, Kraus, Whitmore, Abrinton1800 - set up on VEMPO2. 1st Sample.

collected at VEMPO2 - 17 @ 1300, FID = 758

2nd Sample collected from VEMPO2 - 43

@ 1345 FID = 545, 1300 sample collected

from VEMPO2 - 63, FID = 748. and

4th sample collected from VEMPO2 - 69

@ 1435 FID = 8.7%. Drilling complete.

Drillers pull augers from the boring.

1500 Drillers began well construction on

VEMPO2. J. Towns logged well

completion details on the soil bring

log. Four drums of soil and one of

debris water went out to day job

a total of 9 drums total.

1700 Well was complete - all J.T. &

J.T. & P.T. packed 2 cases of samples

and prepared for shipping.

1800 Shipped samples FedEx to: GCAL

Baton Rouge, LA, Tracking numbers

771717705497 and 771717715204.

End of Work Day

11-5-14K. Zerangue11-5-1411-5-14Location NAS Whiting FieldDate 11-6-14Project / Client Site - 4, JM19Towns, Zerangue, Kraus, Whitmore, Abrinton

0645 Arrived on site. Weather: 65°F

foggy, calm, humid, cool. Scope

of work: Finish grouting at

VEMPO2, move equipment to

VEMPO3 and begin drilling.

Security blocked off the parking

lot yesterday evening, upon

arrival this morning, no

vehicles were parked in the

work area.

0705 Drillers arrived on site. HES

Review Topics: Weather, climbing on

the rig, hand protection. Material

used ~ 380' of 1" pipe. Equipment

listed on pages 4 and 5 of this field

book. Received a TVA1000, from FEI

SN: 7783294, Control #: U824X

Calibrated Equipment: TVA1000, —

FFD, Zero Air = 0 Methane = 100 ppm

PID, Zero Air = 0 ISO = 100 ppm

MiniRAE, Iso butylane = 100 ppm

Health & Safety and Quality audit

scheduled for today. 11-6-14K. Zerangue

Location NAS Whiting Field Date 11-6-14Project / Client Site-4, JM19Towns, Zerangue, Kraus, Whitmore, Albrighton

0720 Cascade began breaking down rig and support truck from VZMP02 and moving to VZMP03. 0805, Cascade set up on VZMP03

0800 Began Drilling on VZMP03

0830 picked up T. Rojas from main gate and brought her on site.

1st Sample collected from VZMP03-9

@ 0920, FID = 20, 2nd Sample collected from VZMP03-37 @ 0940, FID = 211,

3rd Sample collected from VZMP03-57 @ 1000, FID = 559, 4th Sample collected from VZMP03-69 @ 1015, FID = 242

11030 - End of Drilling. Samples placed on ice. Amy Twitty arrived on site.

1035 Drill crew broke for lunch

1120 Drillers back on site

1134 Began VZMP03 well construction

1215 Rain - no lightning

1225 Rain stopped - installation continued, rain on and off until 1400.

1410 Well construction complete

Andy Zerangue 11-6-14

Location NAS Whiting Field Date 11-6-14Project / Client Site-4, JM19Towns, Zerangue, Kraus, Whitmore, Albrighton

1430 Began clean-up and site restoration
 1500 Began packing and staging equipment work/exclusion zone was removed and the parking lot cleaned. Drums were moved to the south east side of the site. 1535 Began well pad construction
 1650 P. Zerangue & T. Rojas off site. 1710 packed sample cooler and headed for FedEx
 1750 Shipped samples to GCAL Baton Rouge, LA. Did not record tracking number. 1750 J. Towns and Drillers completed installing well pads, manholes and completed site-clean up. The drillers will return to the site tomorrow to pick up the equipment. VZMP well installation is 100% complete. End of work day

11-6-14

Andy Zerangue

Pre-Construction Meeting, Site 4 Pilot Study

PREPARED FOR: Arne Olsen, NAVFAC SE
Michael Pattison, NAVFAC SE

COPY TO: Raul Carrero, NAVFAC SE

PREPARED BY: Amy Twitty

DATE: July 16, 2014

PROJECT NUMBER: 391690

AGVIQ-CH2M HILL Constructors, Inc. Joint Venture III (AGVIQ-CH2M HILL) was contracted by U.S. Naval Facilities Engineering Command Southeast (NAVFAC SE) to perform activities for the construction, startup, and operation of the bioventing system at Site 4, (Operational Unit 4) the North Aviation Gasoline (AVGAS) Tank Sludge Disposal Area, Naval Air Station (NAS) Whiting Field, Milton, Florida. Work will be completed under Contract No. N624670-08-D-1006, Task Order (TO) No. JM19.

Bioventing is the process of aerating soils to add oxygen and to stimulate biodegradation of a wide range of hydrocarbons. Bioventing is generally accomplished through the injection of air into the subsurface. Bioventing is best suited for petroleum hydrocarbons with greater than eight carbon atoms (C8+) such as jet fuels, diesels and heating oils. Bioventing has been used successfully at gasoline sites; however, special precautions must be taken to minimize vapor migration.

Site 4 includes the former underground storage tank (UST) facility (designated as UST Site 1467), which contained eight 25,000-gallon steel USTs and one 15,000-gallon steel UST. Aviation gasoline (AVGAS) was piped from the Site 4 UST system to the dispensing or delivery locations (hydrant area). According to historical documents, the nine USTs were installed in 1943. The eight 25,000-gallon steel tanks initially contained AVGAS and the 15,000-gallon tank initially contained gasoline. Sometime between 1968 and 1973, the contents of the 25,000-gallon tanks were switched from AVGAS to diesel or to unleaded gasoline. From 1973 to 1984, six of the 25,000-gallon tanks were filled with water. Three tanks (1467-F, -G, and -H) remained in use for storage of gasoline, diesel, and contaminated jet fuel, respectively. Eight USTs were excavated and removed in 1992, and a Discharge Reporting Form was submitted to FDEP for each of the USTs removed. Two aboveground storage tanks (ASTs) were installed in 1993 for storage of motor gasoline (MOGAS) and diesel fuel. The AST dispensing island is located parallel to and southeast of the MOGAS tanks.

Bioventing Pilot Study

The bioventing pilot study includes injecting ambient air into the subsurface at monitoring well WHF-04-MC-10 and monitoring pressure and soil gas parameters (O₂, CO₂, CH₄, LEL, and TVH) to determine the operational parameters for a full-scale bioventing system at the site. In order to monitor the system an additional 12 monitoring points (VZMPs) will be installed, which will include analytical sampling of the soil in the VZMP intervals. Samples will be analyzed for VOCs, PAHs, TRPH, hydrocarbon speciation, and lead

Because the injection of air into the subsurface will displace the existing soil gas, monitoring of vapor migration will also be conducted during the pilot study. Screening data (FID response) will be used to determine if vapors concentrations are increasing or vapors are migrating to areas beyond the pilot study area. Monitoring of VZMPs, select monitoring/SVE wells, and available utility structures (e.g., manholes and drop inlets) will be conducted for this purpose.

Soil gas analytical samples will also be collected from the VZMPs and monitoring/SVE wells prior to, and following completion of the pilot study. These samples will be analyzed for VOCs using method TO-15.

Figure 3-1 presents the proposed VZMP layout.

The purpose of this Pre-Construction Meeting is to outline the procedures to perform a Bioventing Pilot Study at Site 4. The objective of the Pilot Study is to develop critical design parameters, including the radius of influence (ROI), permeability, and oxygen utilization (respiration) rates, which will be used to design a full scale bioventing system for Site 4.

Scope of Work

The activities associated with the scope of work at Site 4 include the following:

- Install a total of three VZMPs, each consisting of four vertically discrete sample points. The vertical placement of the VZMPs will be based on flame ionization detector (FID) reading collected during installation.
- Collect soil samples at the locations of each VZMP and analyze them for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), total recoverable petroleum hydrocarbons (TRPH), hydrocarbon speciation, and lead. These samples will be used to characterize the soil in sample interval and for future evaluation of the bioventing remedy.
- Screen soil gas in VZMPs, select monitoring wells, select SVE wells, and select surface utility structures for oxygen (O₂), carbon dioxide (CO₂), methane (CH₄), lower explosive limit (LEL), and total volatile hydrocarbons (TVH).
- Collect baseline (before pilot study startup) and post pilot study soil gas samples from the VZMPs and select existing monitoring/soil vapor extraction wells. These samples will be used to evaluate the effectiveness of the pilot study.
- Install bioventing blower and necessary monitoring equipment for pilot study. Operate bioventing system for up to 5 days.
- Monitor soil gas in VZMPs, select monitoring wells, select SVE wells, and select surface utility structures for O₂, CO₂, CH₄, LEL, and TVH during bioventing operation. Pressure will also be monitored in wells (VZMP, monitoring, and SVE).
- Conduct respiration testing following cessation of bioventing.

The results of the pilot study will provide the Navy with information to finalize the remedial design for Site 4.

Schedule

The preliminary field work will commence the week of July 28th with the pilot study starting shortly thereafter. The proposed schedule is provided below.

Task	Duration
Base coordination and permitting	4 weeks
Equipment and subcontractor procurement	4 weeks (concurrent with above)
VZMP Installation	5 days
Blower installation	3 days
Startup	1 day
Bioventing Operation	5 days
Respiration testing	10 days

Utilities

- Multiple underground utilities exist in the Site 4 area including a gas line and water lines.
- The utilities were marked by a third-party locator and Sunshine One Call on June 17, 2014.

Waste Manifests

AGVIQ-CH2M HILL estimates 18 to 20 drums of non-hazardous waste will be generated. Waste manifests and waste profiles will be forwarded to the Navy for approval.

Project Personnel

TABLE 1
Project Personnel Directory – Office

Contact	Company
Arne Olsen, RPM	NAVFAC SE Naval Air Station Jacksonville Building 135 P.O. Box 30 Jacksonville, FL 32212 904/ 542-6274 Arne.Olsen@navy.mil
Michael Pattison, Environmental Engineer	NAVFAC SE Public Works Department - NAS Whiting Field 7183 Langley Street 850/623-7017 office 850/377-0195 cell michael.pattison@navy.mil
Raul Carrero, FEAD/Construction Manager	NAVFAC SE Public Works Department - NAS Whiting Field 7183 Langley Street 850/623-7918 office 850/777-4855 cell raul.carrero@navy.mil
Amy Twitty, Project Manager	AGVIQ-CH2M HILL 1766 Sea Lark Lane Navarre, FL 32566 850/232-0320 Amy.Twitty@ch2m.com

TABLE 2
Project Personnel Directory – Field

Contact	Company
John Towns, Site Superintendent/ Health and Safety Officer	AGVIQ-CH2M HILL 850/686-2921 John.Towns@CH2M.com
Phyllis Zerangue, QC Manager	AGVIQ-CH2M HILL 850/565-0304 phyllis.zerangue@ch2m.com



Source: Esri, DigitalGlobe, GeoEye, i-cubed,

Legend

- Proposed VZMP
- Existing Upper Perched MW
- Existing Sand-and-Gravel Well
- Existing Lower Perched MW
- Existing TW
- Existing MC - SVE Cluster
- Existing Soil Boring
- Abandoned AVGAS Pipeline
- Site 4 Boundary
- IR Sites

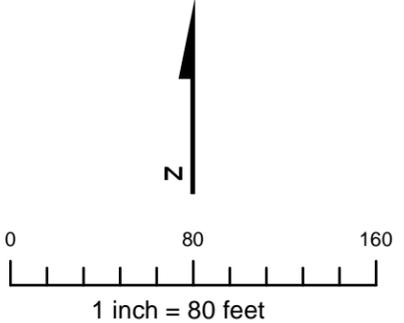


FIGURE 3-1
Proposed VZMP Layout
Site 4, NAS Whiting Field

Appendix C
Contractor Production Reports and
Contractor Quality Control Reports

Contractor Production Reports



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 11/04/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 096
PROJECT NO: 391690	SUPERINTENDENT: John Towns	SITE H&S SPECIALIST: John Towns
AM WEATHER: Calm, cool, clear	PM WEATHER: Clear, Sunny, warm	MAX TEMP: F 71
		MIN TEMP: F 43

SUMMARY OF WORK PERFORMED TODAY

0645 P. Zerangue arrived on site. Weather: 48°F, calm, cool, dry, clear. Scope of Work: Mobilize and set up and begin VZMP installation. 0730 – J. Towns escorted the drilling crew to the site. Equipment was inspected and documented by Cascade Drilling; CH2M HILL observed the inspections and accepted the equipment. Equipment was clean, no leaks noted, backup alarms working and found to be in good operating condition. A daily equipment inspection will be conducted and documented prior to work.

Upon arrival, no painted markings from the utility locate were visible, however, the pin flags were still in place. Using photos of the markings, J. Towns and P. Zerangue located the two borings near Facility #3126A. Other business completed: Contacted the base fire department to get permission to use hydrant #18 – permission granted, picked up the dig permit from John Burns and informed him that we were using hydrant #18 and requested, from Mike Pattison, to contact the base crane inspector, John Hoyt. The orange checkered flag was on top the mast and the welder’s curtain placed between the rig and the fuel containment wall. Monitoring Instruments were calibrated at 0915.

1010 rig was set up on VZMP1 and the boring was hand augured to 4 feet bls –no issues to this depth. Field team waited for John Hoyt to inspect the rig. The objective was to set the screens in the most contaminated locations for maximum results in the Pilot Study Phase of this task and outlined in Sections 3.2.4 through 3.2.5 of the Work Plan.

1115 John Hoyt, base crane inspector arrived on sit to inspect the rig and crane. He wanted to see the P1, 2 and 3 navy required sheets. After picking up the sheets, Mr. Hoyt returned to the site at 1220 and approved the crane for work. He informed the crew, the P sign-off sheet had to stay with the rig until the job was completed. 1300 Drilling began. VZMP installation was done in accordance with the site Work Plan – *Bioventing Pilot Study Site 4 – North AVGAS Tank Sludge Disposal Area, April 2014*, Section3.2.1, and page3-1, Table 3-1, Figures 3-1, 2 and 3. Well construction is based on Figure 1-3 with some field interpretation by the on-site Geologist, John Towns.

Soil gas screening was conducted at 2 foot intervals to boring termination at 75 feet. Four (4) samples from this boring was collected from the most contaminated locations. Sample screening and collection were collected in accordance with the site work plan stated above, *Section 4.0*. Samples were collected from VZMP01-17, -35, -62 and -74 and immediately placed on ice. QC Samples collected: FD01 (-17), FD02 (-62), equipment blank and trip blank. A field soil boring log was kept by the on-site Geologist describing soil and recording FID readings, see logs for details.

1545 End of drilling. Cascade spent the rest of the afternoon staging material near the boring to be ready to begin well construction first thin in the morning. The site was cleaned and drill cuttings drummed. Four (4) drums of waste was generated today including drill cuttings and plastic wrap used to bag the soil cores.

1600 the site was secured and all left the site. J. Towns and P. Zerangue purchased additional ice and packed the samples for shipping. Two (2) coolers of samples were packed in ice, strapped with shipping tape and a custody seal placed on the outside of each. A chain-of-custody was placed in one of the coolers. The samples were shipped FedEx to GCAL, Baton Rouge, LA, Tracking #s 771717739370 and 771717727399. End of work day.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours
			Total On-Site Hours This Date
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report
		Total Work Hours From Start of Construction	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): Prior two work, a Health and Safety Meeting and Preparatory Meeting were held. The Health and Safety Plan was reviewed and signed by all. PTSP and AHAs were also reviewed and signed. Following the H&S briefing, a preparatory meeting was held, see above, and pre-construction photos were taken. PTSP and preparatory checklist are attached to this daily report. Specific H&S Topics include: Hand protection, hearing protection, breathing zone monitoring and moving/rotating mechanical parts.

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT
Work Truck	Ford/F-150 4X4/FL:CHTY64	CH2M HILL	P. Zerangue	1 each
Work Truck	Chevy/Silverado 4X4/AL: 5P1 129 7A	CH2M HILL	J. Towns	1 each
Fleet Truck	Ford/#Z5125, Z4425 and Z5681	Cascade Drilling	Cascade Crew	1 each
Work Truck	Ford/S-511, S-408	Cascade Drilling	Cascade Crew	1 each
Drill Rig	#Z1864	Cascade Drilling	Cascade Crew	1 each
Skid Steer	BobCat/T300/#S545	Cascade Drilling	Cascade Crew	1 each
Air Monitoring Instrument	MiniRAE2000/C-102486	CH2M HILL	J. Towns	1 each
Vapor Analyzer	TVA2020/SN:202014050033	CH2M HILL	J. Towns	1 each
Calibration Gas	See Field Book Page 4	CH2M HILL	J. Towns	3 each
1”X1”X.020 Slot S40 PVC Screen MXF FJ 8TPI	Campbell Monoflex	CH2M HILL	P. Zerangue	12 each
1”8TPI Pipe X 10’: S40 FJ-Riser	NWSC	CH2M HILL	P. Zerangue	54 each
8”X8” 2-Bolt Manhole Watertight Covers		CH2M HILL	P. Zerangue	12 each



**Small Business RAC
N62470-08-D-1006**

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 11/05/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 097
PROJECT NO: 391690	SUPERINTENDENT: John Towns	SITE H&S SPECIALIST: John Towns
AM WEATHER: Calm, cool, dry, clear	PM WEATHER: 7-10mph S, warm, 77°F, cloudy	MAX TEMP: F 77
		MIN TEMP: F 55

SUMMARY OF WORK PERFORMED TODAY

0650 All arrived on site. Weather: 53°F, calm, cool, dry, clear. Scope of Work: VZMP01 well construction and begin drilling at VZMP02. 0735 Cascade began VZMP1 well construction. Four (4) 1" diameter VZMP wells (Sch 40 PVC) were installed in one (1) 8" diameter bore hole and screened at 74', 62', 35' and 17' b/s. Sch 40 PVC pointed end cap with 1' of 0.02" slotted screen with riser to the land surface. Placement and qualities of filter sand, bentonite and grout are detailed in the field book and well completion diagram. Drillers broke down equipment and moved rig to VZMP02.

1200 Drillers set up on VZMP02. The boring was hand augured to 4 feet b/s –no issues to this depth. Soil gas screening was conducted at 2 foot intervals to boring termination of 70 feet. Four (4) samples from this boring was collected from the most contaminated locations. Samples were collected from VZMP02-17, -43, -63 and -69 and immediately placed on ice. QC Samples collected: MS/SD at -17, equipment blank and trip blank. A field soil boring log was kept by the on-site Geologist describing soil and recording FID readings, see logs for details; a breathing zone log was also maintained. 1445 End of drilling. 1500 Cascade began well construction on VZMP02 as described above. At the end of the day, the site was cleaned and drill cuttings drummed. Four (4) drums of drill cuttings and plastic and one (1) drum of decon water were generated from today's drilling activities. Drums were labeled and staged in the boring hole area and will be moved to the southeast side of the site until off-site disposal. **Production:** Approximately 380 feet of 1" pipe has been installed to date. It is anticipated the scope of work will be completed tomorrow and the field crew will demobilize

1700 the site was secured and all left the site. J. Towns and P. Zerangue purchased additional ice and packed the samples for shipping. Two (2) coolers of samples were packed in ice, strapped with shipping tape and a custody seal placed on the outside of each. A chain-of-custody was placed in one of the coolers. The samples were shipped FedEx to GCAL, Baton Rouge, LA, Tracking #s 771717705497 and 771717715204. End of work day.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	20
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	30
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Total On-Site Hours This Date	50
			Cumulative Total of Work Hours From Previous Report	849	
			Total Work Hours From Start of Construction	899	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): Prior two work, a Health and Safety Meeting and Preparatory Meeting were held. Topics: Driving on base, PPE (head, hearing, hands), breathing zone monitoring, walking and working on a slope, manual lifting and walking up and down steps to work on the rig. 0730 the drilling rig and support equipment were inspected and documented.

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT
24 bags of Portland	None	Cascade	CH2M HILL	24 bags
1 pallet of filter sand 6/20	None	Cascade	CH2M HILL	1 pallet

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
Work Truck	Ford/F-150 4X4/FL:CHTY64	CH2M HILL	9	1	0
Work Truck	Chevy/Silverado 4X4/AL: 5P1 129 7A	CH2M HILL	9	1	0
Fleet Truck	Ford/#Z5125, Z4425 and Z5681	Cascade Drilling	0	9	0
Work Truck	Ford/S-511, S-408	Cascade Drilling	1	8	0
Drill Rig	#Z1864	Cascade Drilling	9	1	0
Skid Steer	BobCat/T300/#S545	Cascade Drilling	4	6	0
Vapor Analyzer	TVA1000/SN:7783294	CH2M HILL	9	1	0
Air Monitor	MiniRae	CH2M HILL	9	1	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

John Towns

11/05/14

SUPERINTENDENT'S SIGNATURE

DATE



**Small Business RAC
N62470-08-D-1006**

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 11/06/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 098
PROJECT NO: 391690	SUPERINTENDENT: John Towns	SITE H&S SPECIALIST: John Towns
AM WEATHER: Calm, cool, dry, clear	PM WEATHER: 15-20 mph north wind, cool, raining, 71°F	MAX TEMP: F 71 MIN TEMP: F 65

SUMMARY OF WORK PERFORMED TODAY

0645 All arrived on site. Weather: 65°F, calm, cool, foggy, humid. Scope of Work: Drill and construct well VZMP 03, install well pads, clean-up site, stage drums on the east side of the site and demobilize personnel and equipment.

0720 Drillers broke down rig from VZMP02, set up on VZMP 03 and began drilling at 0800. Drilling began on VZMP03 at 0800. As with the other two borings, soil gas screening was conducted at 2 foot intervals to boring termination of 70 feet. Four (4) samples from this boring was collected from the most contaminated locations. Sample screening and collection were collected in accordance with the site work plan stated above, *Section 4.0*. Samples were collected from VZMP02-09, -37, -57 and -69 and immediately placed on ice. A field soil boring log was kept by the on-site Geologist describing soil and recording FID readings, see logs for details; a breathing zone log was also maintained.

1134 Cascade began VZMP3 well construction. Four (4) 1" diameter VZMP wells (Sch 40 PVC) were installed in one (1) 8" diameter bore hole and screened at 09', 37', 57' and 60' bbls. Sch 40 PVC pointed end cap with 1" of 0.02" slotted screen with riser to the land surface. Placement and qualities of filter sand, bentonite and grout are detailed in the field book and well completion diagram. Drillers broke down equipment and began well pad construction, site clean-up and restoration and demobilization. Seven (7) drums of drill cuttings and plastic were generated from today's drilling activities. Drums were labeled and staged on the east side of the site until off-site disposal.

1650 Theresa Rojas and Phyllis Zerangue left the site. P. Zerangue purchased additional ice and packed the samples for shipping. One (1) cooler of samples was packed in ice, strapped with shipping tape and a custody seal placed on the outside. A chain-of-custody was placed in the coolers. The samples were shipped FedEx to GCAL, Baton Rouge, LA, Tracking #s were not recorded. J. Towns and the work crew remained on site and completed well pad construction including manholes, clean the site and demobilize.

C&D was bagged and placed in an on-site general trash dumpster. Drill cuttings were removed from the parking lot and placed in a 55 gallon drum. The grassy surfaces that were disturbed by the equipment was manually graded smooth to remove track ruts. Waste drums were moved to the east side of the site and placed so each drum label could be seen. The site was brought to near preconstruction conditions. Trucks, supplies and material were decontaminated and packed and made ready to leave. 1750, all demobilized.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	29
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIO On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	30
		Total On-Site Hours This Date		59
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	899
		Total Work Hours From Start of Construction	958	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): Prior two work, a Health and Safety Meeting and Preparatory Meeting were held. Topics: weather, climbing onto and off of the rig, hand protection. 0730 the drilling rig and support equipment were inspected and inspection documented.

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
Work Truck	Ford/F-150 4X4/FL:CHTY64	CH2M HILL	9	1	0
Work Truck	Chevy/Silverado 4X4/AL: 5P1 129 7A	CH2M HILL	9	1	0
Fleet Truck	Ford/#Z5125, Z4425 and Z5681	Cascade Drilling	0	9	0
Work Truck	Ford/S-511, S-408	Cascade Drilling	1	8	0
Drill Rig	#Z1864	Cascade Drilling	9	1	0
Skid Steer	BobCat/T300/#S545	Cascade Drilling	4	6	0
Vapor Analyzer	TVA1000/SN:7783294	CH2M HILL	9	1	0
Air Monitor	MiniRae	CH2M HILL	9	1	0



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 11/13/14

REVISION NO: 01

REVISION DATE: **01/05/2014**

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 098
PROJECT NO: 391690	SUPERINTENDENT: John Towns	SITE H&S SPECIALIST: John Towns
AM WEATHER: Calm, cool, dry, clear	PM WEATHER: 15-20 mph north wind, cool, raining, 71°F	MAX TEMP: F 71 MIN TEMP: F 65

SUMMARY OF WORK PERFORMED TODAY

1300 J. Towns and P. Zerangue left Pensacola, FL and arrived on site at 1400 to collect waste characterization samples from drill cuttings and decon water generated from last week's VZMP well installation. Two soil samples were collected: one (1) composite sample from drum #s 1 through 8 and 10 and one (1) composite sample from drums 11 through 22-16. One (1) water sample was collected from drum #9. The samples were immediately transferred into a cooler of ice. See the attached COC for analytical details.

1500 CH2M HILL off site – J. Towns and P. Zerangue purchased additional ice and packed the cooler for shipment. The cooler was secured with strapping tape and a custody seal placed on the outside of the cooler. The chain-of-custody was placed inside the cooler and shipped with the samples. 1530, One (1) cooler was shipped FedEx to GCAL, Baton Rouge for priority overnight delivery. Tracking #8054 7441 0844

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	2
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date	2
		Cumulative Total of Work Hours From Previous Report	958	
		Total Work Hours From Start of Construction	960	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): Prior two work, a Health and Safety Meeting and Preparatory Meeting were held. Topics: weather, breathing zone and trips and falls

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
Work Truck	Chevy/Silverado 4X4/AL: 5P1 129 7A	CH2M HILL	2	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

John Towns

11/13/14

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/08/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 100
PROJECT NO: 391690	SUPERINTENDENT: Jim Edens	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Breezy, from the north cold, dry, cloudy	PM WEATHER: 10-15 mph north wind, cold, humid, cloudy	MAX TEMP: F 68 MIN TEMP: F 50

SUMMARY OF WORK PERFORMED TODAY

0600 Jim Edens arrived on site. 0630 Phyllis Zerangue arrived on site. 0700 Chris Hayslip arrived at the visitor's center to wait for the system vendor, Tom Twitmyer with EWE. All arrived on site at 0810. Immediately following the H&S meeting, a preparatory meeting was held. From the Work Plan, April 2013, a full review of Section 3.0 Project Execution Plan was conducted. With system start-up tomorrow, the team should be able to evaluate the level of effort needed to complete the study.

1000 P. Zerangue and C. Hayslip began baseline soil gas sampling on MC-02. Baseline soil gas samples were collected in 1 Liter Tedlar bags and shipped FedEx to an offsite laboratory for chemical analysis. Soil gas field samples were also collected in 1 Liter Tedlar bags and screened for O₂, CO₂, LEL, and TVH. Soil gas sampling was conducted using a TVA 1000 for TVH measurements and a GEM 2000 for O₂, CO₂ and LEL measurements. Soil gas monitoring points included a total of 26 locations; 12 proposed (new) VZMPs (3 clusters with 4 VZMPs each), 9 monitoring wells, and 5 existing SVE wells as presented in Tables 3-1 and 3-2 in Section 3.2.1 of the site work plan. Soil gas sample bags collected for field screening were held by P. Zerangue overnight. Results will be recorded tomorrow morning on field data sheets provided in the work plan. The last soil gas sample was collected at 1617. Well MW-37P was on the list to be sampled; however, the air sampler could not pull the sample and recorded a flow fault error. Pressure measured \leq -16-inches of H₂O and the pump shut off. Final Note: Well MW-49P was previously damaged. A potential change in top of casing elevation could exist.

Sample ports for the VZMP wells were constructed and attached to the 1-inch wells. J. Edens and T. Twitmyer inspected the system and piped in the unit. 1600 the system was in place and ready to start in the morning. No issues were encountered with the system set up. The trailer was staged north of the source well, MC-10 in the asphalt parking lot and a 2-inch hose connected to MC-10. It is anticipated system start-up will begin around 0730 in the morning. 1600 T. Twitmyer off site.

Twenty-six (26) air samples were placed in one cooler and a chain-of-custody placed inside the cooler. The cooler was strapped and custody seals placed on the outside. Samples were shipped to ALSSIMI Valley, Simi Valley, CA – FedEx tracking #7721 4268 0880. 1700 – All off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	33
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	11
		Total On-Site Hours This Date	44
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	960
	Total Work Hours From Start of Construction	1004	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): The Health and Safety Plan, AHAs and the PTSP were reviewed and signed. Health and Safety topics: Route to the hospital, electrical safety, and trip hazards

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT
System Trailer and accessories	None	EWE	J. Edens and T. Twitmyer	1

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	10	0	0
1 Work Truck	Chevy 3500 HD 4X4	EWE	10	0	0
1 System Trailer	None	EWE	10	0	0
Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	10	0	0
Environmental Instruments Land Gas Analyzer	GEM5000	CH2M HILL	10	0	0
Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	10	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	2	8	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/09/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 101
PROJECT NO: 391690	SUPERINTENDENT: Jim Edens	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: 10-15 mph north wind, cold, humid, clear	PM WEATHER: 15-20 mph north wind, cold, humid, clear, humid	MAX TEMP: F 57 MIN TEMP: F 39

SUMMARY OF WORK PERFORMED TODAY

0630 All arrive on site. Weather: 40F, 15-20 mph north wind, clear, dry, cold, humid. Scope of work: Start up the treatment system and begin field screening (pressure and soil gas). 0640 a health and safety briefing was held – topics: generator safety, using hand tools, using screening instruments, breathing zone monitoring at the inlets and the crew toured the system trailer to get familiar with the emergency power kill switch and other components of the unit. A spill kit and fire extinguisher were on hand; and, as a precaution, a containment was placed underneath the system during operation and continuous running when no one is on site. Also noted, the treatment system was grounded and all cam locks were clamped down and tied with heavy gauge plastic zip ties. A contact phone number was placed on the outside of the system in case a person wanted to report and issue while no one was on site. EWE provided environmental screening equipment (TVA1000, GEM2000 and air pump). There are two sets of instruments on site, one set used as back-up. Instruments were calibrated prior to field screening – see page 20 of the field book for results.

0745 prior to system start-up, background LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below 5%LEL and 5ppm TVH. Note: Because there was a strong north wind (15-20mph) both days, breathing zone was not an issue.

0800 The system was started. Pressure readings were collected every 15 minutes for the first hour and then every 30 minutes for the second hour. It was anticipated the pressure would stabilize after two hours; however, it did not. Even with pressure still variable, at 1115, soil gas screening begun and a full round taken every hour. Approximately 10 rounds of pressure readings were taken and four (4) full rounds of soil gas readings were recorded, the last soil gas reading taken at 1620. At the end of the day, pressure in the VZMPs wells seemed to stabilize. Pressure will be measured first thing in the morning to determine if stabilization has been reached and if more pressure data collection is needed. All data collected was documented on field data sheets and will be part of the site record and used to evaluate a path forward for field testing. Soil gas collection was consistent with collection methods described in CQCR #100. At the end of the day, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, run hours recorded, the system trailer locked and well vaults covered. The system was left on and is anticipated to run continuously for five (5) days.

1645 – All off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	33
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	11
			Total On-Site Hours This Date	
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	1004
		Total Work Hours From Start of Construction	1048	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): 0640 a health and safety briefing was held – topics: generator safety, using hand tools, using screening instruments, breathing zone monitoring at the inlets and the crew toured the system trailer to get familiar with the emergency power kill switch and other components of the unit.

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	10	0	0
1 Work Truck	Chevy 3500 HD 4X4	EWE	10	0	0
1 System Trailer	None	EWE	10	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	10	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	10	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	10	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	2	8	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None



**Small Business RAC
N62470-08-D-1006**

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/10/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 102
PROJECT NO: 391690	SUPERINTENDENT: Jim Edens	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: 10-15 mph north wind, cold, humid, clear, humid	PM WEATHER: 15-20 mph north wind, cold, humid, clear, humid	MAX TEMP: F 57 MIN TEMP: F 33

SUMMARY OF WORK PERFORMED TODAY

0630 All arrive on site. Weather: 33F, 15-20 mph north wind, clear, cold, humid. Scope of work: Continue field screening (pressure and soil gas). Instruments were calibrated prior to field screening – see page 23 of the field book for results.

0715 background LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below action levels. **Note:** Again, because there was a strong north wind (15-20mph, the breathing zone was not an issue. After a review of the pressure data, J. Edens removed the round of pressure readings at the sample points. Soil gas screen continued at 2 hour intervals – each round taking a little over one hour. Three (3) full soil gas rounds were completed. For the final round, modifications to the screening procedures were made: (1) a “T” was inserted in the air pump influent to take pressure readings and (2) a “T” was inserted in the pump effluent to collect land gas readings (TVA1000 and GEM2000). These readings were compared to the previous readings to affirm confidence in the background readings and subsequent readings. These readings were in close agreement giving confidence in the data previously collected. The “T” collection process will be used to collect future field screening samples and laboratory samples. All data collected was documented on field data sheets and reviewed in real time by J. Edens who collaborated with other subject matter professionals associated with this project to determine a path forward. Considerations include: system run time (in days) and number of soil gas screening rounds to be performed while the system running and respiration start date and procedures.

At the end of the day, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, the system trailer locked and well vaults covered.

1600 – All off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	30
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	10
		Total On-Site Hours This Date	40
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	1048
	Total Work Hours From Start of Construction	1088	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): 0640 a health and safety briefing was held – topics: cold weather protection, traffic safety and hand protection.

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	10	0	0
1 Work Truck	Chevy 3500 HD 4X4	EWE	10	0	0
1 System Trailer	None	EWE	10	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	10	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	10	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	10	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	2	8	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Jim Edens

12/10/14

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/11/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 103
PROJECT NO: 391690	SUPERINTENDENT: Jim Edens	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: 3-5 mph north wind, cold, humid, clear, humid	PM WEATHER: 3-5 mph north wind, cold, humid, clear, humid	MAX TEMP: F 57 MIN TEMP: F 35

SUMMARY OF WORK PERFORMED TODAY

0630 All arrive on site. Weather: 35F, 3-5 mph north wind, clear, cold, humid. Scope of work: Continue field screening (pressure and soil gas). Instruments were calibrated prior to field screening – see page 25 of the field book for results.

0700 LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below action levels. Note: Again, the strong north wind (3-5mph), kept the breathing zone from being an issue. Soil gas screening continued at 2 hour intervals – each round taking approximately one and a half hours. Oxygen levels in the wells closest to the injection well, exhibited elevated oxygen levels. The objective for today and through the weekend is to observe increased oxygen levels in the perimeter wells. Three (3) full soil gas rounds were completed. The goal for today was to collect four (4) rounds; however, the GEM battery de-energized shortly into the fourth round. 1515 equipment was placed on chargers, well vaults replaced and the system locked.

0900 Southern Energy arrived on site to refuel the generator - approximately 45 gallons. Southern Energy is scheduled to be on site tomorrow around 1500 to top off the tank so the generator can run continuously through the week end. After the generator was fueled, Tom Twitmyer reviewed shutdown procedures and other detail operational procedures with Chris Hayslip since he will be the primary contact and operator in Tom's absence. 1030 Tom Twitmyer off site.

At the end of the day, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, the system trailer locked and well vaults covered. 1430 Chris Hayslip off site; 1530 – All off site.

JOB SAFETY	Was a Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	26
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	4
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date	30
			Cumulative Total of Work Hours From Previous Report	1088
			Total Work Hours From Start of Construction	1118

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): 0645 a health and safety briefing was held – topics: cold weather protection, traffic safety, hand protection, repetitive motion, generator refueling and shut-down procedures

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	8	0	0
1 Work Truck	Chevy 3500 HD 4X4	EWE	8	0	0
1 System Trailer	None	EWE	8	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	8	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	8	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	8	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	2	6	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Jim Edens

12/11/14

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/12/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 104
PROJECT NO: 391690	SUPERINTENDENT: Jim Edens	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, Clear, dry, breezy	PM WEATHER: Cool, clear, dry, north wind	MAX TEMP: F 57
		MIN TEMP: F 43

SUMMARY OF WORK PERFORMED TODAY

0730 J. Edens and C. Hayslip arrive on site. Weather: 40F, clear, cold, humid. Scope of work: Continue field screening (pressure and soil gas), one in the morning and one in the afternoon. Instruments were calibrated prior to field screening – see page 27 of the field book for results. The plan going forward for Monday will be to take a final full round of soil gas screening, tune off the system and begin the respiration test. J. Edens will provide a list of wells included in the respiration test.

0845 LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below action levels. Moring rounds began. 1030 end of morning rounds – Jim Edens demobilized; Chris Hayslip off site; Hayslip will return for the PM readings

1430 Southern Energy arrived on site to top-off the generator - approximately 25 gallons. P. Zerangue and C. Hayslip on site to perform the PM soil gas screening round. 1650, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, the system trailer locked and well vaults covered.

1700 Chris Hayslip and Phyllis Zerangue off site

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	11
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
			Total On-Site Hours This Date	
				11
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	
				1118
			Total Work Hours From Start of Construction	
				1129

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: cold weather protection, traffic safety, hand protection, repetitive motion, generator refueling

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	2	0	0
1 Work Truck	Chevy 3500 HD 4X4	EWE	5	0	0
1 System Trailer	None	EWE	5	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	5	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	5	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	5	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	2	6	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Jim Edens

12/12/14

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/13/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 105
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, clear, dry, breezy	PM WEATHER: Cool, clear, dry, sunny	MAX TEMP: F 65
		MIN TEMP: F 50

SUMMARY OF WORK PERFORMED TODAY

0900 Chris Hayslip did a site visit to check the system. No issues noted, the system was running. 0915-off site.

1345 C. Hayslip and P. Zerangue arrive on site. Weather: 65F, clear, cool, dry sunny. Scope of work: Perform one round of field screening (pressure and soil gas). Instruments were calibrated prior to field screening – see page 29 of the field book for results. The plan going forward for Monday will be to take a final full round of soil gas screening, tune off the system and begin the respiration test. J. Edens will provide a list of wells included in the respiration test. 1400 began soil screening including stormwater inlet and water line vault monitoring for LEL and TVH. No issues noted. 1515 field monitoring complete. Screening equipment was put on charge, the system trailer locked and well vaults covered.

1530 Chris Hayslip and Phyllis Zerangue off site

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	2.5
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIO On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
			Total On-Site Hours This Date	
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	
Total Work Hours From Start of Construction			1131.5	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: hand protection, repetitive motion

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	2	0	0
1 System Trailer	None	CH2M HILL	0	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Phyllis Zerangue

12/13/14

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/14/14

REVISION NO: 0

REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 106
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, clear, dry, breezy	PM WEATHER: Cool, clear, dry, sunny	MAX TEMP: F 65
		MIN TEMP: F 50

SUMMARY OF WORK PERFORMED TODAY

1900 Chris Hayslip did a site visit to check the system. No issues noted, the system was running. 1915-off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIO On-Site Hours
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date
	Cumulative Total of Work Hours From Previous Report	1131.5
	Total Work Hours From Start of Construction	1132

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: hand protection, repetitive motion

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	0	0	0
1 System Trailer	None	CH2M HILL	0	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	0	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	0	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	0	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	0	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Phyllis Zerangue

12/14/14

SUPERINTENDENT'S SIGNATURE

DATE



**Small Business RAC
N62470-08-D-1006**

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/15/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 107
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, clear, humid, breezy	PM WEATHER: Cool, clear, dry, sunny	MAX TEMP: F 60 MIN TEMP: F 43

SUMMARY OF WORK PERFORMED TODAY

0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 43°F, calm, clear, humid, cool. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: Collect final full round of soil gas samples, turn off system and begin respiration test. Instruments were calibrated prior to work beginning and is documented on page 30 of the field book.

The blower operated over the weekend without incident or interruption – the system was running upon arrival. Jim Edens reviewed the data collected over the past week and developed a sampling cycle going forward. O2 levels are the basis for testing and three criteria were discussed for sampling: (1) wells that had initial low O2 levels that increased during the study, (2) by Monday morning and during the respiration test, wells showing an increased O2 level of at least 10% and (3) Wells removed from the study due to initial high O2 levels with no significant change. A total of sixteen (16) wells were included in the respiration test, both the main sample list and the conditional well list. Below is the list of wells sampled using the above criteria:

Sample list (10 locations)

MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, and VZMP2-69

Conditional well list (6 locations). To be sampled during respiration testing if the O2 levels increase to at least 10% by Monday morning.

MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57

No-sample list (12 locations)

MC-01, MC-02, SVE-02, MW-37P, MW-45P, MW-49P, VZMP1-16, VZMP2-16, VZMP2-42, VZMP3-8, VZMP3-36 and VZMP3-69

The wells were sampled on Monday right before system shutdown. The sampling frequency during the respiration test was once every 2 hours. Wells having less than 1% drop in 8 hours will be placed on daily sampling schedule. C. Hayslip and P. Zerangue had a conference call with J. Edens to discuss end of the day results and the study going forward.

0930 the final full round of soil screening was completed. 1009, The system was turned off and the injection point removed from MC-10. System sparge compressor hours were recorded at 3949.1. 1100 the respiration test began. Four rounds were collected from the select wells noted above. 1707 – End of testing today. The data was sent to Jim Edens via email. Instruments were taken off site for charging. Wells and system trailer were secured and all off site at 1730.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	20
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIO On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
			Total On-Site Hours This Date	
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	
Total Work Hours From Start of Construction			1152	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: hand protection, system shut-down, repetitive motion

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	8	0	0
1 System Trailer	None	CH2M HILL	0	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	8	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	8	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	8	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Phyllis Zerangue

SUPERINTENDENT'S SIGNATURE

12/15/14

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/16/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 108
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, morning rain, humid, breezy	PM WEATHER: Cool, clear, dry, sunny, 5-7 mph NW wind	MAX TEMP: F 70 MIN TEMP: F 60

SUMMARY OF WORK PERFORMED TODAY

0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 61°F, 5-7 mph NW wind, cool, humid, early morning rain. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 32 of the field book.

Jim Edens reviewed the data collected from yesterday revised the sampling cycle going forward. For the early morning sampling, a full round will include all 16 wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). After the morning sampling, samples will be collected from wells VZMP-34 and MW-26P-R, four (4) and eight (8) hours later. These results will be reviewed again by J. Edens and a sampling frequency recommended once again.

The wells were sampled as described above. One (1) full round was completed at 0836. Samples from wells VZMP-34 and MW-26P-R were collected at 1200 and 1600. 1605 end of field work. Instruments were taken off site for charging. Wells and system trailer were secured. The field team discussed morning screening with Jim Edens; it is anticipated that sampling will occur once daily in the early morning until the PE determines the test is over. 1630 all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	18
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date	
			18	
			Cumulative Total of Work Hours From Previous Report	1152
			Total Work Hours From Start of Construction	1170

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: hand protection, walking on wet surfaces, repetitive motion

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	8	0	0
1 System Trailer	None	CH2M HILL	0	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

12/16/14

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/17/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 109
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, morning fog, humid, breezy	PM WEATHER: Cool, clear, dry, sunny, 5-mph N wind	MAX TEMP: F 60 MIN TEMP: F 40

SUMMARY OF WORK PERFORMED TODAY

0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 40°F, 5-7 mph NW wind, cool, humid, early morning fog. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 33 of the field book.

Jim Edens reviewed the data collected from yesterday and recommended one-a-day, early morning reading through Friday, December 19th reducing the frequency to once every 2 to 3 days until the PE determines the test is completed. The early morning sampling included a full round of all 16 wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0800 and ended at 0836. The data tracking spreadsheet was completed and transmitted via email to J. Edens.

Instruments were taken off site for charging. Wells and system trailer were secured. 0905 all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)		
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	3	
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0	
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0	
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date		3
		Cumulative Total of Work Hours From Previous Report	1170	
		Total Work Hours From Start of Construction	1173	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: hand protection, repetitive motion, trips and falls

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	1	0	0
1 System Trailer	None	CH2M HILL	0	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

12/17/14

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/17/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 109
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Cool, morning fog, humid, breezy	PM WEATHER: Cool, clear, dry, sunny, 5-mph N wind	MAX TEMP: F 60 MIN TEMP: F 40

SUMMARY OF WORK PERFORMED TODAY

0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 41°F, calm, cool, humid, early morning fog. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 34 of the field book.

Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0745 and ended at 0831. The data tracking spread sheet was completed and transmitted via email to J. Edens at 0850. CH2M HILL coordinated with EWE to be on site tomorrow morning to demobilize the system trailer and monitoring instruments.

Instruments were taken off site for charging. Wells and system trailer were secured. 0930 all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	4
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
			Total On-Site Hours This Date	
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report	1173
		Total Work Hours From Start of Construction	1177	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: hand protection, repetitive motion, trips and falls

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	1	0	0
1 System Trailer	None	CH2M HILL	0	0	0
2-ea Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
2-ea Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
2-ea Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

12/18/14

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/19/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 111
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Overcast, rain, humid, warm	PM WEATHER: Humid, thunderstorms, windy	MAX TEMP: F 70 MIN TEMP: F 52

SUMMARY OF WORK PERFORMED TODAY

0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 52°F, humid, overcast. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 35 of the field book.

Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0743 and ended at 0821. Began hard rain around 0800. The data tracking spread sheet was completed and transmitted via email to J. Edens at 0850. Based on sampling results, sampling has been reduced to every 3 or 4 days.

0730 EWE on site to demobilize. Tom Twitmyer packed the system trailer and environmental monitoring equipment. CH2M HILL will provide the environmental monitoring equipment for next week. Ten (10) sampling well caps were left on wells until the respiration test is completed. CH2M HILL will ship to EWE once complete. 0830 Tom Twitmyer off site

Wells and system trailer were secured. 0900 all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	3
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	1
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date	
			4	
			Cumulative Total of Work Hours From Previous Report	1177
			Total Work Hours From Start of Construction	1181

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: wet surfaces, thunderstorms in the area, demobilization

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Ford F-150 4X4	CH2M HILL	1	0	0
1 System Trailer – 12/19/14 off site	None	CH2M HILL	0	0	0
Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

12/19/14

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/23/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 112
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Humid, thunderstorms	PM WEATHER: Humid, thunderstorms, windy	MAX TEMP: F 70
		MIN TEMP: F 65

SUMMARY OF WORK PERFORMED TODAY

0800 John Towns and Phyllis Zerangue arrived on site. Weather, 65°F, humid, thunderstorms in the area. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 36 of the field book and a list of equipment and cal gas on page 16

Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0848 and ended at 0930. Began raining around 0900. The data tracking spread sheet was completed and transmitted via email to J. Edens at the end of the day.

Instruments were taken off sit for charging. Wells and system trailer were secured. 1000 all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		CH2MHILL On-Site Hours
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		AGVIQ On-Site Hours
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Subcontractor On-Site Hours
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Total On-Site Hours This Date
		Cumulative Total of Work Hours From Previous Report	1181
		Total Work Hours From Start of Construction	1185

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: wet surfaces, thunderstorms in the area

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
1 Work Truck	Chevy 4X4 HD	CH2M HILL	1	0	0
1 System Trailer – 12/19/14 off site	None	CH2M HILL	0	0	0
Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

12/23/14

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 12/30/14
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 113
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip
AM WEATHER: Humid, cloudy, 5-7 North wind, cool	PM WEATHER: Humid, windy, cloudy	MAX TEMP: F 65
		MIN TEMP: F 55

SUMMARY OF WORK PERFORMED TODAY

0800 John Towns and Phyllis Zerangue arrived on site. Weather, 55°F, humid, cloudy, 5-7 North wind. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 37 of the field book and a list of equipment and cal gas on page 16

Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0845 and ended at 0927. The data tracking spread sheet was completed and transmitted via email to J. Edens at the end of the day.

Instruments were taken off sit for charging. Wells and system trailer were secured. 1000 all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	4
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Total On-Site Hours This Date	
				4	
			Cumulative Total of Work Hours From Previous Report	1185	
			Total Work Hours From Start of Construction	1189	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: wet surfaces, thunderstorms in the area

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
1 Work Truck	Chevy 4X4 HD	CH2M HILL	1	0	0
Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	1	0	0
Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	1	0	0
Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	1	0	0
Calibration Gas	See Page 16 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Phyllis Zerangue

12/30/14

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 01/20/15
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 114
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns
AM WEATHER: Humid, partly cloudy, calm, cool	PM WEATHER: Humid, partly cloudy, calm, warm	MAX TEMP: F 70 MIN TEMP: F 54

SUMMARY OF WORK PERFORMED TODAY

0830 John Towns and Phyllis Zerangue arrived on site. Weather, 54°F, humid, partly cloudy, calm/slight breeze. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: Perform last round of soil gas sampling for respiration test, collect laboratory air samples and oversee waste pickup. Instruments were calibrated prior to work beginning and is documented on page 39 of the site field book and a list of equipment and cal gas on page 38 and 39.

1010 Set up on MC-04 to begin air sampling. Upon equipment set up, the team realized the air sampler from Argus-Hazco was missing the adaptor for the discharge port (sample port). J. Towns called Argus-Hazco to request the part be shipped overnight to the Navarre office; and, if it was possible to purchase a fitting from a local hardware store that would work. The supplier told Towns that their fitting was required to collect the sample and nothing else would work. No samples were collected today. It is anticipated that sampling will be completed this week, or at the latest, next week. Respiration samples will include a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57) and the laboratory samplings will include all twenty-seven (27) site wells sampled during the original sampling on 12/08/14.

1145 Environmental Remediation Services, Inc. (ERS) arrived at the pass and ID center to get one day base passes. 1235 ERS arrived on site. Fifteen (15) soil drums and one (1) waste water drum were loaded and transported off site. The soil drums were transported to Chesser Island Road Landfill, Inc., Folkston, GA – manifest #14688. The liquid drum was transported to Liquid Environmental Solutions, Jacksonville, FL – manifest #14687. Both fully executed manifests, pending disposal at the facilities, will be mailed to NAS Whiting Field Environmental Department. 1330 – all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)		
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	10	
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0	
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0	
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date		10
			Cumulative Total of Work Hours From Previous Report		1189
		Total Work Hours From Start of Construction		1199	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: traffic safety, hand protection and slips and falls

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Chevy 4X4 HD	CH2M HILL	5 each	0	0
Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	0	0	0
Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	0	0	0
Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	0	0	0
Calibration Gas	See Page 39 of the field book	CH2M HILL	1	0	0
Transport Box Truck		ERS	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

01/20/15

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 01/22/15
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 115
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns
AM WEATHER: Humid, partly cloudy, 5-7 mph east wind, cool	PM WEATHER: Humid, partly cloudy, 5-7 mph east wind, warm	MAX TEMP: F 65 MIN TEMP: F 52

SUMMARY OF WORK PERFORMED TODAY

0800 John Towns and Phyllis Zerangue arrived on site. Weather, 52°F, humid, partly cloudy, 5-7 east wind. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: Perform last round of soil gas sampling for respiration test and collect post respiration laboratory air samples. Instruments were calibrated prior to work beginning and is documented on page 42 of the site field book and a list of equipment and cal gas on page 38 and 39.

0830 Set up on MW-26P-R (4" well) to begin the one hour purge time to remove one well volume. Once purging began, the team calibrated the instruments and conducted the H&S meeting. Sample from MW-26P-R was collected at 0930. The rest of the wells were sampled for both respiration samples and laboratory samples as the work progressed. Final respiration sampling included sample collection from 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Laboratory samples were collected from the twenty-seven (27) wells listed in Tables 3-1 and 3-2 in Section 3.2.1 of the April 2014 Site Work Plan. One-inch wells were purged for a minimum of 5 minutes each and the 2-inch wells were purged for a minimum of 15 minutes each (one well volume). The last sample was collected at 1530. The team removed the sampling well caps provided by EWE and replaced them with the original locking well caps present on site during mobilization. Post-respiration lab soil gas samples were collected in Tedlar bags and shipped FedEx to an offsite laboratory for chemical analysis. Soil gas field samples were read directly from the instruments during sample collection and screened for O₂, CO₂, CH₄, and TVH. Readings were documented on a log and emailed to the Project Engineer for review.

Twenty-seven (27) air samples were placed in two coolers and a chain-of-custody placed inside one of the coolers. The coolers were strapped and custody seals placed on the outside. Samples were shipped to ALSSIMI Valley, Simi Valley, CA – FedEx tracking #: 8066 8218 6380 and 8066 8218 6370. 1545 – All off site.

This FOW is 100% complete

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours 16
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours 0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours Total On-Site Hours This Date 0 16
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cumulative Total of Work Hours From Previous Report 1199 Total Work Hours From Start of Construction 1215

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: traffic safety, hand protection and slips and falls

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Chevy 4X4 HD	CH2M HILL	8 each	0	0
Environmental Instruments Toxic Vapor Analyzer	TVA1000	CH2M HILL	8	0	0
Environmental Instruments Land Gas Analyzer	GEM5000/2000	CH2M HILL	8	0	0
Environmental Instruments Air Sampler	AirCHEK	CH2M HILL	8	0	0
Calibration Gas	See Page 39 of the field book	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

Phyllis Zerangue

01/22/15

SUPERINTENDENT'S SIGNATURE

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 01/29/15
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 116
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns
AM WEATHER: Cool, Dry, Sunny, 5-7 Southeast Wind	PM WEATHER: Cool, Dry, Sunny, 5-7 Southeast Wind	MAX TEMP: F 70 MIN TEMP: F 68

SUMMARY OF WORK PERFORMED TODAY

1240 John Towns and Phyllis Zerangue arrived on site. Weather, 68°F, sunny, dry, 5-7 southeast wind. Scope of work: Install sample port well caps on approximately 8 wells slated for air resampling.

On January 22, 2014, the final round of post-respiration air samples were collected. When the samples arrived at the lab, seven (7) of the twenty-seven (27) air bags were flat and one was underinflated. The Project Engineer requested a resampling of the eight wells and wanted the special constructed sample port (locking/sealing) well caps placed on the wells a few days prior to resampling. Four of the eight wells were VZMP wells which did not need caps installed – they were constructed with permanent sample ports which were not removed on January 22nd when air sampling was completed and the original 2” well caps replaced. Caps were placed on monitoring wells MC-04, SVE-04, SVE-01 and MW-26P-R. It is anticipated these and four VZMP wells will be resampled next week. 1130 – all off site.

JOB SAFETY	Was A Job Safety Meeting Held This Date? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	1
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIO On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date	1
	Cumulative Total of Work Hours From Previous Report	1215	
	Total Work Hours From Start of Construction	1216	

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: traffic safety, hand protection and slips and falls

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Chevy 4X4 HD	CH2M HILL	1	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

01/29/15

DATE



Small Business RAC
N62470-08-D-1006

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE OF REPORT: 02/02/15
REVISION NO: 0
REVISION DATE:

TO NO: JM19	PROJECT NAME/LOCATION: Site 4 Pilot Study, NAS Whiting Field – Milton, FL	REPORT NO: 117
PROJECT NO: 391690	SUPERINTENDENT: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns
AM WEATHER: Partly cloudy, humid, cold, windy, 15-25 mph north wind	PM WEATHER: Clear, humid, windy, 15-25 mph north wind	MAX TEMP: F 51 MIN TEMP: F 45

SUMMARY OF WORK PERFORMED TODAY

0900 John Towns and Phyllis Zerangue arrived on site. Weather, 45°F, partly cloudy, windy, 15-25 mph north wind, humid. Scope of work: Re-sample eight wells that were originally sampled on January 22, 2015, but arrived at the laboratory deflated. On January 29th, the team installed sample port well caps on the 2" wells needing resampling. Using an ARGUS-HAZCO air sampler pump, one well volume was purged from each well and samples were collected in 1 liter Tedlar™ bags. Each bag was checked to ensure the bag valves were closed tight and not over filled. Samples and a chain-of-custody were placed in a heavy gauge card board box and shipped to ALSSIMI Valley, Simi Valley, CA via FedEx. Wells sampled today (as listed by the project engineer) include: MC-04, SVE-04, MW-26P-R, VZMP1-16, VZMP1-34, VZMP2-16, VZMP2-63 and VZMP2-69. The last sample was collected at 1400. The sample caps were removed and the original well caps were placed on each well. 1415 – all off site. 1430 – Shipped samples.

No further field work is anticipated for the pilot study task.

JOB SAFETY	Was A Job Safety Meeting Held This Date?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)	
	Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CH2MHILL On-Site Hours	10
	Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AGVIQ On-Site Hours	0
	Was Crane/Manlift/Trenching/Scaffold/HV Elec/High Work/Hazmat Work Done?? (If Yes, attach statement or checklist showing inspection performed)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Subcontractor On-Site Hours	0
	Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total On-Site Hours This Date	
			10	
		Cumulative Total of Work Hours From Previous Report		1216
		Total Work Hours From Start of Construction		1226

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted): health and safety briefing was held – topics: cold weather, wind

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ CONTRACTOR	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR
2 Work Trucks	Chevy 4X4 HD	CH2M HILL	0	0	0

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.): None

VISITORS TO THE SITE: None

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): None

SAFETY REQUIREMENTS HAVE BEEN MET

SUPERINTENDENT'S SIGNATURE

02/02/15

DATE

Contractor Quality Control Reports

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 11/04/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 096
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	
	1	Mobilization Site Preparation and Utility Clearance	01	
	2	VZMP Installation	01	
	5	Waste Management	01	

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action																
1	Initial <input checked="" type="checkbox"/> Follow up <input type="checkbox"/>	<p>Mobilization and Site Preparation: 0645 P. Zerangue arrived on site. Weather: 48°F, calm, cool, dry, clear. Scope of Work: Mobilize and set up and begin VZMP installation. 0730 – J. Towns escorted the drilling crew to the site. Equipment was inspected and documented by Cascade Drilling; CH2M HILL observed the inspections and accepted the equipment. Equipment was clean, no leaks noted, backup alarms working and found to be in good operating condition. A daily equipment inspection will be conducted and documented prior to work.</p> <p>Prior two work, a Health and Safety Meeting and Preparatory Meeting were held. The Health and Safety Plan was reviewed and signed by all. PTSP and AHAs were also reviewed and signed. Following the H&S briefing, a preparatory meeting was held, see above, and pre-construction photos were taken. PTSP and preparatory checklist are attached to this daily report.</p> <p>Upon arrival, no painted markings from the utility locate were visible, however, the pin flags were still in place. Using photos of the markings, J. Towns and P. Zerangue located the two borings near Facility #3126A. Other business completed: Contacted the base fire department to get permission to use hydrant #18 – permission granted, picked up the dig permit from John Burns and informed him that we were using hydrant #18 and requested, from Mike Pattison, to contact the base crane inspector, John Hoyt. The orange checkered flag was on top the mast and the welder’s curtain placed between the rig and the fuel containment wall. Monitoring Instruments were calibrated at 0915:</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th>Instrument</th> <th>Zero Air</th> <th>Methane 100 ppm</th> <th>Isobutylene 100ppm</th> </tr> </thead> <tbody> <tr> <td>TVA2020 FID</td> <td style="text-align: center;">0</td> <td style="text-align: center;">100</td> <td style="text-align: center;">--</td> </tr> <tr> <td>TVA2020 PID</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> <td style="text-align: center;">100</td> </tr> <tr> <td>MiniRAE2000</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> <td style="text-align: center;">100</td> </tr> </tbody> </table> <p>1130 Supply truck arrived on site. Material delivery is listed in the <i>Material/Equipment</i> section below.</p>	Instrument	Zero Air	Methane 100 ppm	Isobutylene 100ppm	TVA2020 FID	0	100	--	TVA2020 PID	0	--	100	MiniRAE2000	0	--	100
Instrument	Zero Air	Methane 100 ppm	Isobutylene 100ppm															
TVA2020 FID	0	100	--															
TVA2020 PID	0	--	100															
MiniRAE2000	0	--	100															

2	Initial <input checked="" type="checkbox"/> Follow up <input type="checkbox"/>	<p>VZMP Installation: 1010 rig was set up on VZMP1 and the boring was hand augured to 4 feet bls –no issues to this depth. Field team waited for John Hoyt to inspect the rig. The objective was to set the screens in the most contaminated locations for maximum results in the Pilot Study Phase of this task and outlined in Sections 3.2.4 through 3.2.5 of the Work Plan.</p> <p>1115 John Hoyt, base crane inspector arrived on sit to inspect the rig and crane. He wanted to see the P1, 2 and 3 navy required sheets. After picking up the sheets, Mr. Hoyt returned to the site at 1220 and approved the crane for work. He informed the crew, the P sign-off sheet had to stay with the rig until the job was completed. 1300 Drilling began. VZMP installation was done in accordance with the site Work Plan – <i>Bioventing Pilot Study Site 4 – North AVGAS Tank Sludge Disposal Area, April 2014</i>, Section 3.2.1, and page 3-1, Table 3-1, Figures 3-1, 2 and 3. Well construction is based on Figure 1-3 with some field interpretation by the on-site Geologist, John Towns.</p> <p>Soil gas screening was conducted at 2 foot intervals to boring termination at 75 feet. Four (4) samples from this boring was collected from the most contaminated locations. Sample screening and collection were collected in accordance with the site work plan stated above, <i>Section 4.0</i>. Samples were collected from VZMP01-17, -35, -62 and -74 and immediately placed on ice. QC Samples collected: FD01 (-17), FD02 (-62), equipment blank and trip blank. A field soil boring log was kept by the on-site Geologist describing soil and recording FID readings, see logs for details.</p> <p>1545 End of drilling. Cascade spent the rest of the afternoon staging material near the boring to be ready to begin well construction first thin in the morning. The site was cleaned and drill cuttings drummed.</p> <p>1600 the site was secured and all left the site. J. Towns and P. Zerangue purchased additional ice and packed the samples for shipping. Two (2) coolers of samples were packed in ice, strapped with shipping tape and a custody seal placed on the outside of each. A chain-of-custody was placed in one of the coolers. The samples were shipped FedEx to GCAL, Baton Rouge, LA, Tracking #s 771717739370 and 771717727399. End of work day.</p>		
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): No activity for this FOW		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input checked="" type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: Four (4) drums of waste was generated today including drill cuttings and plastic wrap used to bag the soil cores.		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No activity for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No activity for this FOW		
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006		CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 11/04/2014 REVISION NO: REVISION DATE:	
TO NO: JM19		PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL			REPORT NO: 096	
PROJECT NO: 391690		PROJECT QC MANAGER: Phyllis Zerangue		SITE H&S SPECIALIST: John Towns		
SAMPLING/TESTING PERFORMED						
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL		
H&S Air Monitoring		None		J. Towns/CH2MHILL/Field Monitoring		
Soil Screening		None		J. Towns and P. Zerangue/CH2MHILL		
Soil Sampling		GCAL		J. Towns and P. Zerangue/CH2MHILL		
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)						
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?		COMMENT/REASON/ACTION	
See CPR for Equipment Information		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Inspected and Accepted	
1"X1"X.020 Slot S40 PVC Screen MXF FJ 8TPI		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		12 each	
1"8TPI Pipe X 10': S40 FJ-Riser		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		54 each	
8"X8" 2-Bolt Manhole Watertight Covers		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		12 each	
1" Molded Hollow Point Female ASTM 8TPI		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		12 each	
Filter Sand 6/20 Sieve Size, 50# Bag		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		15 each	
Enviroplug Medium Bentonite 50# Bag		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		60 each	
DSI Easy Seal Enviro-Plug 16 50# Bag		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		5 each	
Extra High Yield Bentonite 50# Bag		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		5 each	
Reconditioned DOT 55 gallon Drums 34"X24"		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		18 each	
SUBMITTALS INSPECTION / REVIEW						
SUBMITTAL NO	SUBMITTAL DESCRIPTION		SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?		COMMENT/REASON/ACTION
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.						
ACCUMULATION/STOCKPILE AREA INSPECTION						
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:				
ACCUMULATION/STOCKPILE AREA LOCATION						
NO OF CONTAINERS:	NO OF TANKS:	NO OF ROLL-OFF BOXES:	NO OF DRUMS:			
INSPECTION RESULTS:						
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:						
None.						
GENERAL COMMENTS (rework, directives, etc.):						
Visitors:						
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP, Preparatory Meeting Checklist and COC						
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.						11/04/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE
On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.						11/04/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs



Facing West - CH2M HILL Mark Boring Locations



Facing South - Equipment Mobilization



Facing West - Equipment Staging Area



Drilling Material Clean Upon Arrival



Facing Southwest - The Welding Screen was placed between the Rig and Fuel Containment Wall



Backflow Preventer in Place on the Fire Hydrant



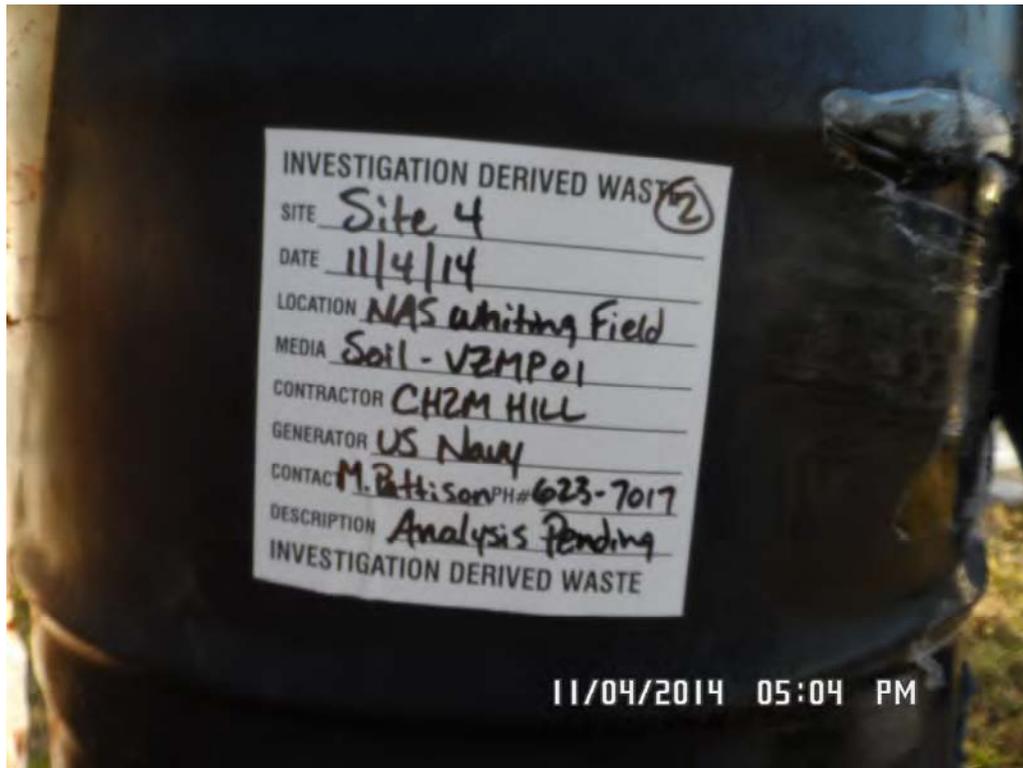
Material Delivery



Facing South - Drilling Began on VZMP01



Facing Southeast - Soil Cores



Drums Labeled

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 11/05/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 097
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action																
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Mobilization and Site Preparation: No work for this FOW</p>																
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	<p>VZMP Installation: 0650 All arrived on site. Weather: 53°F, calm, cool, dry, clear. Scope of Work: VZMP01 well construction and begin drilling at VZMP02.</p> <p>Prior two work, a Health and Safety Meeting was held, work specific topics include: Driving on base, PPE (head, hearing, hands), breathing zone monitoring, walking and working on a slope, manual lifting and walking up and down steps to work on the rig. 0730 the drilling rig and support equipment were inspected and documented.</p> <p>0735 Cascade began VZMP1 well construction. Four (4) 1" diameter VZMP wells (Sch 40 PVC) were installed in one (1) 8" diameter bore hole and screened at 74', 62', 35' and 17' bls. Sch 40 PVC pointed end cap with 1' of 0.02" slotted screen with riser to the land surface. Placement and qualities of filter sand, bentonite and grout are detailed in the field book and well completion diagram. Drillers broke down equipment and moved rig to VZMP02.</p> <p>1200 Drillers set up on VZMP02. The boring was hand augured to 4 feet bls –no issues to this depth. VZMP installation was done in accordance with the site Work Plan – <i>Bioventing Pilot Study Site 4 – North AV GAS Tank Sludge Disposal Area, April 2014</i>, Section 3.2.1, and page 3-1, Table 3-1, Figures 3-1, 2 and 3. Well construction is based on Figure 1-3 with some field interpretation by the on-site Geologist, John Towns. Prior to drilling environmental instruments were calibrated:</p> <table border="1" style="width:100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width:25%;">Instrument</th> <th style="width:15%;">Zero Air</th> <th style="width:25%;">Methane 100 ppm</th> <th style="width:35%;">Isobutylene 100ppm</th> </tr> </thead> <tbody> <tr> <td>TVA1000 FID</td> <td style="text-align: center;">0</td> <td style="text-align: center;">100</td> <td style="text-align: center;">--</td> </tr> <tr> <td>TVA1000 PID</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> <td style="text-align: center;">100</td> </tr> <tr> <td>MiniRAE2000</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> <td style="text-align: center;">100</td> </tr> </tbody> </table> <p>Soil gas screening was conducted at 2 foot intervals to boring termination of 70 feet. Four (4) samples from this boring was collected from the most contaminated locations. Sample screening and collection were collected in accordance with the site work plan stated above, <i>Section 4.0</i>. Samples were collected from VZMP02-17, -43, -63 and -69 and immediately placed on ice. QC Samples collected: MS/SD at -17, equipment blank and trip blank. A field soil boring log was kept by the on-site Geologist describing soil and recording FID readings, see logs for details; a breathing zone log was also maintained. PM Weather: 7-10mph south wind, warm, 77°F, partly cloudy.</p> <p>1445 End of drilling. 1500 Cascade began well construction on VZMP02 as described above. At the end of the day, the site was cleaned and drill cuttings drummed. Four (4) drums of drill cuttings and plastic and one (1) drum of decon water were generated from today's drilling activities. Drums were labeled and staged in the boring hole area and will be moved to the southeast side of the site until off-site disposal.</p> <p>1700 the site was secured and all left the site. J. Towns and P. Zerangue purchased additional ice and packed the samples for shipping. Two (2) coolers of samples were packed in ice, strapped with shipping tape and a custody seal placed on the outside of each. A chain-of-custody was placed in one of the coolers. The samples were shipped FedEx to GCAL, Baton Rouge, LA, Tracking #s 771717705497 and 771717715204. End of work day.</p>	Instrument	Zero Air	Methane 100 ppm	Isobutylene 100ppm	TVA1000 FID	0	100	--	TVA1000 PID	0	--	100	MiniRAE2000	0	--	100
Instrument	Zero Air	Methane 100 ppm	Isobutylene 100ppm															
TVA1000 FID	0	100	--															
TVA1000 PID	0	--	100															
MiniRAE2000	0	--	100															

3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): No activity for this FOW		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: Five (5) drums of waste were generated today including four (4) of drill cuttings and plastic wrap used to bag the soil cores and one (1) of decon water. A total of 9 drums are staged on site.		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No activity for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No activity for this FOW		
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006		CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 11/05/2014 REVISION NO: REVISION DATE:	
TO NO: JM19		PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL			REPORT NO: 097	
PROJECT NO: 391690		PROJECT QC MANAGER: Phyllis Zerangue		SITE H&S SPECIALIST: John Towns		
SAMPLING/TESTING PERFORMED						
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL		
H&S Air Monitoring		None		J. Towns/CH2MHILL/Field Monitoring		
Soil Screening		None		J. Towns and P. Zerangue/CH2MHILL		
Soil Sampling		GCAL		J. Towns and P. Zerangue/CH2MHILL		
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)						
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?		COMMENT/REASON/ACTION	
24 bags of Portland		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Inspected and accepted	
1 pallet of filter sand 6/20		Work Plan/April 2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Inspected and accepted	
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
SUBMITTALS INSPECTION / REVIEW						
SUBMITTAL NO	SUBMITTAL DESCRIPTION		SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?		COMMENT/REASON/ACTION
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.						
ACCUMULATION/STOCKPILE AREA INSPECTION						
INSPECTION PERFORMED BY:				SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION						
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:		NO OF DRUMS: 9
INSPECTION RESULTS: No issues noted – all drums labeled at the end of the day and T&D Log updated						
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.						
GENERAL COMMENTS (rework, directives, etc.): Visitors: None						
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP, SBO and COC						
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.						11/05/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE
On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.						11/05/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

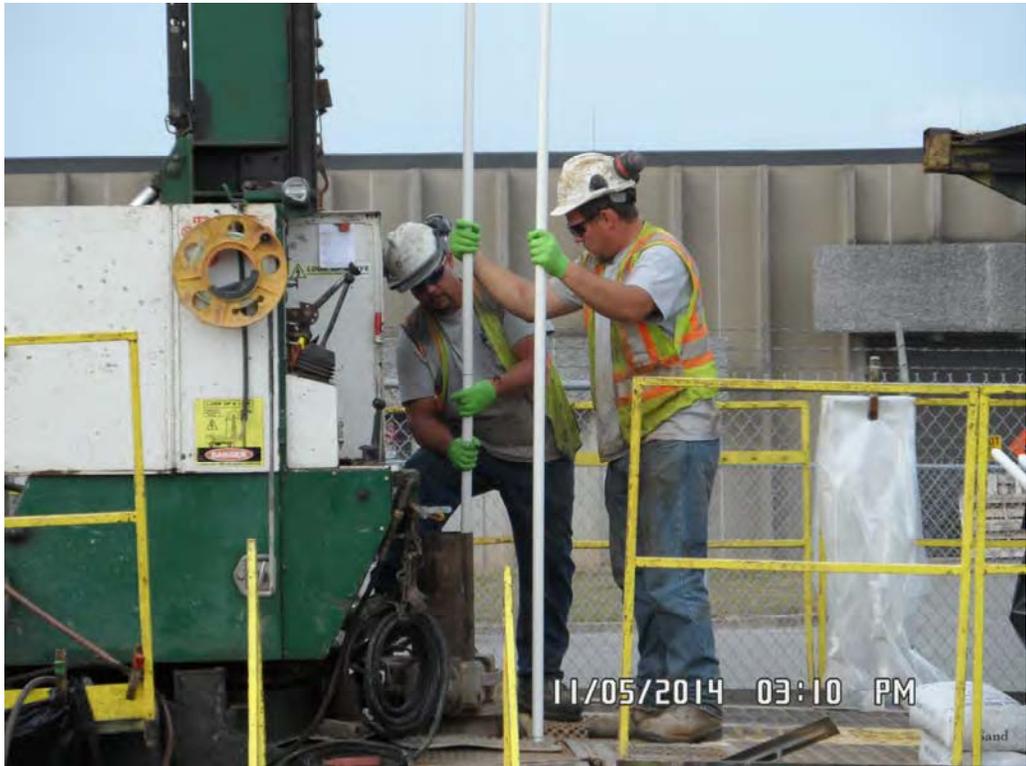
Photographs



VZMP01 Installation Complete



Facing North - Rig set up on VZMP 02



Facing North - Began Well Construction at VZMP 02

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 11/06/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 098
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Cleanup and Site Restoration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	Decontamination and Demobilization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	
	6	Cleanup and Site Restoration		
7	Decontamination and Demobilization			

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action																
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Mobilization and Site Preparation: No work for this FOW</p>																
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	<p>VZMP Installation: 0645 All arrived on site. Weather: 65°F, calm, cool, foggy, humid. Scope of Work: Drill and construct well VZMP 03, install well pads, clean-up site, stage drums on the east side of the site and demobilize personnel and equipment.</p> <p>Prior two work, a Health and Safety Meeting was held, work specific topics include: weather, climbing onto and off of the rig, hand protection. 0730 the drilling rig and support equipment were inspected and inspection documented.</p> <p>0720 Drillers broke down rig from VZMP02, set up on VZMP 03 and began drilling at 0800. The boring was hand augured to 4 feet bls –no issues to this depth. VZMP installation was done in accordance with the site Work Plan – <i>Bioventing Pilot Study Site 4 – North AVGAS Tank Sludge Disposal Area, April 2014</i>, Section 3.2.1, and page 3-1, Table 3-1, Figures 3-1, 2 and 3. Well construction is based on Figure 1-3 with some field interpretation by the on-site Geologist, John Towns. Prior to drilling environmental instruments were calibrated:</p> <table border="1" style="width:100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width:25%;">Instrument</th> <th style="width:15%;">Zero Air</th> <th style="width:15%;">Methane 100 ppm</th> <th style="width:15%;">Isobutylene 100ppm</th> </tr> </thead> <tbody> <tr> <td>TVA1000 FID</td> <td style="text-align: center;">0</td> <td style="text-align: center;">100</td> <td style="text-align: center;">--</td> </tr> <tr> <td>TVA1000 PID</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> <td style="text-align: center;">100</td> </tr> <tr> <td>MiniRAE2000</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> <td style="text-align: center;">100</td> </tr> </tbody> </table> <p>Drilling began on VZMP03 at 0800. As with the other two borings, soil gas screening was conducted at 2 foot intervals to boring termination of 70 feet. Four (4) samples from this boring was collected from the most contaminated locations. Sample screening and collection were collected in accordance with the site work plan stated above, <i>Section 4.0</i>. Samples were collected from VZMP02-09, -37, -57 and -69 and immediately placed on ice. A field soil boring log was kept by the on-site Geologist describing soil and recording FID readings, see logs for details; a breathing zone log was also maintained.</p> <p>1134 Cascade began VZMP3 well construction. Four (4) 1" diameter VZMP wells (Sch 40 PVC) were installed in one (1) 8" diameter bore hole and screened at 09', 37', 57' and 60' bls. Sch 40 PVC pointed end cap with 1' of 0.02" slotted screen with riser to the land surface. Placement and qualities of filter sand, bentonite and grout are detailed in the field book and well completion diagram. Drillers broke down equipment and began well pad construction, site clean-up and restoration and demobilization. PM Weather: 15-20 mph north wind, cool, raining, 71°F.</p> <p>Seven (7) drums of drill cuttings and plastic were generated from today's drilling activities. Drums were labeled and staged on the east side of the site until off-site disposal.</p> <p>1650 Theresa Rojas and Phyllis Zerangue left the site. P. Zerangue purchased additional ice and packed the samples for shipping. One (1) cooler of samples was packed in ice, strapped with shipping tape and a custody seal placed on the outside. A chain-of-custody was placed in the coolers. The samples were shipped FedEx to GCAL, Baton Rouge, LA, Tracking #s were not recorded.</p> <p>J. Towns and the work crew remained on site and completed well pad construction including manholes, clean the site and demobilize.</p>	Instrument	Zero Air	Methane 100 ppm	Isobutylene 100ppm	TVA1000 FID	0	100	--	TVA1000 PID	0	--	100	MiniRAE2000	0	--	100
Instrument	Zero Air	Methane 100 ppm	Isobutylene 100ppm															
TVA1000 FID	0	100	--															
TVA1000 PID	0	--	100															
MiniRAE2000	0	--	100															

3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): No activity for this FOW		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: Seven (7) drums of waste were generated today containing drill cuttings and plastic wrap used to bag the soil cores. A total of 16 drums are staged on the east side of the site.		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: C&D was bagged and placed in an on-site general trash dumpster. Drill cuttings were removed from the parking lot and placed in a 55 gallon drum. The grassy surfaces that were disturbed by the equipment was manually graded smooth to remove track ruts. Waste drums were moved to the east side of the site and placed so each drum label could be seen. The site was brought to near preconstruction conditions. 1750 All off site. End of work day.		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: Trucks, supplies and material were decontaminated and packed and made ready to leave. 1750, all demobilized.		
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006		CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 11/06/2014 REVISION NO: REVISION DATE:	
TO NO: JM19		PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL			REPORT NO: 098	
PROJECT NO: 391690		PROJECT QC MANAGER: Phyllis Zerangue		SITE H&S SPECIALIST: John Towns		
SAMPLING/TESTING PERFORMED						
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL		
H&S Air Monitoring		None		J. Towns/CH2MHILL/Field Monitoring		
Soil Screening		None		J. Towns and P. Zerangue/CH2MHILL		
Soil Sampling		GCAL		J. Towns and P. Zerangue/CH2MHILL		
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)						
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?		COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
SUBMITTALS INSPECTION / REVIEW						
SUBMITTAL NO	SUBMITTAL DESCRIPTION		SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?		COMMENT/REASON/ACTION
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.						
ACCUMULATION/STOCKPILE AREA INSPECTION						
INSPECTION PERFORMED BY:				SIGNATURE OF INSPECTOR:		
ACCUMULATION/ STOCKPILE AREA LOCATION						
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted – all drums labeled at the end of the day and T&D Log updated. 15 drums of soil cuttings and 1 drum of decon water. Waste will be removed pending laboratory analysis and within the 90 day requirement for staging waste.						
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:						
None.						
GENERAL COMMENTS (rework, directives, etc.):						
Visitors: Theresa Rojas on site to conduct a QC/HAS field audit. Amy Twitty/PM visited the site to evaluate the work. No issues noted by either; once finalized, the audit report will be distributed the field team.						
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP and COC						
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.						11/06/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE
On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.						11/06/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs



Facing West - VZMP03 Location, Pre-construction



VZMP 03 Well Location



VZMP02 Well Installation Complete



Facing Northwest - VZMP03 Well Installation



VZMP Well Construction Complete



VZMP01 - Well Pad Construction

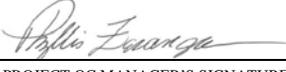


VZMP 03 Well Pad Construction



Facing Southeast - Waste Staged on Site

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 11/13/2014 REVISION NO: 01 REVISION DATE: 01/05/2014		
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 099		
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns		
SAFETY MEETINGS AND INSPECTIONS				
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.		
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.		
DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS				
DFOW No.(from list above)	Phase	Comment/Finding/Action		
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: No work for this FOW		
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: <u>Note:</u> Cascade did not install ball valves on the VZMP wells.		
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): No activity for this FOW		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: 1300 J. Towns and P. Zerangue left Pensacola, FL and arrived on site at 1400 to collect waste characterization samples from drill cuttings and decon water generated from last week's VZMP well installation. Two soil samples were collected: one (1) composite sample from drum #s 1 through 8 and 10 and one (1) composite sample from drums 11 through 22 16. One (1) water sample was collected from drum #9. The samples were immediately transferred into a cooler of ice. See the attached COC for analytical details. 1500 CH2M HILL off site – J. Towns and P. Zerangue purchased additional ice and packed the cooler for shipment. The cooler was secured with strapping tape and a custody seal placed on the outside of the cooler. The chain-of-custody was placed inside the cooler and shipped with the samples. 1530, One (1) cooler was shipped FedEx to GCAL, Baton Rouge for priority overnight delivery. Tracking #8054 7441 0844		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW		
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

		CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 11/13/2014 REVISION NO: 01 REVISION DATE: 01/05/2015	
Small Business RAC N62470-08-D-1006		PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL			REPORT NO: 099	
PROJECT NO: 391690		PROJECT QC MANAGER: Phyllis Zerangue		SITE H&S SPECIALIST: John Towns		
SAMPLING/TESTING PERFORMED						
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL		
Waste Characterization Sampling		GCAL		J. Towns and P. Zerangue/CH2MHILL		
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)						
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?		COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
SUBMITTALS INSPECTION / REVIEW						
SUBMITTAL NO	SUBMITTAL DESCRIPTION		SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION	
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.						
ACCUMULATION/STOCKPILE AREA INSPECTION						
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:				
ACCUMULATION/ STOCKPILE AREA LOCATION						
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted – all drums labeled at the end of the day and T&D Log updated. 15 drums of soil cuttings and 1 drum of decon water. Waste will be removed pending laboratory analysis and within the 90 day requirement for staging waste.						
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.						
GENERAL COMMENTS (rework, directives, etc.): Visitors: Theresa Rojas on site to conduct a QC/HAS field audit. Amy Twitty/PM visited the site to evaluate the work. No issues noted by either; once finalized, the audit report will be distributed the field team.						
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP and COC						
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>						11/13/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>						11/13/2014
				PROJECT QC MANAGER'S SIGNATURE		DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
2	Need ball valves installed on the wells	11/06/14	Pending
Photographs			

None

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/08/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 100
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: 0600 Jim Edens arrived on site. 0630 Phyllis Zerangue arrived on site. 0700 Chris Hayslip arrived at the visitor's center to wait for the system vendor, Tom Twitmyer with EWE. All arrived on site at 0810. The Health and Safety Plan, AHAs and the PTSP were reviewed and signed. Health and Safety topics: Route to the hospital, electrical safety, and trip hazards. Immediately following the H&S meeting, a preparatory meeting was held. From the Work Plan, April 2013, a full review of Section 3.0 Project Execution Plan was conducted. With system start-up tomorrow, the team should be able to evaluate the level of effort needed to complete the study.
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 1000 P. Zerangue and C. Hayslip began baseline soil gas sampling on MC-02. Baseline soil gas samples were collected in Tedlar bags and shipped FedEx to an offsite laboratory for chemical analysis. Soil gas field samples were also collected in Tedlar bags and screened for O ₂ , CO ₂ , LEL, and TVH. Soil gas sampling was conducted using a TVA 1000 for TVH measurements and a GEM 2000 for O ₂ , CO ₂ and LEL measurements. Soil gas monitoring points included a total of 26 locations; 12 proposed (new) VZMPs (3 clusters with 4 VZMPs each), 9 monitoring wells, and 5 existing SVE wells as presented in Tables 3-1 and 3-2 in Section 3.2.1 of the site work plan. Soil gas bags collected for field screening were held by P. Zerangue overnight. Results will be recorded tomorrow morning on field data sheets provided in the work plan. The last soil gas sample was collected at 1617. Well MW-37P was on the list to be sampled; however, the air sampler could not pull the sample and recorded a flow fault error. Pressure measured \leq 16-inches of H ₂ O and the pump shut off. <u>Final Note:</u> Well MW-49P was previously damaged. A potential change in top of casing elevation could exist. Sample ports for the VZMP wells were constructed and attached to the 1-inch wells. J. Edens and T. Twitmyer inspected the system and piped in the unit. 1600 the system was in place and ready to start in the morning. No issues were encountered with the system set up. The trailer was staged north of the source well, MC-10 in the asphalt parking lot and a 2-inch hose connected to MC-10. It is anticipated system start-up will begin around 0730 in the morning. 1600 T. Twitmyer off site. Twenty-six (26) air samples were placed in one cooler and a chain-of-custody placed inside the cooler. The cooler was strapped and custody seals placed on the outside. Samples were shipped to ALSSIMI Valley, Simi Valley, CA - FedEx tracking #7721 4268 0880. 1700 - All off site.
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/08/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 100
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Baseline Soil Gas Sampling		GCAL/ALS		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Bioventing System Trailer		April 2014 Work Plan	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Inspected and accepted by J. Edens
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:			SIGNATURE OF INSPECTOR:	
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP and Preparatory Checklist				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>				12/08/2014
			PROJECT QC MANAGER'S SIGNATURE	DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>				12/08/2014
			PROJECT QC MANAGER'S SIGNATURE	DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
2	Need ball valves installed on the wells	11/06/14	12/08/14



Photo #1 - Facing West, System Trailer Staged in Parking Lot



Photo #2 - Installing Quick Connect Caps on the Monitoring Wells



Photo #3 - Typical 2" Sample Port



Photo #4 - Typical 1" Sample Ports

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/09/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 101
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

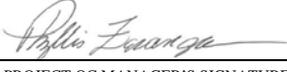
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0630 All arrive on site. Weather: 40F, 15-20 mph north wind, clear, dry, cold, humid. Scope of work: Start up the treatment system and begin field screening (pressure and soil gas). 0640 a health and safety briefing was held – topics: generator safety, using hand tools, using screening instruments, breathing zone monitoring at the inlets and the crew toured the system trailer to get familiar with the emergency power kill switch and other components of the unit. A spill kit and fire extinguisher were on hand; and, as a precaution, a containment was placed underneath the system during operation and continuous running when no one is on site. Also noted, the treatment system was grounded and all cam locks were clamped down and tied with heavy gauge plastic zip ties. A contact phone number was placed on the outside of the system in case a person wanted to report and issue while no one was on site. EWE provided environmental screening equipment (TVA1000, GEM2000 and air pump). There are two sets of instruments on site, one set used as back-up. Instruments were calibrated prior to field screening – see page 20 of the field book for results.</p> <p>0745 prior to system start-up, background LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below 5%LEL and 5ppm TVH. Note: Because there was a strong north wind (15-20mph) both days, breathing zone was not an issue.</p> <p>0800 The system was started. Pressure readings were collected every 15 minutes for the first hour and then every 30 minutes for the second hour. It was anticipated the pressure would stabilize after two hours; however, it did not. Even with pressure still variable, at 1115, soil gas screening begun and a full round taken every hour. Approximately 10 rounds of pressure readings were taken and four (4) full rounds of soil gas readings were recorded, the last soil gas reading taken at 1620. At the end of the day, pressure in the VZMPs wells seemed to stabilize. Pressure will be measured first thing in the morning to determine if stabilization has been reached and if more pressure data collection is needed. All data collected was documented on field data sheets and will be part of the site record and used to evaluate a path forward for field testing. Soil gas collection was consistent with collection methods described in CQCR #100. At the end of the day, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, run hours recorded, the system trailer locked and well vaults covered. The system was left on and is anticipated to run continuously for five (5) days.</p> <p>1645 - All off site.</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/09/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 101
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Field Soil Gas Screening		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP and Preparatory Checklist				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/09/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/09/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		



Photo #1 - System Trailer Grounded



Photo #2 - Facing Southwest, System Ready for Start-up



Photo #3 - Facing West, System Piping to MC-10



Photo #4 - Facing West, System Piping



Photo #5 - Calibrating Screening Equipment



Photo #6 - Piping to MC-10



Photo #7 - Facing Northwest, J. Edens and T. Twitmyer Collect Pressure Readings



Photo #8 - Facing West, Site Overview

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/10/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 102
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0630 All arrive on site. Weather: 33F, 15-20 mph north wind, clear, cold, humid. Scope of work: Continue field screening (pressure and soil gas). 0640 a health and safety briefing was held – topics: cold weather protection, traffic safety and hand protection. Instruments were calibrated prior to field screening – see page 23 of the field book for results.</p> <p>0715 background LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below action levels. <u>Note:</u> Again, because there was a strong north wind (15-20mph, the breathing zone was not an issue. After a review of the pressure data, J. Edens removed the round of pressure readings at the sample points. Soil gas screen continued at 2 hour intervals – each round taking a little over one hour. Three (3) full soil gas rounds were completed. For the final round, modifications to the screening procedures were mad: (1) a “T” was inserted in the air pump influent to take pressure readings and (2) a “T” was inserted in the pump effluent to collect land gas readings (TVA1000 and GEM2000). These readings were compared to the previous readings to affirm confidence in the background readings and subsequent readings. These readings were in close agreement giving confidence in the data previously collected. The “T” collection process will be used to collect future field screening samples and laboratory samples.</p> <p>All data collected was documented on field data sheets and reviewed in real time by J. Edens who collaborated with other subject matter professionals associated with this project to determine a path forward. Considerations include: system run time (in days) and number of soil gas screening rounds to be performed while the system running and respiration start date and procedures.</p> <p>At the end of the day, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, the system trailer locked and well vaults covered.</p> <p>1600 – All off site.</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/10/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 102
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Field Soil Gas Screening		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/10/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/10/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		



Photo #1 - Air Flow Gauges Upstream of the Air Injection Point MC-10



Photo #2 - Pressure at Air Injection Point MC-10



Photo #3 - Damaged MW-49P, Existing Condition



Photo #4 - Facing East, Waste Staging Area from VZMP Installation

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/11/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 103
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0630 All arrive on site. Weather: 35F, 3-5 mph north wind, clear, cold, humid. Scope of work: Continue field screening (pressure and soil gas). 0645 a health and safety briefing was held – topics: cold weather protection, traffic safety, hand protection, repetitive motion, generator refueling and shut-down procedures. Instruments were calibrated prior to field screening – see page 25 of the field book for results.</p> <p>0700 LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below action levels. <u>Note:</u> Again, the strong north wind (3-5mph), kept the breathing zone from being an issue. Soil gas screening continued at 2 hour intervals – each round taking approximately one and a half hours. Oxygen levels in the wells closest to the injection well, exhibited elevated oxygen levels. The objective for today and through the weekend is to observe increased oxygen levels in the perimeter wells. Three (3) full soil gas rounds were completed. The goal for today was to collect four (4) rounds; however, the GEM battery de-energized shortly into the fourth round. 1515 equipment was placed on chargers, well vaults replaced and the system locked.</p> <p>0900 Southern Energy arrived on site to refuel the generator - approximately 45 gallons. Southern Energy is scheduled to be on site tomorrow around 1500 to top off the tank so the generator can run continuously through the week end. After the generator was fueled, Tom Twitmyer reviewed shutdown procedures and other detail operational procedures with Chris Hayslip since he will be the primary contact and operator in Tom's absence. 1000 Tom Twitmyer off site.</p> <p>At the end of the day, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, the system trailer locked and well vaults covered.</p> <p>1430 Chris Hayslip off site; 1530 – All off site.</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/11/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 103
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Field Soil Gas Screening		None		J. Edens, C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/11/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/11/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		



Photo #1 - Air Flow Gauges Upstream of the Air Injection Point MC-10



Photo #2 - Pressure at Air Injection Point MC-10

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/12/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 104
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

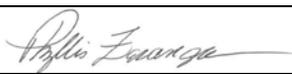
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0730 J. Edens and C. Hayslip arrive on site. Weather: 40F, clear, cold, humid. Scope of work: Continue field screening (pressure and soil gas), one in the morning and one in the afternoon. Instruments were calibrated prior to field screening – see page 27 of the field book for results. The plan going forward for Monday will be to take a final full round of soil gas screening, tune off the system and begin the respiration test. J. Edens will provide a list of wells included in the respiration test.</p> <p>0845 LEL readings were taken at the stormwater inlet located near Building 3227A and at the water line vault located near well MC-10 (the source well). Both readings were below action levels. Moring rounds began. 1030 end of morning rounds – Jim Edens demobilized; Chris Hayslip off site; Hayslip will return for the PM readings</p> <p>1430 Southern Energy arrived on site to top-off the generator - approximately 25 gallons. P. Zerangue and C. Hayslip on site to perform the PM soil gas screening round. 1650, the stormwater inlet and water line vault were again tested for LEL and TVH, again, both were below action limits. Screening equipment was put on charge, the system trailer locked and well vaults covered.</p> <p>1700 Chris Hayslip and Phyllis Zerangue off site</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/12/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 104
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Field Soil Gas Screening		None		J. Edens, C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): PTSP				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/12/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/12/2014 DATE

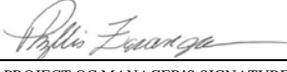
Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs

None

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/13/2014 REVISION NO: REVISION DATE:			
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 105			
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip			
SAFETY MEETINGS AND INSPECTIONS					
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.			
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.			
DEFINABLE FEATURES OF WORK STATUS					
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up	
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS					
DFOW No.(from list above)	Phase	Comment/Finding/Action			
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete			
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW			
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0900 Chris Hayslip did a site visit to check the system. No issues noted, the system was running. 0915-off site. 1345 C. Hayslip and P. Zerangue arrive on site. Weather: 65F, clear, cool, dry sunny. Scope of work: Perform one round of field screening (pressure and soil gas). Instruments were calibrated prior to field screening – see page 29 of the field book for results. The plan going forward for Monday will be to take a final full round of soil gas screening, tune off the system and begin the respiration test. J. Edens will provide a list of wells included in the respiration test. 1400 began soil screening including stormwater inlet and water line vault monitoring for LEL and TVH. No issues noted. 1515 field monitoring complete. Screening equipment was put on charge, the system trailer locked and well vaults covered. 1530 Chris Hayslip and Phyllis Zerangue off site			
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW			
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW			
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW			
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)			
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN	

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/13/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 105
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Field Soil Gas Screening		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/13/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/13/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs

None

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/14/2014 REVISION NO: REVISION DATE:			
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 106			
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip			
SAFETY MEETINGS AND INSPECTIONS					
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.			
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.			
DEFINABLE FEATURES OF WORK STATUS					
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up	
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS					
DFOW No.(from list above)	Phase	Comment/Finding/Action			
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete			
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW			
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 1900 Chris Hayslip did a site visit to check the system. No issues noted, the system was running. 1915-off site.			
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW			
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW			
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW			
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)			
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN	

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/14/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 106
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Field Soil Gas Screening		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/14/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/14/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs

None

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/15/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 107
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

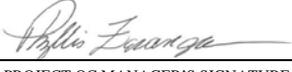
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.		
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 43°F, calm, clear, humid, cool. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: Collect final full round of soil gas samples, turn off system and begin respiration test. Instruments were calibrated prior to work beginning and is documented on page 30 of the field book.</p> <p>The blower operated over the weekend without incident or interruption – the system was running upon arrival. Jim Edens reviewed the data collected over the past week and developed a sampling cycle going forward. O2 levels are the basis for testing and three criteria were discussed for sampling: (1) wells that had initial low O2 levels that increased during the study, (2) by Monday morning and during the respiration test, wells showing an increased O2 level of at least 10% and (3) Wells removed from the study due to initial high O2 levels with no significant change. A total of sixteen (16) wells were included in the respiration test, both the main sample list and the conditional well list. Below is the list of wells sampled using the above criteria:</p> <p><u>Sample list (10 locations)</u> MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, and VZMP2-69</p> <p><u>Conditional well list (6 locations).</u> To be sampled during respiration testing if the O2 levels increase to at least 10% by Monday morning. MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57</p> <p><u>No-sample list (12 locations)</u> MC-01, MC-02, SVE-02, MW-37P, MW-45P, MW-49P, VZMP1-16, VZMP2-16, VZMP2-42, VZMP3-8, VZMP3-36 and VZMP3-69</p> <p>The wells were sampled on Monday right before system shutdown. The sampling frequency during the respiration test was once every 2 hours. Wells having less than 1% drop in 8 hours will be placed on daily sampling schedule. C. Hayslip and P. Zerangue had a conference call with J. Edens to discuss end of the day results and the study going forward.</p> <p>0930 the final full round of soil screening was completed. 1009, The system was turned off and the injection point removed from MC-10. System sparge compressor hours were recorded at 3949.1. 1100 the respiration test began. Four rounds were collected from the select wells noted above. 1707 – End of testing today. The data was sent to Jim Edens via email. Instruments were taken off site for charging. Wells and system trailer were secured and all off site at 1730.</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/15/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 107
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Respiration Test		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/15/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/15/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs



Photo #1 - Facing North, Injection Pipe removed from MC-10

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/16/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 108
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

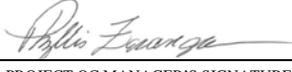
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 61°F, 5-7 mph NW wind, cool, humid, early morning rain. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 32 of the field book.</p> <p>Jim Edens reviewed the data collected from yesterday revised the sampling cycle going forward. For the early morning sampling, a full round will include all 16 wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). After the morning sampling, samples will be collected from wells VZMP-34 and MW-26P-R, four (4) and eight (8) hours later. These results will be reviewed again by J. Edens and a sampling frequency recommended once again.</p> <p>The wells were sampled as described above. One (1) full round was completed at 0836. Samples from wells VZMP-34 and MW-26P-R were collected at 1200 and 1600. 1605 end of field work. Instruments were taken off site for charging. Wells and system trailer were secured. The field team discussed morning screening with Jim Edens; it is anticipated that sampling will occur once daily in the early morning until the PE determines the test is over. 1630 all off site.</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/16/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 108
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Respiration Test		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/16/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/16/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		



None Today

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/17/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 109
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: No work for this FOW
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p>Pilot Study (including soil and air sampling): 0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 40°F, 5-7 mph NW wind, cool, humid, early morning fog. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 33 of the field book.</p> <p>Jim Edens reviewed the data collected from yesterday and recommended one-a-day, early morning reading through Friday, December 19th reducing the frequency to once every 2 to 3 days until the PE determines the test is completed. The early morning sampling included a full round of all 16 wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0800 and ended at 0836. The data tracking spread sheet was completed and transmitted via email to J. Edens.</p> <p>Instruments were taken off site for charging. Wells and system trailer were secured. 0905 all off site.</p>
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/17/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 109
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Respiration Test		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED? YES <input type="checkbox"/> NO <input type="checkbox"/>	COMMENT/REASON/ACTION
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED? YES <input type="checkbox"/> NO <input type="checkbox"/>	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:			SIGNATURE OF INSPECTOR:	
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:
				NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>				12/17/2014
			PROJECT QC MANAGER'S SIGNATURE	DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>				12/17/2014
			PROJECT QC MANAGER'S SIGNATURE	DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs

None Today

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/18/2014 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 110
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip

SAFETY MEETINGS AND INSPECTIONS

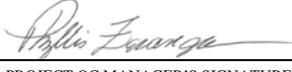
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.		
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 41°F, calm, cool, humid, early morning fog. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 34 of the field book. Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0745 and ended at 0831. The data tracking spread sheet was completed and transmitted via email to J. Edens at 0850. CH2M HILL coordinated with EWE to be on site tomorrow morning to demobilize the system trailer and monitoring instruments. Instruments were taken off site for charging. Wells and system trailer were secured. 0930 all off site.
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/18/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 110
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Respiration Test		None		C. Hayslip and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/18/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/18/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs

None Today

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/19/2014 REVISION NO: REVISION DATE:		
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 111		
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip		
SAFETY MEETINGS AND INSPECTIONS				
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.		
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.		
DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS				
DFOW No.(from list above)	Phase	Comment/Finding/Action		
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete		
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete		
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0730 Chris Hayslip and Phyllis Zerangue arrived on site. Weather, 52°F, humid, overcast. Health and safety briefing was held with Hayslip and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 35 of the field book. Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0743 and ended at 0821. Began hard rain around 0800. The data tracking spread sheet was completed and transmitted via email to J. Edens at 0850. Based on sampling results, sampling has been reduced to every 3 or 4 days. Wells and system trailer were secured. 0900 all off site.		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: 0730 EWE on site to demobilize. Tom Twitmyer packed the system trailer and environmental monitoring equipment. CH2M HILL will provide the environmental monitoring equipment for next week. Ten (10) sampling well caps were left on wells until the respiration test is completed. CH2M HILL will ship to EWE once complete. 0830 Tom Twitmyer off site		
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/19/2014 REVISION NO: REVISION DATE:	
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 111	
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: Chris Hayslip			
SAMPLING/TESTING PERFORMED					
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL	
Respiration Test		None		C. Hayslip and P. Zerangue/CH2MHILL	
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)					
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>		
SUBMITTALS INSPECTION / REVIEW					
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>		
			YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.					
ACCUMULATION/STOCKPILE AREA INSPECTION					
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:			
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted				
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16	
INSPECTION RESULTS: No issues noted					
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.					
GENERAL COMMENTS (rework, directives, etc.): Visitors: None					
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None					
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE		12/19/2014
					DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>			 PROJECT QC MANAGER'S SIGNATURE		12/19/2014
					DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
	None		

Photographs

None Today

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/23/2014 REVISION NO: REVISION DATE:		
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 112		
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns		
SAFETY MEETINGS AND INSPECTIONS				
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.		
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.		
DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS				
DFOW No.(from list above)	Phase	Comment/Finding/Action		
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete		
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete		
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0800 John Towns and Phyllis Zerangue arrived on site. Weather, 65°F, humid, thunderstorms in the area. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 36 of the field book and a list of equipment and cal gas on page 16 Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0848 and ended at 0930. Began raining around 0900. The data tracking spread sheet was completed and transmitted via email to J. Edens at the end of the day. Instruments were taken off sit for charging. Wells and system trailer were secured. 1000 all off site.		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW		
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/23/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 112
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Respiration Test		None		J. Towns and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/23/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/23/2014 DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>				

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
7	Return 10 sampling well caps to EWE	12/23/14	

Photographs

None Today

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 12/30/2014 REVISION NO: REVISION DATE:		
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 113		
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns		
SAFETY MEETINGS AND INSPECTIONS				
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.		
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.		
DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.	
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS				
DFOW No.(from list above)	Phase	Comment/Finding/Action		
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete		
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete		
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0800 John Towns and Phyllis Zerangue arrived on site. Weather, 55°F, humid, cloudy, 5-7 North wind. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: continue respiration test. Instruments were calibrated prior to work beginning and is documented on page 37 of the field book and a list of equipment and cal gas on page 16 Continued early morning sampling including a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Sampling began at 0845 and ended at 0927. The data tracking spread sheet was completed and transmitted via email to J. Edens at the end of the day. Instruments were taken off sit for charging. Wells and system trailer were secured. 1000 all off site.		
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW		
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No work for this FOW		
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW		
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 12/30/2014 REVISION NO: REVISION DATE:
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 113
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns		
SAMPLING/TESTING PERFORMED				
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL
Respiration Test		None		J. Towns and P. Zerangue/CH2MHILL
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)				
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
SUBMITTALS INSPECTION / REVIEW				
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
			YES <input type="checkbox"/> NO <input type="checkbox"/>	
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.				
ACCUMULATION/STOCKPILE AREA INSPECTION				
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:		
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums staged on the east side of the site were inspected – no issues noted			
NO OF CONTAINERS:		NO OF TANKS:		NO OF DRUMS: 16
INSPECTION RESULTS: No issues noted				
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.				
GENERAL COMMENTS (rework, directives, etc.): Visitors: None				
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None				
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE	12/30/2014 DATE
			 PROJECT QC MANAGER'S SIGNATURE	12/30/2014 DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
7	Return 10 sampling well caps to EWE	12/23/14	
3	Perform Post-Respiration Test Lab Sampling	12/30/14	

Photographs

None Today

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 01/20/2015 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 114
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns

SAFETY MEETINGS AND INSPECTIONS

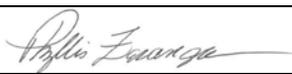
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0830 John Towns and Phyllis Zerangue arrived on site. Weather, 54°F, humid, partly cloudy, calm/slight breeze. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: Perform last round of soil gas sampling for respiration test, collect laboratory air samples and oversee waste pickup. Instruments were calibrated prior to work beginning and is documented on page 39 of the site field book and a list of equipment and cal gas on page 38 and 39. 1010 Set up on MC-04 to begin air sampling. Upon equipment set up, the team realized the air sampler from Argus-Hazco was missing the adaptor for the discharge port (sample port). J. Towns called Argus-Hazco to request the part be shipped overnight to the Navarre office; and, if it was possible to purchase a fitting from a local hardware store that would work. The supplier told Towns that their fitting was required to collect the sample and nothing else would work. No samples were collected today. It is anticipated that sampling will be completed this week, or at the latest, next week. Respiration samples will include a full round of all 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57) and the laboratory samplings will include all twenty-seven (27) site wells sampled during the original sampling on 12/08/14.
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: 1145 Environmental Remediation Services, Inc. (ERS) arrived at the pass and ID center to get one day base passes. 1235 ERS arrived on site. Fifteen (15) soil drums and one (1) waste water drum were loaded and transported off site. The soil drums were transported to Chesser Island Road Landfill, Inc., Folkston, GA – manifest #14688. The liquid drum was transported to Liquid Environmental Solutions, Jacksonville, FL – manifest #14687. Both fully executed manifests, pending disposal at the facilities, will be mailed to NAS Whiting Field Environmental Department. 1330 – all off site.
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			DATE OF REPORT: 01/20/2015 REVISION NO: REVISION DATE:	
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 114	
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns			
SAMPLING/TESTING PERFORMED					
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL	
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)					
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>		
SUBMITTALS INSPECTION / REVIEW					
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>		
			YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.					
ACCUMULATION/STOCKPILE AREA INSPECTION					
INSPECTION PERFORMED BY:	Phyllis Zerangue	SIGNATURE OF INSPECTOR:			
ACCUMULATION/STOCKPILE AREA LOCATION	Waste drums transported off site today				
NO OF CONTAINERS:	0	NO OF TANKS:	0	NO OF ROLL-OFF BOXES: 0	
				NO OF DRUMS: 0	
INSPECTION RESULTS: No issues noted					
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:					
None.					
GENERAL COMMENTS (rework, directives, etc.):					
Visitors: None					
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): Manifests, T&D log and LPO					
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>			 PROJECT QC MANAGER'S SIGNATURE		01/20/2015
					DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>			 PROJECT QC MANAGER'S SIGNATURE		01/20/2015
					DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
7	Return 10 sampling well caps to EWE	12/23/14	
3	Perform Post-Respiration Test Lab Sampling	12/30/14	



Photo #1 - Waste Transporter



Photo #2 - Sixteen (16) Drums Transported off Site

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 01/22/2015 REVISION NO: REVISION DATE:			
TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 115			
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns			
SAFETY MEETINGS AND INSPECTIONS					
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.			
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.			
DEFINABLE FEATURES OF WORK STATUS					
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up	
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		
INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS					
DFOW No.(from list above)	Phase	Comment/Finding/Action			
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete			
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete			
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	<p> Pilot Study (including soil and air sampling): 0800 John Towns and Phyllis Zerangue arrived on site. Weather, 52°F, humid, partly cloudy, 5-7 east wind. Health and safety briefing was held with Towns and Zerangue and recorded in the field book. Scope of work: Perform last round of soil gas sampling for respiration test and collect post respiration laboratory air samples. Instruments were calibrated prior to work beginning and is documented on page 42 of the site field book and a list of equipment and cal gas on page 38 and 39. </p> <p> 0830 Set up on MW-26P-R (4" well) to begin the one hour purge time to remove one well volume. Once purging began, the team calibrated the instruments and conducted the H&S meeting. Sample from MW-26P-R was collected at 0930. The rest of the wells were sampled for both respiration samples and laboratory samples as the work progressed. Final respiration sampling included sample collection from 16 select wells (MC-10, SVE-10, MC-09, SVE-09, MC-11, SVE-11, VZMP1-60, VZMP1-75, VZMP2-63, VZMP2-69, MW26P-R, SVE-01, MC-04, SVE-04, VZMP1-34 and VZMP3-57). Laboratory samples were collected from the twenty-seven (27) wells listed in Tables 3-1 and 3-2 in Section 3.2.1 of the April 2014 Site Work Plan. One-inch wells were purged for a minimum of 5 minutes each and the 2-inch wells were purged for a minimum of 15 minutes each (one well volume). The last sample was collected at 1530. The team removed the sampling well caps provided by EWE and replaced them with the original locking well caps present on site during mobilization. Post-respiration lab soil gas samples were collected in Tedlar bags and shipped FedEx to an offsite laboratory for chemical analysis. Soil gas field samples were read directly from the instruments during sample collection and screened for O₂, CO₂, CH₄, and TVH. Readings were documented on a log and emailed to the Project Engineer for review. </p> <p> Twenty-seven (27) air samples were placed in two coolers and a chain-of-custody placed inside one of the coolers. The coolers were strapped and custody seals placed on the outside. Samples were shipped to ALSSIMI Valley, Simi Valley, CA - FedEx tracking #s: 8066 8218 6380 and 8066 8218 6370. 1545 - All off site. </p> <p> This FOW is 100% complete </p>			
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW			
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No activity for this FOW			

6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW		
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW		
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE OF REPORT: 01/22/2015 REVISION NO: REVISION DATE:	
	TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AV GAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL			REPORT NO: 115	
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue		SITE H&S SPECIALIST: John Towns			
SAMPLING/TESTING PERFORMED						
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL		
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)						
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?		COMMENT/REASON/ACTION	
			YES <input type="checkbox"/> NO <input type="checkbox"/>			
SUBMITTALS INSPECTION / REVIEW						
SUBMITTAL NO	SUBMITTAL DESCRIPTION		SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION	
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
				YES <input type="checkbox"/> NO <input type="checkbox"/>		
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.						
ACCUMULATION/STOCKPILE AREA INSPECTION						
INSPECTION PERFORMED BY:				SIGNATURE OF INSPECTOR:		
ACCUMULATION/ STOCKPILE AREA LOCATION						
NO OF CONTAINERS:	0	NO OF TANKS:	0	NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:
INSPECTION RESULTS: No issues noted						
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.						
GENERAL COMMENTS (rework, directives, etc.): Visitors: None						
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): T&D Log, Monthly Testing Log, COC						
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>				 PROJECT QC MANAGER'S SIGNATURE		01/22/2015
						DATE
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>				 PROJECT QC MANAGER'S SIGNATURE		01/22/2015
						DATE

Outstanding Items

FOW #	Description	Date Identified	Date Corrected
7	Return 10 sampling well caps to EWE	12/23/14	TBD
3	Perform Post-Respiration Test Lab Sampling	12/30/14	01/22/15
Photographs - None Today			

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 01/29/2015 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 116
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns

SAFETY MEETINGS AND INSPECTIONS

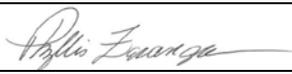
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 1240 John Towns and Phyllis Zerangue arrived on site. Weather, 68°F, sunny, dry, 5-7 southeast wind. Scope of work: Install sample port well caps on approximately 8 wells slated for air resampling. On January 22, 2014, the final round of post-respiration air samples were collected. When the samples arrived at the lab, seven (7) of the twenty-seven (27) air bags were flat and one was underinflated. The Project Engineer requested a resampling of the eight wells and wanted the special constructed sample port (locking/sealing) well caps placed on the wells a few days prior to resampling. Four of the eight wells were VZMP wells which did not need caps installed – they were constructed with permanent sample ports which were not removed on January 22 nd when air sampling was completed and the original 2” well caps replaced. Caps were placed on monitoring wells MC-04, SVE-04, SVE-01 and MW-26P-R. It is anticipated these and four VZMP wells will be resampled next week. 1130 – all off site.
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No activity for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

 Small Business RAC N62470-08-D-1006		CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE OF REPORT: 01/29/2015 REVISION NO: REVISION DATE:			
TO NO: JM19		PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL				REPORT NO: 116			
PROJECT NO: 391690		PROJECT QC MANAGER: Phyllis Zerangue			SITE H&S SPECIALIST: John Towns				
SAMPLING/TESTING PERFORMED									
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY			SAMPLING/TESTING PERSONNEL				
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)									
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION		MATERIAL ACCEPTED?		COMMENT/REASON/ACTION			
				YES <input type="checkbox"/> NO <input type="checkbox"/>					
SUBMITTALS INSPECTION / REVIEW									
SUBMITTAL NO	SUBMITTAL DESCRIPTION		SPEC/PLAN REFERENCE		SUBMITTAL APPROVED?	COMMENT/REASON/ACTION			
					YES <input type="checkbox"/> NO <input type="checkbox"/>				
					YES <input type="checkbox"/> NO <input type="checkbox"/>				
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.									
ACCUMULATION/STOCKPILE AREA INSPECTION									
INSPECTION PERFORMED BY:					SIGNATURE OF INSPECTOR:				
ACCUMULATION/ STOCKPILE AREA LOCATION									
NO OF CONTAINERS:	0	NO OF TANKS:	0	NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0		
INSPECTION RESULTS: No issues noted									
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.									
GENERAL COMMENTS (rework, directives, etc.): Visitors: None									
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None									
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>					 PROJECT QC MANAGER'S SIGNATURE		01/29/2015		
							DATE		
<i>On behalf of the contractor, I attest that the work for which payment is requested, including stored material, is in compliance with contract requirements.</i>					 PROJECT QC MANAGER'S SIGNATURE		01/29/2015		
							DATE		

 Small Business RAC N62470-08-D-1006	<h2 style="margin:0;">CONTRACTOR QUALITY CONTROL REPORT</h2> <p style="margin:0;">(ATTACH ADDITIONAL SHEETS IF NECESSARY)</p>	DATE OF REPORT: 02/02/2015 REVISION NO: REVISION DATE:
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TO NO: JM19	PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL	REPORT NO: 117
PROJECT NO: 391690	PROJECT QC MANAGER: Phyllis Zerangue	SITE H&S SPECIALIST: John Towns

SAFETY MEETINGS AND INSPECTIONS

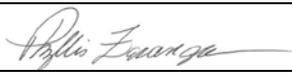
WAS A SAFETY MEETING HELD THIS DAY?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, ATTACH SAFETY MEETING MINUTES.
WAS CRANE USED ON THE SITE THIS DAY?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST.

DEFINABLE FEATURES OF WORK STATUS				
DFOW No.	Definable Feature Of Work	Preparatory	Initial	Follow-Up
1	Mobilization Site Preparation and Utility Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	VZMP Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Pilot Study (including soil and air sampling)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Surveying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Cleanup and Site Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Decontamination and Demobilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.		

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS		
DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Mobilization and Site Preparation: The FOW is 100% Complete
2	Initial <input type="checkbox"/> Follow up <input checked="" type="checkbox"/>	VZMP Installation: This FOW is 100% complete
3	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Pilot Study (including soil and air sampling): 0900 John Towns and Phyllis Zerangue arrived on site. Weather, 45°F, partly cloudy, windy, 15-25 mph north wind, humid. Scope of work: Re-sample eight wells that were originally sampled on January 22, 2015, but arrived at the laboratory deflated. On January 29 th , the team installed sample port well caps on the 2" wells needing resampling. Using an ARGUS-HAZCO air sampler pump, one well volume was purged from each well and samples were collected in 1 liter Tedlar™ bags. Each bag was checked to ensure the bag valves were closed tight and not over filled. Samples and a chain-of-custody were placed in a heavy gauge card board box and shipped to ALSSIMI Valley, Simi Valley, CA via FedEx. Wells sampled today (as listed by the project engineer) include: MC-04, SVE-04, MW-26P-R, VZMP1-16, VZMP1-34, VZMP2-16, VZMP2-63 and VZMP2-69. The last sample was collected at 1400. The sample caps were removed and the original well caps were placed on each well. 1415 – all off site. 1430 – Shipped samples. No further field work is anticipated for the pilot study task.
4	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Surveying: No activity for this FOW
5	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Waste Management: No activity for this FOW
6	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Cleanup and Site Restoration: No work for this FOW
7	Initial <input type="checkbox"/> Follow up <input type="checkbox"/>	Decontamination and Demobilization: No work for this FOW

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN
Air Sampling	01/29/15	8 air samples arrived at the lab deflated – resample required	Air Sampling	Resampling – 02/02/2015

 Small Business RAC N62470-08-D-1006	CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE OF REPORT: 02/02/2015 REVISION NO: REVISION DATE:		
	TO NO: JM19		PROJECT NAME/LOCATION: Bioventing Pilot Study, Site-4, North AVGAS Tank Sludge Disposal Area, NAS Whiting Field, Milton, FL		REPORT NO: 117		
PROJECT NO: 391690		PROJECT QC MANAGER: Phyllis Zerangue		SITE H&S SPECIALIST: John Towns			
SAMPLING/TESTING PERFORMED							
SAMPLING/TESTING PERFORMED		SAMPLING/TESTING COMPANY		SAMPLING/TESTING PERSONNEL			
Air Sampling		ALS – Simi Vally, CA		J. Towns and P. Zerangue			
MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)							
MATERIAL/EQUIPMENT DESCRIPTION		SPECIFICATION	MATERIAL ACCEPTED?		COMMENT/REASON/ACTION		
			YES <input type="checkbox"/> NO <input type="checkbox"/>				
SUBMITTALS INSPECTION / REVIEW							
SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?		COMMENT/REASON/ACTION		
			YES <input type="checkbox"/> NO <input type="checkbox"/>				
			YES <input type="checkbox"/> NO <input type="checkbox"/>				
OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN: None.							
ACCUMULATION/STOCKPILE AREA INSPECTION							
INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR:					
ACCUMULATION/ STOCKPILE AREA LOCATION							
NO OF CONTAINERS:	0	NO OF TANKS:	0	NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0
INSPECTION RESULTS: No issues noted							
TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES: None.							
GENERAL COMMENTS (rework, directives, etc.): Visitors: None							
LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.): None							
<i>On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.</i>				 PROJECT QC MANAGER'S SIGNATURE		02/02/2015 DATE	
				 PROJECT QC MANAGER'S SIGNATURE		02/02/2015 DATE	

Appendix D

Laboratory Analytical Data and Data Quality Evaluation

Data Summary Tables

TABLE D-1

Soil Data Summary Table - Residential Criteria
 Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Depth (ft) Sample Date	VZMP01							VZMP02				VZMP03				
	JM19-FD01-110414	JM19-VZMP01-17-110414	JM19-VZMP01-35-110414	JM19-FD02-110414	JM19-VZMP01-62-110414	JM19-VZMP01-74-110414	JM19-VZMP02-17-110514	JM19-VZMP02-43-110514	JM19-VZMP02-63-110514	JM19-VZMP02-69-110514	JM19-VZMP03-9-110614	JM19-VZMP03-37-110614	JM19-VZMP03-57-110614	JM19-VZMP03-69-110614		
	16-17 11/4/2014	16-17 11/4/2014	34-35 11/4/2014	61-62 11/4/2014	61-62 11/4/2014	73-74 11/4/2014	16-17 11/5/2014	42-43 11/5/2014	62-63 11/5/2014	68-69 11/5/2014	8-9 11/6/2014	36-37 11/6/2014	56-57 11/6/2014	68-69 11/6/2014		
FLPRO (MG/KG)																
FL-PRO Petroleum Hydrocarbons	MG/KG	460	20.3 U	20.4 U	19.4 U	18.5 U	18.5 U	26.8	19.1 U	19 U	19 U	18.6 U	20 U	18.6 U	18.6 U	19 U
SW6202A (MG/KG)																
LEAD	MG/KG	400	5.49	5.71 J	7.9	1.89 J	3.41 J	1.71	0.78 J	0.641	1.27	2.03	2.98	0.246 J	0.248 J	0.78
SW8270DSIM (MG/KG)																
1-METHYLNAPHTHALENE	MG/KG	200	0.00348 J	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00489	0.0034 J	0.00189 U	0.00176 U	0.00175 U	0.0018 U
2-METHYLNAPHTHALENE	MG/KG	210	0.00759	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00734	0.00724	0.00189 U	0.00176 U	0.00175 U	0.0018 U
ACENAPHTHENE	MG/KG	2400	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
ACENAPHTHYLENE	MG/KG	1800	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
ANTHRACENE	MG/KG	21000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZO(a)ANTHRACENE	MG/KG	--	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZO(a)PYRENE	MG/KG	0.1	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZO(b)FLUORANTHENE	MG/KG	--	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZO(g,h,i)PERYLENE	MG/KG	2500	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZO(k)FLUORANTHENE	MG/KG	--	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
CHRYSENE	MG/KG	--	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
DIBENZO(a,h)ANTHRACENE	MG/KG	--	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
FLUORANTHENE	MG/KG	3200	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.0124	0.0103	0.00189 U	0.00176 U	0.00175 U	0.0018 U
FLUORENE	MG/KG	2600	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
INDENO(1,2,3-C,D)PYRENE	MG/KG	--	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
NAPHTHALENE	MG/KG	55	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
PHENANTHRENE	MG/KG	2200	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
PYRENE	MG/KG	2400	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.0075	0.00608	0.00189 U	0.00176 U	0.00175 U	0.0018 U
VOA (MG/KG)																
1,1,1-TRICHLOROETHANE	MG/KG	730	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1,2,2-TETRACHLOROETHANE	MG/KG	0.7	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1,2-TRICHLOROETHANE	MG/KG	1.4	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1-DICHLOROETHANE	MG/KG	390	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0498 J	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1-DICHLOROETHENE	MG/KG	95	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2,3-TRICHLOROBENZENE	MG/KG	650	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2,4-TRICHLOROBENZENE	MG/KG	660	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2-DIBROMO-3-CHLOROPROPANE	MG/KG	0.7	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
1,2-DIBROMOETHANE (EDB)	MG/KG	0.1	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
1,2-DICHLOROBENZENE	MG/KG	880	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2-DICHLOROETHANE	MG/KG	0.5	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2-DICHLOROPROPANE	MG/KG	0.6	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,3-DICHLOROBENZENE	MG/KG	380	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,4-DICHLOROBENZENE	MG/KG	6.4	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
2-HEXANONE	MG/KG	24	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
ACETONE	MG/KG	11000	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.0122 J	0.0101 J	0.137 U	0.507 U	0.00207 U	0.00991 J	0.0111 J	0.00239 U
BENZENE	MG/KG	1.2	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMOCHLOROMETHANE	MG/KG	95	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMODICHLOROMETHANE	MG/KG	1.5	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMOFORM	MG/KG	48	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMOMETHANE	MG/KG	3.1	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
CARBON DISULFIDE	MG/KG	270	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CARBON TETRACHLORIDE	MG/KG	0.5	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROBENZENE	MG/KG	120	0.0243 U	0.102 J	1.24	0.622 J	0.961	1.2 J	0.000436 J	0.000605 U	0.936	1.82	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROETHANE	MG/KG	3.9	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROFORM	MG/KG	0.4	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROMETHANE	MG/KG	4	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
cis-1,2-DICHLOROETHYLENE	MG/KG	33	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
cis-1,3-DICHLOROPROPENE	MG/KG	--	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CYCLOHEXANE	MG/KG	--	0.0243 U	0.0243 U	0.											

TABLE D-2

Soil Data Summary Table - Industrial Criteria
Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Depth (ft) Sample Date Analyte	Units	SCTL	VZMP01				VZMP02				VZMP03					
			JM19-FD01-110414	JM19-VZMP01-17-110414	JM19-VZMP01-35-110414	JM19-FD02-110414	JM19-VZMP01-62-110414	JM19-VZMP01-74-110414	JM19-VZMP02-17-110514	JM19-VZMP02-43-110514	JM19-VZMP02-63-110514	JM19-VZMP02-69-110514	JM19-VZMP03-9-110614	JM19-VZMP03-37-110614	JM19-VZMP03-57-110614	JM19-VZMP03-69-110614
FL-PRO Petroleum Hydrocarbons	MG/KG	2700	20.3 U	20.4 U	19.4 U	18.5 U	18.5 U	26.8	19.1 U	19 U	19 U	18.6 U	20 U	18.6 U	18.6 U	19 U
SW6020A (MG/KG)	MG/KG	1400	5.49	5.71 J	7.9	1.89 J	3.41 J	1.71	0.78 J	0.641	1.27	2.03	2.98	0.246 J	0.248 J	0.78
LEAD	MG/KG	1400	5.49	5.71 J	7.9	1.89 J	3.41 J	1.71	0.78 J	0.641	1.27	2.03	2.98	0.246 J	0.248 J	0.78
1-METHYLNAPHTHALENE	MG/KG	1800	0.00348 J	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00489	0.0034 J	0.00189 U	0.00176 U	0.00175 U	0.0018 U
2-METHYLNAPHTHALENE	MG/KG	2100	0.00759	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00734	0.00724	0.00189 U	0.00176 U	0.00175 U	0.0018 U
ACENAPHTHENE	MG/KG	20000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
ACENAPHTHYLENE	MG/KG	20000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
ANTHRACENE	MG/KG	30000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZ(a)ANTHRACENE	MG/KG	0.7	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZ(b)FLUORANTHENE	MG/KG	0.7	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZ(a,h)PERYLENE	MG/KG	52000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
BENZ(k)FLUORANTHENE	MG/KG	0.7	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
CHRYSENE	MG/KG	0.7	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
DIBENZ(a,h)ANTHRACENE	MG/KG	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
FLUORANTHENE	MG/KG	59000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
FLUORENE	MG/KG	33000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
INDEN(1,2,3-cd)PYRENE	MG/KG	0.7	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
NAPHTHALENE	MG/KG	300	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
PHENANTHRENE	MG/KG	36000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
PYRENE	MG/KG	45000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
VOA (MG/KG)	MG/KG	45000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00175 U	0.00175 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U
1,1,1-TRICHLOROETHANE	MG/KG	3900	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1,2-2-TETRACHLOROETHANE	MG/KG	1.1	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1,2-TRICHLOROETHANE	MG/KG	2	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1-DICHLOROETHANE	MG/KG	2100	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,1-DICHLOROBENZENE	MG/KG	510	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2,3-TRICHLOROBENZENE	MG/KG	8200	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2,4-TRICHLOROBENZENE	MG/KG	8500	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2-DIBROMO-3-CHLOROPROPANE	MG/KG	3.8	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
1,2-DIBROMOETHANE (EDB)	MG/KG	0.2	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
1,2-DICHLOROBENZENE	MG/KG	5000	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2-DICHLOROETHANE	MG/KG	0.7	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,2-DICHLOROPROPANE	MG/KG	0.9	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,3-DICHLOROBENZENE	MG/KG	2200	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
1,3-DICHLOROBENZENE	MG/KG	9.9	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
2-HEXANONE	MG/KG	130	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
ACETONE	MG/KG	68000	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
BENZENE	MG/KG	1.7	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMOCHLOROMETHANE	MG/KG	530	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMODICHLOROMETHANE	MG/KG	2.2	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMOFORM	MG/KG	93	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
BROMOMETHANE	MG/KG	16	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
CARBON DISULFIDE	MG/KG	1500	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CARBON TETRACHLORIDE	MG/KG	0.7	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROBENZENE	MG/KG	650	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROBENZENE	MG/KG	5.4	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROFORM	MG/KG	0.6	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CHLOROMETHANE	MG/KG	5.7	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U
cis-1,2-DICHLOROETHYLENE	MG/KG	180	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
cis-1,3-DICHLOROPROPENE	MG/KG	0.7	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
CYCLOHEXANE	MG/KG	2.3	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U
DIBROMOCHLOROMETHANE	MG/KG	410	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U</

TABLE D-3

Soil Data Summary Table - Leachability Criteria
 Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Depth (ft) Sample Date Analyte	Units	LGW	VZMP01					VZMP02					VZMP03				
			JM19-FD01-110414	JM19-VZMP01-17-110414	JM19-VZMP01-35-110414	JM19-FD02-110414	JM19-VZMP01-62-110414	JM19-VZMP01-74-110414	JM19-VZMP02-17-110514	JM19-VZMP02-43-110514	JM19-VZMP02-63-110514	JM19-VZMP02-69-110514	JM19-VZMP03-9-110614	JM19-VZMP03-37-110614	JM19-VZMP03-57-110614	JM19-VZMP03-69-110614	
			16-17	16-17	34-35	61-62	61-62	73-74	16-17	42-43	62-63	68-69	8-9	36-37	56-57	68-69	
FLPRO (MG/KG)																	
FL-PRO Petroleum Hydrocarbons	MG/KG	340	20.3 U	20.4 U	19.4 U	18.5 U	18.5 U	26.8	19.1 U	19 U	19 U	18.6 U	20 U	18.6 U	18.6 U	19 U	
SW6020A (MG/KG)																	
LEAD	MG/KG	--	5.49	5.71 J	7.9	1.89 J	3.41 J	1.71	0.78 J	0.641	1.27	2.03	2.98	0.246 J	0.248 J	0.78	
SW8270DSIM (MG/KG)																	
1-METHYLNAPHTHALENE	MG/KG	3.1	0.00348 J	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00489	0.0034 J	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
2-METHYLNAPHTHALENE	MG/KG	8.5	0.00759	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00724	0.00724	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
ACENAPHTHENE	MG/KG	2.1	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00175 U	0.00175 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
ACENAPHTHYLENE	MG/KG	27	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00175 U	0.00175 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
ANTHRACENE	MG/KG	2500	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00179 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
BENZO(a)ANTHRACENE	MG/KG	0.8	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
BENZO(a)PYRENE	MG/KG	8	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
BENZO(b)FLUORANTHENE	MG/KG	2.4	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
BENZO(k)FLUORANTHENE	MG/KG	32000	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
CHRYSENE	MG/KG	77	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
DIBENZ(a,h)ANTHRACENE	MG/KG	0.7	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
FLUORANTHENE	MG/KG	1200	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
FLUORENE	MG/KG	160	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
INDENO(1,2,3-C,D)PYRENE	MG/KG	6.6	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
NAPHTHALENE	MG/KG	1.2	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
PHENANTHRENE	MG/KG	250	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
PYRENE	MG/KG	880	0.00191 U	0.00192 U	0.00183 U	0.00175 U	0.00175 U	0.00173 U	0.0018 U	0.00179 U	0.00179 U	0.00176 U	0.00189 U	0.00176 U	0.00175 U	0.0018 U	
VOA (MG/KG)																	
1,1,1-TRICHLOROETHANE	MG/KG	1.9	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,1,2-TRICHLOROETHANE	MG/KG	0.001	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,1,2,2-TRICHLOROETHANE	MG/KG	0.03	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,1-DICHLOROETHANE	MG/KG	0.4	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0498 J	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,1-DICHLOROBENZENE	MG/KG	0.06	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,2,3-TRICHLOROBENZENE	MG/KG	4.6	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,2,4-TRICHLOROBENZENE	MG/KG	5.3	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,2-DIBROMO-3-CHLOROPROPANE	MG/KG	0.001	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U	
1,2-DIBROMOETHANE (EDB)	MG/KG	0.0001	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U	
1,2-DICHLOROBENZENE	MG/KG	17	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,2-DICHLOROETHANE	MG/KG	0.01	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,2-DICHLOROPROPANE	MG/KG	0.03	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,3-DICHLOROBENZENE	MG/KG	7	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
1,4-DICHLOROBENZENE	MG/KG	2.2	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
2-HEXANONE	MG/KG	1.4	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U	
ACETONE	MG/KG	25	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U	
BENZENE	MG/KG	0.007	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
BROMOCHLOROMETHANE	MG/KG	0.6	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
BROMODICHLOROMETHANE	MG/KG	0.004	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
BROMOFORM	MG/KG	0.03	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
BROMOMETHANE	MG/KG	0.05	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U	
CARBON DISULFIDE	MG/KG	5.6	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
CARBON TETRACHLORIDE	MG/KG	0.04	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
CHLOROBENZENE	MG/KG	1.3	0.0243 U	0.102 J	1.24	0.622 J	0.961	1.2 J	0.000436 J	0.000605 U	0.0343 U	1.82	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
CHLOROETHANE	MG/KG	0.06	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
CHLOROFORM	MG/KG	0.4	0.0243 U	0.0243 U	0.438 J	0.075 U	0.246 J	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
CHLOROMETHANE	MG/KG	0.01	0.0973 U	0.0973 U	0.262 U	0.3 U	0.283 U	0.71 U	0.00196 U	0.00242 U	0.137 U	0.507 U	0.00207 U	0.00245 U	0.00222 U	0.00239 U	
cis-1,2-DICHLOROETHYLENE	MG/KG	0.4	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
cis-1,3-DICHLOROPROPENE	MG/KG	--	0.0243 U	0.0243 U	0.0654 U	0.075 U	0.0708 U	0.178 U	0.000489 U	0.000605 U	0.0343 U	0.127 U	0.000517 U	0.000612 U	0.000555 U	0.000597 U	
CYCLOHEXANE	MG/KG	--	0.0243 U	0.0243 U	0.06												

TABLE D-4

Soil Data Summary Table - BEQ Criteria
 Site 4, NAS Whiting Field, Milton Florida

StationID			VZMP01					
			JM19-VZMP01-17-110414	JM19-FD01-110414	JM19-VZMP01-35-110414	JM19-VZMP01-62-110414	JM19-FD02-110414	JM19-VZMP01-74-110414
SampleID								
Sample Depth (ft)			16 - 17	16 - 17	34 - 35	61 - 62	61 - 62	73 - 74
Sample Date			11/4/2014	11/4/2014	11/4/2014	11/4/2014	11/4/2014	11/4/2014
Parameter	Units	SCTL ¹						
SW8270DSIM								
BENZO(a)ANTHRACENE	MG/KG		0.000096 U	0.0000955 U	0.0000915 U	0.0000875 U	0.0000875 U	0.0000865 U
BENZO(a)PYRENE	MG/KG		0.00096 U	0.000955 U	0.000915 U	0.000875 U	0.000875 U	0.000865 U
BENZO(b)FLUORANTHENE	MG/KG		0.000096 U	0.0000955 U	0.0000915 U	0.0000875 U	0.0000875 U	0.0000865 U
BENZO(k)FLUORANTHENE	MG/KG		0.0000096 U	0.00000955 U	0.00000915 U	0.00000875 U	0.00000875 U	0.00000865 U
CHRYSENE	MG/KG		0.00000096 U	0.000000955 U	0.000000915 U	0.000000875 U	0.000000875 U	0.000000865 U
DIBENZ(a,h)ANTHRACENE	MG/KG		0.00096 U	0.000955 U	0.000915 U	0.000875 U	0.000875 U	0.000865 U
INDENO(1,2,3-C,D)PYRENE	MG/KG		0.000096 U	0.0000955 U	0.0000915 U	0.0000875 U	0.0000875 U	0.0000865 U
Total BEQs			0.00221856	0.002207005	0.002114565	0.002022125	0.002022125	0.001999015
Industrial Exposure Limit		0.7						
SCTL Industrial Failure?			NO	NO	NO	NO	NO	NO
Residential Exposure Limit		0.1						
SCTL Residential Failure?			NO	NO	NO	NO	NO	NO

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was below the reported sample quantitation limit. However, the reported value is approximate.

mg/kg Milligrams per Kilogram

1 Ch 62-777 F.A.C Soil Cleanup Target Level (SCTLs) reported in mg/kg

SCTL¹ - Soil Cleanup Target Level

Shading with "YES" indicates Total BaP equivalent failure.

TABLE D-4

Soil Data Summary Table - BEQ Criteria
 Site 4, NAS Whiting Field, Milton Florida

StationID	VZMP02				VZMP03									
	SampleID	Sample Depth (ft)	Sample Date	Parameter	Units	SCTL ¹	JM19-VZMP02-17-110514	JM19-VZMP02-43-110514	JM19-VZMP02-63-110514	JM19-VZMP02-69-110514	JM19-VZMP03-9-110614	JM19-VZMP03-37-110614	JM19-VZMP03-57-110614	JM19-VZMP03-69-110614
SW8270DSIM														
BENZO(a)ANTHRACENE	MG/KG		0.00009 U	0.0000895 U	0.0000895 U	0.000088 U	0.0000945 U	0.000088 U	0.0000875 U	0.00009 U				
BENZO(a)PYRENE	MG/KG		0.0009 U	0.000895 U	0.000895 U	0.00088 U	0.000945 U	0.00088 U	0.000875 U	0.0009 U				
BENZO(b)FLUORANTHENE	MG/KG		0.00009 U	0.0000895 U	0.0000895 U	0.000088 U	0.0000945 U	0.000088 U	0.0000875 U	0.00009 U				
BENZO(k)FLUORANTHENE	MG/KG		0.000009 UJ	0.00000895 U	0.00000895 U	0.0000088 U	0.00000945 U	0.0000088 U	0.00000875 U	0.000009 U				
CHRYSENE	MG/KG		0.0000009 UJ	0.000000895 U	0.000000895 U	0.00000088 U	0.000000945 U	0.00000088 U	0.000000875 U	0.0000009 U				
DIBENZ(a,h)ANTHRACENE	MG/KG		0.0009 U	0.000895 U	0.000895 U	0.00088 U	0.000945 U	0.00088 U	0.000875 U	0.0009 U				
INDENO(1,2,3-C,D)PYRENE	MG/KG		0.00009 U	0.0000895 U	0.0000895 U	0.000088 U	0.0000945 U	0.000088 U	0.0000875 U	0.00009 U				
Total BEQs			0.0020799	0.002068345	0.002068345	0.00203368	0.002183895	0.00203368	0.002022125	0.0020799				
Industrial Exposure Limit		0.7												
SCTL Industrial Failure?			NO	NO	NO	NO	NO	NO	NO	NO				
Residential Exposure Limit		0.1												
SCTL Residential Failure?			NO	NO	NO	NO	NO	NO	NO	NO				

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- UJ The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
- mg/kg Milligrams per Kilogram

1 Ch 62-777 F.A.C Soil Cleanup Target Level (SCTLs) reported in mg/kg

SCTL¹ - Soil Cleanup Target Level

Shading with "YES" indicates Total BaP equivalent failure.

TABLE D-5

Soil Gas Analytical Results
Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Date Analyte Units	MC01		MC02	MC04		MC09		
	JM19-MC01-120814 (NV)	JM19-MC01-012215 (NV)	JM19-MC02-012215 (NV)	JM19-MC04-120814 (NV)	JM19-MC04-020215 (NV)	JM19-MC09-120814 (NV)	JM19-MC09-012215 (NV)	
	12/8/2014	1/22/2015	1/22/2015	12/8/2014	2/2/2015	12/8/2014	1/22/2015	
VOA (UG/M3)								
1,1,1-TRICHLOROETHANE	UG/M3	10000 U	1100 U	230 U	20000 U	3400 U	21000 U	8500 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	10000 U	1000 U	200 U	20000 U	3000 U	20000 U	7500 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	20000	1100 U	230 U	21000 U	3400 U	23000 J	8500 U
1,1,2-TRICHLOROETHANE	UG/M3	10000 U	1100 U	210 U	21000 U	3200 U	21000 U	8000 U
1,1-DICHLOROETHANE	UG/M3	10000 U	1100 U	210 U	21000 U	3200 U	21000 U	8000 U
1,1-DICHLOROETHENE	UG/M3	10000 U	1100 U	230 U	21000 U	3400 U	21000 U	8500 U
1,2,3-TRICHLOROBENZENE	UG/M3	12000 U	1800 U	360 U	25000 U	5400 U	25000 U	14000 U
1,2,4-TRICHLOROBENZENE	UG/M3	11000 U	1100 U	210 U	22000 U	3200 U	22000 U	8000 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	10000 U	660 U	130 U	21000 U	2000 U	21000 U	5000 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	11000 U	1100 U	210 U	21000 U	3200 U	22000 U	8000 U
1,2-DICHLOROBENZENE	UG/M3	11000 U	1000 U	200 U	21000 U	3000 U	22000 U	7500 U
1,2-DICHLOROETHANE	UG/M3	10000 U	1100 U	210 U	21000 U	3200 U	21000 U	8000 U
1,2-DICHLOROPROPANE	UG/M3	10000 U	1100 U	210 U	21000 U	3200 U	21000 U	8000 U
1,3-DICHLOROBENZENE	UG/M3	11000 U	1000 U	200 U	22000 U	3000 U	22000 U	7500 U
1,4-DICHLOROBENZENE	UG/M3	10000 U	930 U	190 U	21000 U	2800 U	21000 U	7000 U
2-HEXANONE	UG/M3	11000 U	1100 U	210 U	22000 U	3200 U	22000 U	8000 U
ACETONE	UG/M3	52000 U	5100 U	1000 U	100000 U	15000 U	110000 U	39000 U
BENZENE	UG/M3	11000 J	1100 U	210 U	11000 J	3800 J	11000 J	8000 U
BROMODICHLOROMETHANE	UG/M3	11000 U	1000 U	200 U	21000 U	3000 U	22000 U	7500 U
BROMOFORM	UG/M3	11000 U	1000 U	200 U	21000 U	3000 U	22000 U	7500 U
BROMOMETHANE	UG/M3	9700 U	1300 U	250 U	19000 U	3800 U	20000 U	9500 U
CARBON DISULFIDE	UG/M3	9700 U	1000 U	200 U	19000 U	3000 U	20000 U	7500 U
CARBON TETRACHLORIDE	UG/M3	10000 U	1000 U	200 U	21000 U	3000 U	21000 U	7500 U
CHLOROBENZENE	UG/M3	11000 U	1100 U	210 U	21000 U	3200 U	22000 U	8000 U
CHLOROETHANE	UG/M3	9700 U	1100 U	230 U	19000 U	3400 U	20000 U	8500 U
CHLOROFORM	UG/M3	10000 U	1100 U	230 U	21000 U	3400 U	21000 U	14000 J
CHLOROMETHANE	UG/M3	9500 U	1000 U	200 U	19000 U	3000 U	19000 U	7500 U
cis-1,2-DICHLOROETHYLENE	UG/M3	11000 U	1100 U	210 U	21000 U	3200 U	22000 U	8000 U
cis-1,3-DICHLOROPROPENE	UG/M3	10000 U	930 U	190 U	20000 U	2800 U	21000 U	7000 U
CYCLOHEXANE	UG/M3	230000	11000	1900	210000	88000	370000	160000
DIBROMOCHLOROMETHANE	UG/M3	11000 U	1100 U	210 U	21000 U	3200 U	22000 U	8000 U
DICHLORODIFLUOROMETHANE	UG/M3	10000 U	1100 U	240 J	20000 U	3400 U	20000 U	8500 U
ETHYLBENZENE	UG/M3	4300 J	2600 J	870	14000 J	3200 U	10000 J	8000 U
ISOPROPYLBENZENE (CUMENE)	UG/M3	10000 U	1000 U	200 U	20000 U	3000 U	20000 U	7500 U
m,p-Xylene	UG/M3	17000 J	13000	4700	77000	9900 J	110000	26000 J
METHYL ACETATE	UG/M3	12000 U	1600 U	320 U	25000 U	4800 U	25000 U	12000 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	8000 J	1400 U	280 U	21000 U	4200 U	22000 U	11000 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	11000 U	1100 U	210 U	21000 U	3200 U	22000 U	8000 U
METHYLCYCLOHEXANE	UG/M3	230000	31000	7100	310000	140000	560000	250000
METHYLENE CHLORIDE	UG/M3	10000 U	1100 U	590 J	20000 U	4900 J	20000 U	8500 U
o-Xylene	UG/M3	10000 U	1600 J	510 J	20000 U	3000 U	12000 J	7500 U
STYRENE	UG/M3	11000 U	1000 U	200 U	22000 U	3000 U	22000 U	7500 U
tert-BUTYL METHYL ETHER	UG/M3	10000 U	1100 U	230 U	21000 U	3400 U	21000 U	8500 U
TETRACHLOROETHYLENE(PCE)	UG/M3	9700 U	930 U	190 U	19000 U	2800 U	20000 U	7000 U
TOLUENE	UG/M3	99000	17000	8000	300000	65000	450000	170000
TRANS-1,2-DICHLOROETHENE	UG/M3	10000 U	1300 U	250 U	21000 U	3800 U	21000 U	9500 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	10000 U	1100 U	210 U	20000 U	3200 U	21000 U	8000 U
TRICHLOROETHYLENE (TCE)	UG/M3	10000 U	930 U	190 U	21000 U	2800 U	21000 U	7000 U
TRICHLOROFLUOROMETHANE	UG/M3	10000 U	1100 U	230 U	20000 U	3400 U	20000 U	8500 U
VINYL CHLORIDE	UG/M3	9700 U	1100 U	230 U	19000 U	3400 U	20000 U	8500 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Bold indicates the analyte was detected

(NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
 Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Date Analyte Units	MC10		MC11		MW26PR		MW37P	
	JM19-MC10-120814 (NV) 12/8/2014	JM19-MC10-012215 (NV) 1/22/2015	JM19-MC11-120814 (NV) 12/8/2014	JM19-MC11-012215 (NV) 1/22/2015	JM19-MW26PR-120814 (NV) 12/8/2014	JM19-MW26PR-020215 (NV) 2/2/2015	JM19-MW37P-012215 (NV) 1/22/2015	
VOA (UG/M3)								
1,1,1-TRICHLOROETHANE	UG/M3	20000 U	570 U	16000 U	340 U	27000 U	3400 U	110 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	20000 U	500 U	16000 U	300 U	27000 U	3000 U	100 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	9300 J	570 U	17000 U	340 U	13000 J	3400 U	110 U
1,1,2-TRICHLOROETHANE	UG/M3	21000 U	530 U	17000 U	320 U	28000 U	3200 U	110 U
1,1-DICHLOROETHANE	UG/M3	21000 U	530 U	17000 U	320 U	28000 U	3200 U	110 U
1,1-DICHLOROETHENE	UG/M3	21000 U	570 U	17000 U	340 U	28000 U	3400 U	110 U
1,2,3-TRICHLOROBENZENE	UG/M3	25000 U	900 U	20000 U	540 U	33000 U	5400 U	180 U
1,2,4-TRICHLOROBENZENE	UG/M3	22000 U	530 U	18000 U	320 U	29000 U	3200 U	110 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	21000 U	330 U	17000 U	200 U	28000 U	2000 U	66 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	21000 U	530 U	17000 U	320 U	29000 U	3200 U	110 U
1,2-DICHLOROBENZENE	UG/M3	21000 U	500 U	17000 U	300 U	29000 U	3000 U	100 U
1,2-DICHLOROETHANE	UG/M3	21000 U	530 U	17000 U	320 U	28000 U	3200 U	110 U
1,2-DICHLOROPROPANE	UG/M3	21000 U	530 U	17000 U	320 U	28000 U	3200 U	110 U
1,3-DICHLOROBENZENE	UG/M3	22000 U	500 U	18000 U	300 U	29000 U	3000 U	100 U
1,4-DICHLOROBENZENE	UG/M3	21000 U	470 U	17000 U	280 U	28000 U	2800 U	93 U
2-HEXANONE	UG/M3	22000 U	530 U	18000 U	320 U	29000 U	3200 U	110 U
ACETONE	UG/M3	100000 U	2600 U	84000 U	1500 U	140000 U	15000 U	510 U
BENZENE	UG/M3	45000	530 U	33000	320 U	25000 J	3200 U	110 U
BROMODICHLOROMETHANE	UG/M3	21000 U	500 U	17000 U	300 U	29000 U	3000 U	100 U
BROMOFORM	UG/M3	21000 U	500 U	17000 U	300 U	29000 U	3000 U	100 U
BROMOMETHANE	UG/M3	19000 U	630 U	16000 U	380 U	26000 U	3800 U	130 U
CARBON DISULFIDE	UG/M3	19000 U	500 U	16000 U	300 U	26000 U	3000 U	100 U
CARBON TETRACHLORIDE	UG/M3	21000 U	500 U	17000 U	300 U	28000 U	3000 U	100 U
CHLOROBENZENE	UG/M3	21000 U	530 U	17000 U	320 U	29000 U	3200 U	110 U
CHLOROETHANE	UG/M3	19000 U	570 U	16000 U	340 U	26000 U	3400 U	110 U
CHLOROFORM	UG/M3	21000 U	570 U	17000 U	340 U	28000 U	3400 U	110 U
CHLOROMETHANE	UG/M3	19000 U	500 U	15000 U	300 U	25000 U	3000 U	100 U
cis-1,2-DICHLOROETHYLENE	UG/M3	21000 U	530 U	17000 U	320 U	29000 U	3200 U	110 U
cis-1,3-DICHLOROPROPENE	UG/M3	20000 U	470 U	16000 U	280 U	27000 U	2800 U	93 U
CYCLOHEXANE	UG/M3	460000	5000	350000	3400	590000	63000	1400
DIBROMOCHLOROMETHANE	UG/M3	21000 U	530 U	17000 U	320 U	29000 U	3200 U	110 U
DICHLORODIFLUOROMETHANE	UG/M3	20000 U	570 U	16000 U	340 U	27000 U	3400 U	110 U
ETHYLBENZENE	UG/M3	13000 J	3400	15000 J	2700	15000 J	3200 U	660
ISOPROPYLBENZENE (CUMENE)	UG/M3	20000 U	500 U	16000 U	300 U	27000 U	3000 U	100 U
m,p-Xylene	UG/M3	170000	18000	120000	14000	91000	7400 J	3700
METHYL ACETATE	UG/M3	25000 U	800 U	20000 U	480 U	33000 U	4800 U	160 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	21000 U	700 U	14000 J	420 U	29000 U	4200 U	140 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	21000 U	530 U	17000 U	320 U	29000 U	3200 U	110 U
METHYLCYCLOHEXANE	UG/M3	610000	18000	440000	13000	970000	130000	5200
METHYLENE CHLORIDE	UG/M3	20000 U	2700	16000 U	1600	27000 U	5300 J	110 U
o-Xylene	UG/M3	20000 J	2000	18000 J	1800	28000 J	3000 U	410
STYRENE	UG/M3	22000 U	500 U	18000 U	300 U	29000 U	3000 U	100 U
tert-BUTYL METHYL ETHER	UG/M3	21000 U	570 U	17000 U	340 U	28000 U	3400 U	110 U
TETRACHLOROETHYLENE(PCE)	UG/M3	19000 U	470 U	16000 U	280 U	26000 U	2800 U	93 U
TOLUENE	UG/M3	1800000	34000	570000	23000	810000	10000	5700
TRANS-1,2-DICHLOROETHENE	UG/M3	21000 U	630 U	17000 U	380 U	28000 U	3800 U	130 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	20000 U	530 U	16000 U	320 U	27000 U	3200 U	110 U
TRICHLOROETHYLENE (TCE)	UG/M3	21000 U	470 U	17000 U	280 U	28000 U	2800 U	93 U
TRICHLOROFLUOROMETHANE	UG/M3	20000 U	570 U	16000 U	340 U	27000 U	3400 U	110 U
VINYL CHLORIDE	UG/M3	19000 U	570 U	16000 U	340 U	26000 U	3400 U	110 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting limit
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
 Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Date Analyte Units	MW45P		MW49P		SVE01		SVE02		
	JM19-MW45P-120814 (NV) 12/8/2014	JM19-MW45P-012215 (NV) 1/22/2015	JM19-MW49P-120814 (NV) 12/8/2014	JM19-MW49P-012215 (NV) 1/22/2015	JM19-SVE01-120814 (NV) 12/8/2014	JM19-SVE01-012215 (NV) 1/22/2015	JM19-SVE02-120814 (NV) 12/8/2014	JM19-SVE02-012215 (NV) 1/22/2015	
1,1,1-TRICHLOROETHANE	UG/M3	16000 U	570 U	2700 U	680 U	2700 U	4600 U	410 U	190 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	16000 U	500 U	2700 U	600 U	2700 U	4100 U	400 U	170 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	55000	570 U	2900 U	680 U	5300	10000 J	320 J	190 U
1,1,2-TRICHLOROETHANE	UG/M3	17000 U	530 U	2800 U	640 U	2800 U	4400 U	420 U	180 U
1,1-DICHLOROETHANE	UG/M3	17000 U	530 U	2800 U	640 U	2800 U	4400 U	420 U	180 U
1,1-DICHLOROETHENE	UG/M3	17000 U	570 U	2800 U	680 U	2800 U	4600 U	420 U	190 U
1,2,3-TRICHLOROBENZENE	UG/M3	20000 U	900 U	3300 U	1100 U	3300 U	7400 U	500 U	300 U
1,2,4-TRICHLOROBENZENE	UG/M3	18000 U	530 U	2900 U	640 U	2900 U	4400 U	440 U	180 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	17000 U	330 U	2800 U	400 U	2800 U	2700 U	420 U	110 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	17000 U	530 U	2900 U	640 U	2900 U	4400 U	430 U	180 U
1,2-DICHLOROBENZENE	UG/M3	17000 U	500 U	2900 U	600 U	2900 U	4100 U	430 U	170 U
1,2-DICHLOROETHANE	UG/M3	17000 U	530 U	2800 U	640 U	2800 U	4400 U	420 U	180 U
1,2-DICHLOROPROPANE	UG/M3	17000 U	530 U	2800 U	640 U	2800 U	4400 U	420 U	180 U
1,3-DICHLOROBENZENE	UG/M3	18000 U	500 U	2900 U	600 U	2900 U	4100 U	440 U	170 U
1,4-DICHLOROBENZENE	UG/M3	17000 U	470 U	2800 U	560 U	2800 U	3800 U	420 U	160 U
2-HEXANONE	UG/M3	18000 U	530 U	2900 U	640 U	2900 U	4400 U	440 U	180 U
ACETONE	UG/M3	84000 U	2600 U	14000 U	3100 U	14000 U	21000 U	2100 U	860 U
BENZENE	UG/M3	28000	530 U	1100 J	640 U	2400 J	4400 U	160 J	180 U
BROMODICHLOROMETHANE	UG/M3	17000 U	500 U	2900 U	600 U	2900 U	4100 U	430 U	170 U
BROMOFORM	UG/M3	17000 U	500 U	2900 U	600 U	2900 U	4100 U	430 U	170 U
BROMOMETHANE	UG/M3	16000 U	630 U	2600 U	760 U	2600 U	5200 U	390 U	210 U
CARBON DISULFIDE	UG/M3	16000 U	500 U	2600 U	600 U	2600 U	4100 U	390 U	170 U
CARBON TETRACHLORIDE	UG/M3	17000 U	500 U	2800 U	600 U	2800 U	4100 U	420 U	170 U
CHLOROBENZENE	UG/M3	17000 U	530 U	2900 U	640 U	2900 U	4400 U	430 U	180 U
CHLOROETHANE	UG/M3	16000 U	570 U	2600 U	680 U	2600 U	4600 U	390 U	190 U
CHLOROFORM	UG/M3	17000 U	570 U	2800 U	680 U	2800 U	4600 U	420 U	190 U
CHLOROMETHANE	UG/M3	15000 U	500 U	2500 U	600 U	2500 U	4100 U	380 U	170 U
cis-1,2-DICHLOROETHYLENE	UG/M3	17000 U	530 U	2100 J	640 U	2200 J	4400 U	420 J	180 U
cis-1,3-DICHLOROPROPENE	UG/M3	16000 U	470 U	2700 U	560 U	2700 U	3800 U	410 U	160 U
CYCLOHEXANE	UG/M3	350000	4300	11000	6000	48000	83000	2500	1500
DIBROMOCHLOROMETHANE	UG/M3	17000 U	530 U	2900 U	640 U	2900 U	4400 U	430 U	180 U
DICHLORODIFLUOROMETHANE	UG/M3	16000 U	570 U	2700 U	680 U	2700 U	4600 U	400 U	190 U
ETHYLBENZENE	UG/M3	66000	1400 J	6500	1500 J	1100 J	4400 U	380 J	700
ISOPROPYLBENZENE (CUMENE)	UG/M3	16000 U	500 U	2700 U	600 U	2700 U	4100 U	400 U	170 U
m,p-Xylene	UG/M3	77000	7200	36000	7200	13000	15000 J	2500	4000
METHYL ACETATE	UG/M3	20000 U	800 U	3300 U	960 U	3300 U	6600 U	500 U	270 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	17000 U	700 U	2900 U	840 U	2900 U	8100 J	430 U	230 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	17000 U	530 U	2900 U	640 U	2900 U	4400 U	430 U	180 U
METHYLCYCLOHEXANE	UG/M3	440000	15000	35000	21000	50000	110000	3100	5500
METHYLENE CHLORIDE	UG/M3	16000 U	570 U	2700 U	680 U	2700 U	4600 U	400 U	190 U
o-Xylene	UG/M3	16000 U	740 J	5000	770 J	2700 U	4100 U	170 J	420 J
STYRENE	UG/M3	18000 U	500 U	2900 U	600 U	2900 U	4100 U	440 U	170 U
tert-BUTYL METHYL ETHER	UG/M3	17000 U	570 U	2800 U	680 U	2800 U	4600 U	420 U	190 U
TETRACHLOROETHYLENE(PCE)	UG/M3	16000 U	470 U	2600 U	560 U	2600 U	3800 U	390 U	160 U
TOLUENE	UG/M3	150000	16000	130000	18000	15000	28000	2900	6400
TRANS-1,2-DICHLOROETHENE	UG/M3	17000 U	630 U	2800 U	760 U	2800 U	5200 U	420 U	210 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	16000 U	530 U	2700 U	640 U	2700 U	4400 U	410 U	180 U
TRICHLOROETHYLENE (TCE)	UG/M3	11000 J	470 U	2800 U	560 U	2800 U	3800 U	420 U	160 U
TRICHLOROFLUOROMETHANE	UG/M3	16000 U	570 U	2700 U	680 U	2700 U	4600 U	400 U	190 U
VINYL CHLORIDE	UG/M3	16000 U	570 U	2600 U	680 U	2600 U	4600 U	390 U	190 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting limit
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
Site 4, NAS Whiting Field, Milton Florida

Location Sample ID Sample Date Analyte Units	SVE04		SVE09		SVE11		VZMP1-16		
	JM19-SVE04-120814 (NV) 12/8/2014	JM19-SVE04-020215 (NV) 2/2/2015	JM19-SVE09-120814 (NV) 12/8/2014	JM19-SVE09-012215 (NV) 1/22/2015	JM19-SVE11-120814 (NV) 12/8/2014	JM19-SVE11-012215 (NV) 1/22/2015	JM19-VZMP1-16-120814 (NV) 12/8/2014	JM19-VZMP1-16-020215 (NV) 2/2/2015	
1,1,1-TRICHLOROETHANE	UG/M3	8200 U	4300 U	16000 U	5700 U	14000 U	340 U	28000 U	4300 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	8000 U	3800 U	16000 U	5000 U	13000 U	300 U	27000 U	3800 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	7400 J	4300 U	14000 J	5700 U	14000 U	340 U	29000 U	4300 U
1,1,2-TRICHLOROETHANE	UG/M3	8400 U	4000 U	17000 U	5300 U	14000 U	320 U	28000 U	4000 U
1,1-DICHLOROETHANE	UG/M3	8400 U	4000 U	17000 U	5300 U	14000 U	320 U	28000 U	4000 U
1,1-DICHLOROETHENE	UG/M3	8400 U	4300 U	17000 U	5700 U	14000 U	340 U	28000 U	4300 U
1,2,3-TRICHLOROBENZENE	UG/M3	10000 U	6800 U	20000 U	9000 U	17000 U	540 U	34000 U	6800 U
1,2,4-TRICHLOROBENZENE	UG/M3	8800 U	4000 U	18000 U	5300 U	15000 U	320 U	30000 U	4000 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	8400 U	2500 U	17000 U	3300 U	14000 U	200 U	28000 U	2500 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	8600 U	4000 U	17000 U	5300 U	14000 U	320 U	29000 U	4000 U
1,2-DICHLOROBENZENE	UG/M3	8600 U	3800 U	17000 U	5000 U	14000 U	300 U	29000 U	3800 U
1,2-DICHLOROETHANE	UG/M3	8400 U	4000 U	17000 U	5300 U	14000 U	320 U	28000 U	4000 U
1,2-DICHLOROPROPANE	UG/M3	8400 U	4000 U	17000 U	5300 U	14000 U	320 U	28000 U	4000 U
1,3-DICHLOROBENZENE	UG/M3	8800 U	3800 U	18000 U	5000 U	15000 U	300 U	30000 U	3800 U
1,4-DICHLOROBENZENE	UG/M3	8400 U	3500 U	17000 U	4700 U	14000 U	280 U	28000 U	3500 U
2-HEXANONE	UG/M3	8800 U	4000 U	18000 U	5300 U	15000 U	320 U	30000 U	4000 U
ACETONE	UG/M3	42000 U	19000 U	84000 U	26000 U	70000 U	1500 U	140000 U	19000 U
BENZENE	UG/M3	7700 J	4400 J	18000 U	5300 U	6600 J	320 U	14000 J	5200 J
BROMODICHLOROMETHANE	UG/M3	8600 U	3800 U	17000 U	5000 U	14000 U	300 U	29000 U	3800 U
BROMOFORM	UG/M3	8600 U	3800 U	17000 U	5000 U	14000 U	300 U	29000 U	3800 U
BROMOMETHANE	UG/M3	7800 U	4800 U	16000 U	6300 U	13000 U	380 U	26000 U	4800 U
CARBON DISULFIDE	UG/M3	7800 U	3800 U	16000 U	5000 U	13000 U	300 U	26000 U	3800 U
CARBON TETRACHLORIDE	UG/M3	8400 U	3800 U	17000 U	5000 U	14000 U	300 U	28000 U	3800 U
CHLOROBENZENE	UG/M3	8600 U	4000 U	17000 U	5300 U	14000 U	320 U	29000 U	4000 U
CHLOROETHANE	UG/M3	7800 U	4300 U	16000 U	5700 U	13000 U	340 U	26000 U	4300 U
CHLOROFORM	UG/M3	8400 U	4300 U	17000 U	13000 J	14000 U	340 U	28000 U	4300 U
CHLOROMETHANE	UG/M3	7600 U	3800 U	15000 U	5000 U	13000 U	300 U	26000 U	3800 U
cis-1,2-DICHLOROETHYLENE	UG/M3	8600 U	4000 U	17000 U	5300 U	14000 U	320 U	29000 U	4000 U
cis-1,3-DICHLOROPROPENE	UG/M3	8200 U	3500 U	16000 U	4700 U	14000 U	280 U	28000 U	3500 U
CYCLOHEXANE	UG/M3	160000	120000	170000	67000	140000	2800	150000	89000
DIBROMOCHLOROMETHANE	UG/M3	8600 U	4000 U	17000 U	5300 U	14000 U	320 U	29000 U	4000 U
DICHLORODIFLUOROMETHANE	UG/M3	8000 U	4300 U	16000 U	5700 U	13000 U	340 U	27000 U	4300 U
ETHYLBENZENE	UG/M3	15000	4000 U	9100 J	7000 J	6200 J	2400	16000 J	4000 U
ISOPROPYLBENZENE (CUMENE)	UG/M3	8000 U	5200 J	16000 U	5000 U	13000 U	300 U	27000 U	3800 U
m,p-Xylene	UG/M3	65000	8700 J	92000	35000	89000	13000	83000	7700 J
METHYL ACETATE	UG/M3	10000 U	6000 U	20000 U	8000 U	17000 U	480 U	34000 U	6000 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	8600 U	5300 U	17000 U	7000 U	14000 U	420 U	29000 U	5300 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	8600 U	4000 U	17000 U	5300 U	14000 U	320 U	29000 U	4000 U
METHYLCYCLOHEXANE	UG/M3	230000	110000	340000	130000	220000	11000	330000	160000
METHYLENE CHLORIDE	UG/M3	8000 U	6600 J	16000 U	5700 U	13000 U	1700	27000 U	6400 J
o-Xylene	UG/M3	4500 J	3800 U	11000 J	5000 U	11000 J	1600	11000 J	3800 U
STYRENE	UG/M3	8800 U	3800 U	18000 U	5000 U	15000 U	300 U	30000 U	3800 U
tert-BUTYL METHYL ETHER	UG/M3	8400 U	4300 U	17000 U	5700 U	14000 U	340 U	28000 U	4300 U
TETRACHLOROETHYLENE(PCE)	UG/M3	7800 U	3500 U	16000 U	4700 U	13000 U	280 U	26000 U	3500 U
TOLUENE	UG/M3	120000	46000	250000	87000	290000	20000	820000	160000
TRANS-1,2-DICHLOROETHENE	UG/M3	8400 U	4800 U	17000 U	6300 U	14000 U	380 U	28000 U	4800 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	8200 U	4000 U	16000 U	5300 U	14000 U	320 U	28000 U	4000 U
TRICHLOROETHYLENE (TCE)	UG/M3	8400 U	3500 U	17000 U	4700 U	14000 U	280 U	28000 U	3500 U
TRICHLOROFLUOROMETHANE	UG/M3	8000 U	4300 U	16000 U	5700 U	13000 U	340 U	27000 U	4300 U
VINYL CHLORIDE	UG/M3	7800 U	4300 U	16000 U	5700 U	13000 U	340 U	26000 U	4300 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting level
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
 Site 4, NAS Whiting Field, Milton Florida

Location	Sample ID	VZMP1-34		VZMP1-60		VZMP1-75	
		JM19-VZMP1-34-120814 (NV)	JM19-VZMP1-34-020215 (NV)	JM19-VZMP1-60-120814 (NV)	JM19-VZMP1-60-012215 (NV)	JM19-VZMP1-75-120814 (NV)	JM19-VZMP1-75-012215 (NV)
Sample Date	Sample Date	12/8/2014	2/2/2015	12/8/2014	1/22/2015	12/8/2014	1/22/2015
Analyte	Units						
VOA (UG/M3)							
1,1,1-TRICHLOROETHANE	UG/M3	28000 U	4300 U	41000 U	8500 U	41000 U	6800 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	27000 U	3800 U	40000 U	7500 U	40000 U	6000 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	29000 U	4300 U	43000 U	8500 U	43000 U	6800 U
1,1,2-TRICHLOROETHANE	UG/M3	28000 U	4000 U	42000 U	8000 U	42000 U	6400 U
1,1-DICHLOROETHANE	UG/M3	28000 U	4000 U	42000 U	8000 U	42000 U	6400 U
1,1-DICHLOROETHENE	UG/M3	28000 U	4300 U	42000 U	8500 U	42000 U	6800 U
1,2,3-TRICHLOROBENZENE	UG/M3	34000 U	6800 U	50000 U	14000 U	50000 U	11000 U
1,2,4-TRICHLOROBENZENE	UG/M3	30000 U	4000 U	44000 U	8000 U	44000 U	6400 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	28000 U	2500 U	42000 U	5000 U	42000 U	4000 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	29000 U	4000 U	43000 U	8000 U	43000 U	6400 U
1,2-DICHLOROBENZENE	UG/M3	29000 U	3800 U	43000 U	7500 U	43000 U	6000 U
1,2-DICHLOROETHANE	UG/M3	28000 U	4000 U	42000 U	8000 U	42000 U	6400 U
1,2-DICHLOROPROPANE	UG/M3	28000 U	4000 U	42000 U	8000 U	42000 U	6400 U
1,3-DICHLOROBENZENE	UG/M3	30000 U	3800 U	44000 U	7500 U	44000 U	6000 U
1,4-DICHLOROBENZENE	UG/M3	28000 U	3500 U	42000 U	7000 U	42000 U	5600 U
2-HEXANONE	UG/M3	30000 U	4000 U	44000 U	8000 U	44000 U	6400 U
ACETONE	UG/M3	140000 U	19000 U	210000 U	39000 U	210000 U	31000 U
BENZENE	UG/M3	13000 J	4000 U	51000	12000 J	110000	15000 J
BROMODICHLOROMETHANE	UG/M3	29000 U	3800 U	43000 U	7500 U	43000 U	6000 U
BROMOFORM	UG/M3	29000 U	3800 U	43000 U	7500 U	43000 U	6000 U
BROMOMETHANE	UG/M3	26000 U	4800 U	39000 U	9500 U	39000 U	7600 U
CARBON DISULFIDE	UG/M3	26000 U	3800 U	39000 U	7500 U	39000 U	6000 U
CARBON TETRACHLORIDE	UG/M3	28000 U	3800 U	42000 U	7500 U	42000 U	6000 U
CHLOROBENZENE	UG/M3	29000 U	4000 U	43000 U	8000 U	43000 U	6400 U
CHLOROETHANE	UG/M3	26000 U	4300 U	39000 U	8500 U	39000 U	6800 U
CHLOROFORM	UG/M3	28000 U	4300 U	42000 U	11000 J	42000 U	10000 J
CHLOROMETHANE	UG/M3	26000 U	3800 U	38000 U	7500 U	38000 U	6000 U
cis-1,2-DICHLOROETHYLENE	UG/M3	29000 U	4000 U	43000 U	8000 U	43000 U	6400 U
cis-1,3-DICHLOROPROPENE	UG/M3	28000 U	3500 U	41000 U	7000 U	41000 U	5600 U
CYCLOHEXANE	UG/M3	280000	110000	330000	130000	450000	100000
DIBROMOCHLOROMETHANE	UG/M3	29000 U	4000 U	43000 U	8000 U	43000 U	6400 U
DICHLORODIFLUOROMETHANE	UG/M3	27000 U	4300 U	40000 U	8500 U	40000 U	6800 U
ETHYLBENZENE	UG/M3	17000 J	4000 U	23000 J	8000 U	20000 J	12000 J
ISOPROPYLBENZENE (CUMENE)	UG/M3	27000 U	3800 U	40000 U	7500 U	40000 U	6000 U
m,p-Xylene	UG/M3	81000	10000 J	110000	17000 J	100000	44000
METHYL ACETATE	UG/M3	34000 U	6000 U	50000 U	12000 U	50000 U	9600 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	29000 U	5300 U	43000 U	11000 U	43000 U	8400 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	29000 U	4000 U	43000 U	8000 U	43000 U	6400 U
METHYLCYCLOHEXANE	UG/M3	360000	140000	430000	160000	440000	180000
METHYLENE CHLORIDE	UG/M3	27000 U	6500 J	40000 U	8500 U	40000 U	6800 U
o-Xylene	UG/M3	10000 J	3800 U	41000 U	7500 U	41000 U	6000 U
STYRENE	UG/M3	30000 U	3800 U	44000 U	7500 U	44000 U	6000 U
tert-BUTYL METHYL ETHER	UG/M3	28000 U	4300 U	42000 U	8500 U	42000 U	6800 U
TETRACHLOROETHYLENE(PCE)	UG/M3	26000 U	3500 U	39000 U	7000 U	39000 U	5600 U
TOLUENE	UG/M3	780000	170000	1500000	210000	1800000	650000
TRANS-1,2-DICHLOROETHENE	UG/M3	28000 U	4800 U	42000 U	9500 U	42000 U	7600 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	28000 U	4000 U	41000 U	8000 U	41000 U	6400 U
TRICHLOROETHYLENE (TCE)	UG/M3	28000 U	3500 U	42000 U	7000 U	42000 U	5600 U
TRICHLOROFLUOROMETHANE	UG/M3	27000 U	4300 U	40000 U	8500 U	40000 U	6800 U
VINYL CHLORIDE	UG/M3	26000 U	4300 U	39000 U	8500 U	39000 U	6800 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting limit
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
 Site 4, NAS Whiting Field, Milton Florida

Location	Sample ID	VZMP2-16		VZMP2-42		VZMP2-63	
		JM19-VZMP2-16-120814 (NV)	JM19-VZMP2-16-020215 (NV)	JM19-VZMP2-42-120814 (NV)	JM19-VZMP2-42-012215 (NV)	JM19-VZMP2-63-120814 (NV)	JM19-VZMP2-63-020215 (NV)
Sample Date	Sample Date	12/8/2014	2/2/2015	12/8/2014	1/22/2015	12/8/2014	2/2/2015
Analyte	Units						
VOA (UG/M3)							
1,1,1-TRICHLOROETHANE	UG/M3	16000 U	2800 U	27000 U	5700 U	27000 U	4300 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	16000 U	2500 U	27000 U	5000 U	27000 U	3800 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	7300 J	6300 J	22100 J	5700 U	44000	6000 J
1,1,2-TRICHLOROETHANE	UG/M3	17000 U	2700 U	28000 U	5300 U	28000 U	4000 U
1,1-DICHLOROETHANE	UG/M3	17000 U	2700 U	28000 U	5300 U	28000 U	4000 U
1,1-DICHLOROETHENE	UG/M3	17000 U	2800 U	28000 U	5700 U	28000 U	4300 U
1,2,3-TRICHLOROBENZENE	UG/M3	20000 U	4500 U	33000 U	9000 U	33000 U	6800 U
1,2,4-TRICHLOROBENZENE	UG/M3	18000 U	2700 U	29000 U	5300 U	29000 U	4000 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	17000 U	1700 U	28000 U	3300 U	28000 U	2500 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	17000 U	2700 U	29000 U	5300 U	29000 U	4000 U
1,2-DICHLOROBENZENE	UG/M3	17000 U	2500 U	29000 U	5000 U	29000 U	3800 U
1,2-DICHLOROETHANE	UG/M3	17000 U	2700 U	28000 U	5300 U	28000 U	4000 U
1,2-DICHLOROPROPANE	UG/M3	17000 U	2700 U	28000 U	5300 U	28000 U	4000 U
1,3-DICHLOROBENZENE	UG/M3	18000 U	2500 U	29000 U	5000 U	29000 U	3800 U
1,4-DICHLOROBENZENE	UG/M3	17000 U	2300 U	28000 U	4700 U	28000 U	3500 U
2-HEXANONE	UG/M3	18000 U	2700 U	29000 U	5300 U	29000 U	4000 U
ACETONE	UG/M3	70000 J	13000 U	140000 U	26000 U	140000 U	19000 U
BENZENE	UG/M3	18000 U	2700 U	29000 U	5300 U	18000 J	11000 J
BROMODICHLOROMETHANE	UG/M3	17000 U	2500 U	29000 U	5000 U	29000 U	3800 U
BROMOFORM	UG/M3	17000 U	2500 U	29000 U	5000 U	29000 U	3800 U
BROMOMETHANE	UG/M3	16000 U	3200 U	26000 U	6300 U	26000 U	4800 U
CARBON DISULFIDE	UG/M3	16000 U	2500 U	26000 U	5000 U	26000 U	3800 U
CARBON TETRACHLORIDE	UG/M3	17000 U	2500 U	28000 U	5000 U	28000 U	3800 U
CHLOROBENZENE	UG/M3	17000 U	2700 U	29000 U	5300 U	29000 U	4000 U
CHLOROETHANE	UG/M3	16000 U	2800 U	26000 U	5700 U	26000 U	4300 U
CHLOROFORM	UG/M3	17000 U	2800 U	28000 U	11000 J	28000 U	4300 U
CHLOROMETHANE	UG/M3	15000 U	2500 U	25000 U	5000 U	25000 U	3800 U
cis-1,2-DICHLOROETHYLENE	UG/M3	17000 U	2700 U	29000 U	5300 U	29000 U	4000 U
cis-1,3-DICHLOROPROPENE	UG/M3	16000 U	2300 U	27000 U	4700 U	27000 U	3500 U
CYCLOHEXANE	UG/M3	27000 J	27000	190000	77000	310000	210000
DIBROMOCHLOROMETHANE	UG/M3	17000 U	2700 U	29000 U	5300 U	29000 U	4000 U
DICHLORODIFLUOROMETHANE	UG/M3	16000 U	2800 U	27000 U	5700 U	27000 U	4300 U
ETHYLBENZENE	UG/M3	8200 J	2700 U	13000 J	5300 U	17000 J	4000 U
ISOPROPYLBENZENE (CUMENE)	UG/M3	16000 U	5000 J	27000 U	5000 U	27000 U	3800 U
m,p-Xylene	UG/M3	54000	14000 J	120000	10000 U	140000	11000 J
METHYL ACETATE	UG/M3	20000 U	4000 U	33000 U	8000 U	33000 U	6000 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	22000 J	3500 U	29000 U	7000 U	29000 U	5300 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	17000 U	2700 U	29000 U	5300 U	29000 U	4000 U
METHYLCYCLOHEXANE	UG/M3	86000	40000	370000	110000	440000	190000
METHYLENE CHLORIDE	UG/M3	16000 U	5700 J	27000 U	5700 U	27000 U	6300 J
o-Xylene	UG/M3	7600 J	2600 J	14000 J	5000 U	18000 J	3800 U
STYRENE	UG/M3	18000 U	2500 U	29000 U	5000 U	29000 U	3800 U
tert-BUTYL METHYL ETHER	UG/M3	17000 U	2800 U	28000 U	5700 U	28000 U	4300 U
TETRACHLOROETHYLENE(PCE)	UG/M3	16000 U	4200 J	26000 U	4700 U	26000 U	3500 U
TOLUENE	UG/M3	99000	50000	240000	17000	340000	130000
TRANS-1,2-DICHLOROETHENE	UG/M3	17000 U	3200 U	28000 U	6300 U	28000 U	4800 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	16000 U	2700 U	27000 U	5300 U	27000 U	4000 U
TRICHLOROETHYLENE (TCE)	UG/M3	17000 U	2300 U	28000 U	4700 U	28000 U	3500 U
TRICHLOROFLUOROMETHANE	UG/M3	16000 U	2800 U	27000 U	5700 U	43000	4300 U
VINYL CHLORIDE	UG/M3	16000 U	2800 U	26000 U	5700 U	26000 U	4300 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting level
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
 Site 4, NAS Whiting Field, Milton Florida

Location	Sample ID	VZMP2-69		VZMP3-36		VZMP3-57	
		JM19-VZMP2-69-120814 (NV)	JM19-VZMP2-69-020215 (NV)	JM19-VZMP3-36-120814 (NV)	JM19-VZMP3-36-012215 (NV)	JM19-VZMP3-57-120814 (NV)	JM19-VZMP3-57-012215 (NV)
Sample Date		12/8/2014	2/2/2015	12/8/2014	1/22/2015	12/8/2014	1/22/2015
Analyte	Units						
VOA (UG/M3)							
1,1,1-TRICHLOROETHANE	UG/M3	28000 U	5700 U	820 U	3400 U	1000 U	17000 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	27000 U	5000 U	800 U	3000 U	1000 U	15000 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	34000	6200 J	2300	8900 J	1700	17000 U
1,1,2-TRICHLOROETHANE	UG/M3	28000 U	5300 U	840 U	3200 U	1100 U	16000 U
1,1-DICHLOROETHANE	UG/M3	28000 U	5300 U	840 U	3200 U	1100 U	16000 U
1,1-DICHLOROETHENE	UG/M3	28000 U	5700 U	840 U	3400 U	1100 U	17000 U
1,2,3-TRICHLOROBENZENE	UG/M3	34000 U	9000 U	1000 U	5400 U	1300 U	27000 U
1,2,4-TRICHLOROBENZENE	UG/M3	30000 U	5300 U	880 U	3200 U	1100 U	16000 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	28000 U	3300 U	840 U	2000 U	1100 U	10000 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	29000 U	5300 U	860 U	3200 U	1100 U	16000 U
1,2-DICHLOROBENZENE	UG/M3	29000 U	5000 U	860 U	3000 U	1100 U	15000 U
1,2-DICHLOROETHANE	UG/M3	28000 U	5300 U	840 U	3200 U	1100 U	16000 U
1,2-DICHLOROPROPANE	UG/M3	28000 U	5300 U	840 U	3200 U	1100 U	16000 U
1,3-DICHLOROBENZENE	UG/M3	30000 U	5000 U	880 U	3000 U	1100 U	15000 U
1,4-DICHLOROBENZENE	UG/M3	28000 U	4700 U	840 U	2800 U	1100 U	14000 U
2-HEXANONE	UG/M3	30000 U	5300 U	880 U	3200 U	1100 U	16000 U
ACETONE	UG/M3	140000 U	26000 U	4200 U	15000 U	5300 U	78000 U
BENZENE	UG/M3	26000 J	16000 J	940 J	3200 U	1200 J	16000 U
BROMODICHLOROMETHANE	UG/M3	29000 U	5000 U	860 U	3000 U	1100 U	15000 U
BROMOFORM	UG/M3	29000 U	5000 U	860 U	3000 U	1100 U	15000 U
BROMOMETHANE	UG/M3	26000 U	6300 U	780 U	3800 U	980 U	19000 U
CARBON DISULFIDE	UG/M3	26000 U	5000 U	780 U	3000 U	980 U	15000 U
CARBON TETRACHLORIDE	UG/M3	28000 U	5000 U	840 U	3000 U	1100 U	15000 U
CHLOROBENZENE	UG/M3	29000 U	5300 U	860 U	3200 U	1100 U	16000 U
CHLOROETHANE	UG/M3	26000 U	5700 U	780 U	3400 U	980 U	17000 U
CHLOROFORM	UG/M3	28000 U	5700 U	840 U	3400 U	1100 U	17000 U
CHLOROMETHANE	UG/M3	26000 U	5000 U	760 U	3000 U	950 U	15000 U
cis-1,2-DICHLOROETHYLENE	UG/M3	29000 U	5300 U	740 J	3200 U	810 J	16000 U
cis-1,3-DICHLOROPROPENE	UG/M3	28000 U	4700 U	820 U	2800 U	1000 U	14000 U
CYCLOHEXANE	UG/M3	350000	230000	18000	37000	20000	210000
DIBROMOCHLOROMETHANE	UG/M3	29000 U	5300 U	860 U	3200 U	1100 U	16000 U
DICHLORODIFLUOROMETHANE	UG/M3	27000 U	5700 U	800 U	3400 U	1000 U	17000 U
ETHYLBENZENE	UG/M3	15000 J	5300 U	620 J	5800 J	940 J	16000 U
ISOPROPYLBENZENE (CUMENE)	UG/M3	27000 U	5000 U	800 U	3000 U	1000 U	15000 U
m,p-Xylene	UG/M3	71000	10000 U	14000	25000	22000	30000 U
METHYL ACETATE	UG/M3	34000 U	8000 U	1000 U	4800 U	1300 U	24000 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	29000 U	7000 U	860 U	4200 U	1100 U	21000 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	29000 U	5300 U	860 U	3200 U	1100 U	16000 U
METHYLCYCLOHEXANE	UG/M3	390000	200000	19000	75000	25000	250000
METHYLENE CHLORIDE	UG/M3	27000 U	8500 J	800 U	3400 U	1000 U	17000 U
o-Xylene	UG/M3	11000 J	5000 U	1200	3000 U	1900	15000 U
STYRENE	UG/M3	30000 U	5000 U	880 U	3000 U	1100 U	15000 U
tert-BUTYL METHYL ETHER	UG/M3	28000 U	5700 U	840 U	3400 U	1100 U	17000 U
TETRACHLOROETHYLENE(PCE)	UG/M3	26000 U	4700 U	780 U	2800 U	980 U	14000 U
TOLUENE	UG/M3	430000	180000	6100	39000	15000	110000
TRANS-1,2-DICHLOROETHENE	UG/M3	28000 U	6300 U	840 U	3800 U	1100 U	19000 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	28000 U	5300 U	820 U	3200 U	1000 U	16000 U
TRICHLOROETHYLENE (TCE)	UG/M3	28000 U	4700 U	840 U	2800 U	1100 U	14000 U
TRICHLOROFLUOROMETHANE	UG/M3	27000 U	5700 U	800 U	3400 U	1000 U	17000 U
VINYL CHLORIDE	UG/M3	26000 U	5700 U	780 U	3400 U	980 U	17000 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting level
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-5

Soil Gas Analytical Results
 Site 4, NAS Whiting Field, Milton Florida

Location	Sample ID	VZMP3-69		VZMP3-8	
		JM19-VZMP3-69-120814 (NV)	JM19-VZMP3-69-012215 (NV)	JM19-VZMP3-8-120814 (NV)	JM19-VZMP3-8-012215 (NV)
Sample Date		12/8/2014	1/22/2015	12/8/2014	1/22/2015
Analyte	Units				
VOA (UG/M3)					
1,1,1-TRICHLOROETHANE	UG/M3	8200 U	2100 U	2100 U	3400 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	8000 U	1900 U	2000 U	3000 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	13000	2100 U	10000	9200 J
1,1,2-TRICHLOROETHANE	UG/M3	8400 U	2000 U	2100 U	3200 U
1,1-DICHLOROETHANE	UG/M3	8400 U	2000 U	2100 U	3200 U
1,1-DICHLOROETHENE	UG/M3	8400 U	2100 U	2100 U	3400 U
1,2,3-TRICHLOROBENZENE	UG/M3	10000 U	3400 U	2500 U	5400 U
1,2,4-TRICHLOROBENZENE	UG/M3	8800 U	2000 U	2200 U	3200 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	8400 U	1200 U	2100 U	2000 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	8600 U	2000 U	2200 U	3200 U
1,2-DICHLOROBENZENE	UG/M3	8600 U	1900 U	2200 U	3000 U
1,2-DICHLOROETHANE	UG/M3	8400 U	2000 U	2100 U	3200 U
1,2-DICHLOROPROPANE	UG/M3	8400 U	2000 U	2100 U	3200 U
1,3-DICHLOROBENZENE	UG/M3	8800 U	1900 U	2200 U	3000 U
1,4-DICHLOROBENZENE	UG/M3	8400 U	1700 U	2100 U	2800 U
2-HEXANONE	UG/M3	8800 U	2000 U	2200 U	3200 U
ACETONE	UG/M3	42000 U	9600 U	11000 U	15000 U
BENZENE	UG/M3	10000	2000 U	2200 U	3200 U
BROMODICHLOROMETHANE	UG/M3	8600 U	1900 U	2200 U	3000 U
BROMOFORM	UG/M3	8600 U	1900 U	2200 U	3000 U
BROMOMETHANE	UG/M3	7800 U	2400 U	2000 U	3800 U
CARBON DISULFIDE	UG/M3	7800 U	1900 U	2000 U	3000 U
CARBON TETRACHLORIDE	UG/M3	8400 U	1900 U	2100 U	3000 U
CHLOROBENZENE	UG/M3	8600 U	2000 U	2200 U	3200 U
CHLOROETHANE	UG/M3	7800 U	2100 U	2000 U	3400 U
CHLOROFORM	UG/M3	8400 U	2100 U	2100 U	3400 U
CHLOROMETHANE	UG/M3	7600 U	1900 U	1900 U	3000 U
cis-1,2-DICHLOROETHYLENE	UG/M3	8600 U	2000 U	1600 J	3200 U
cis-1,3-DICHLOROPROPENE	UG/M3	8200 U	1700 U	2100 U	2800 U
CYCLOHEXANE	UG/M3	200000	33000	7300	21000
DIBROMOCHLOROMETHANE	UG/M3	8600 U	2000 U	2200 U	3200 U
DICHLORODIFLUOROMETHANE	UG/M3	8000 U	2100 U	2000 U	3400 U
ETHYLBENZENE	UG/M3	4700 J	8800	2200 U	5000 J
ISOPROPYLBENZENE (CUMENE)	UG/M3	8000 U	1900 U	2000 U	3000 U
m,p-Xylene	UG/M3	70000	34000	6300	23000
METHYL ACETATE	UG/M3	10000 U	3000 U	2500 U	4800 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	5300 J	2600 U	2200 U	4200 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	8600 U	2000 U	2200 U	3200 U
METHYLCYCLOHEXANE	UG/M3	260000	98000	9400	48000
METHYLENE CHLORIDE	UG/M3	8000 U	2100 U	2000 U	3400 U
o-Xylene	UG/M3	6000 J	3400 J	2100 U	3000 U
STYRENE	UG/M3	8800 U	1900 U	2200 U	3000 U
tert-BUTYL METHYL ETHER	UG/M3	8400 U	2100 U	2100 U	3400 U
TETRACHLOROETHYLENE(PCE)	UG/M3	7800 U	1700 U	2000 U	2800 U
TOLUENE	UG/M3	130000	68000	2800	30000
TRANS-1,2-DICHLOROETHENE	UG/M3	8400 U	2400 U	2100 U	3800 U
TRANS-1,3-DICHLOROPROPENE	UG/M3	8200 U	2000 U	2100 U	3200 U
TRICHLOROETHYLENE (TCE)	UG/M3	8400 U	1700 U	2100 U	2800 U
TRICHLOROFLUOROMETHANE	UG/M3	8000 U	2100 U	2000 U	3400 U
VINYL CHLORIDE	UG/M3	7800 U	2100 U	2000 U	3400 U

Notes:

- NA Not analyzed
- J The analyte was positively identified: the associated numerical value
- U The analyte was analyzed for, but was not detected above the reporting level
- Bold indicates the analyte was detected**
- (NV) -- Data is not Validated

TABLE D-6

Soil Leachate Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location			SWC01	SWC02
Sample ID			JM19-SWC01-111314	JM19-SWC02-111314
Sample Depth (ft)			0 - 0	0 - 0
Sample Date			11/13/2014	11/13/2014
Analyte	Units	TCLP ^{SL}		
HERB (MG/L)				
2,4-D (DICHLOROPHENOXYACETIC ACID)	MG/L	10	0.0025 U	0.0025 U
SILVEX (2,4,5-TP)	MG/L	1	0.0025 U	0.0025 U
METAL (MG/L)				
Mercury	MG/L	0.2	0.0002 U	0.0002 U
SW6020A (MG/L)				
ARSENIC	MG/L	5	0.005 U	0.012
BARIUM	MG/L	100	0.037	0.28
CADMIUM	MG/L	1	0.005 U	0.005 U
CHROMIUM, TOTAL	MG/L	5	0.005 U	0.015
LEAD	MG/L	5	0.093	0.82
SELENIUM	MG/L	1	0.005 U	0.005 U
SILVER	MG/L	5	0.005 U	0.005 U
SW8081B (MG/L)				
CHLORDANE	MG/L	0.03	0.00025 U	0.00025 U
ENDRIN	MG/L	0.02	0.00005 U	0.00005 U
GAMMA BHC (LINDANE)	MG/L	0.4	0.00005 U	0.00005 U
HEPTACHLOR	MG/L	0.008	0.00005 U	0.00005 U
HEPTACHLOR EPOXIDE	MG/L	0.008	0.00005 U	0.00005 U
METHOXYCHLOR	MG/L	10	0.00005 U	0.00005 U
TOXAPHENE	MG/L	0.5	0.00025 U	0.00025 U
SW8270D (MG/L)				
1,4-DICHLOROENZENE	MG/L	7.5	0.06 U	0.06 U
2,4,5-TRICHLOROPHENOL	MG/L	400	0.025 U	0.025 U
2,4,6-TRICHLOROPHENOL	MG/L	2	0.025 U	0.025 U
2,4-DINITROTOLUENE	MG/L	0.13	0.025 U	0.025 U
2-METHYLPHENOL (O-CRESOL)	MG/L	200	0.025 U	0.025 U
3 & 4-Methylphenol	MG/L	--	0.025 U	0.025 U
CRESOLS, TOTAL	MG/L	200	0.05 U	0.05 U
HEXACHLOROENZENE	MG/L	0.13	0.06 U	0.06 U
HEXACHLOROBUTADIENE	MG/L	0.5	0.06 U	0.06 U
HEXACHLOROETHANE	MG/L	3	0.06 U	0.06 U
NITROENZENE	MG/L	2	0.025 U	0.025 U
PENTACHLOROPHENOL	MG/L	100	0.025 U	0.025 U
PYRIDINE	MG/L	5	0.25 U	0.25 U
VOA (MG/L)				
1,1-DICHLOROETHENE	MG/L	0.7	0.02 U	0.02 U
1,2-DICHLOROETHANE	MG/L	0.5	0.008 U	0.008 U
BENZENE	MG/L	0.5	0.008 U	0.008 U
CARBON TETRACHLORIDE	MG/L	0.5	0.02 U	0.02 U

TABLE D-6

Soil Leachate Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location			SWC01	SWC02
Sample ID			JM19-SWC01-111314	JM19-SWC02-111314
Sample Depth (ft)			0 - 0	0 - 0
Sample Date			11/13/2014	11/13/2014
Analyte	Units	TCLP ^{SL}		
CHLOROBENZENE	MG/L	100	0.008 U	0.008 U
CHLOROFORM	MG/L	6	0.008 U	0.008 U
METHYL ETHYL KETONE (2-BUTANONE)	MG/L	200	0.02 U	0.02 U
TETRACHLOROETHENE (PCE)	MG/L	0.7	0.02 U	0.02 U
TRICHLOROETHENE (TCE)	MG/L	0.5	0.008 U	0.008 U
VINYL CHLORIDE	MG/L	0.2	0.008 U	0.008 U

Notes:

NA = Not analyzed

U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

mg/l = Milligrams per Liter

ug/kg = Micrograms per Kilogram

Bold indicates the analyte was detected

Shading indicates the analyte exceeded screening criteria

TCLP^{SL} -Screening criteria are from 40 CFR 261.24, Table 1 – Maximum Concentration of Contaminants for the Toxicity

TABLE D-7

Soil Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location		SWC01	SWC02
Sample ID		JM19-SWC01-111314	JM19-SWC02-111314
Sample Depth (ft)		0 - 0	0 - 0
Sample Date		11/13/2014	11/13/2014
Analyte	Units		
PCBs (UG/KG)			
PCB-1016 (AROCLOR 1016)	UG/KG	18.5 U	18.4 U
PCB-1221 (AROCLOR 1221)	UG/KG	18.5 U	18.4 U
PCB-1232 (AROCLOR 1232)	UG/KG	18.5 U	18.4 U
PCB-1242 (AROCLOR 1242)	UG/KG	18.5 U	18.4 U
PCB-1248 (AROCLOR 1248)	UG/KG	18.5 U	18.4 U
PCB-1254 (AROCLOR 1254)	UG/KG	18.5 U	18.4 U
PCB-1260 (AROCLOR 1260)	UG/KG	18.5 U	18.4 U
SW1030 (mm/sec)			
Ignitability	mm/sec	0 U	0 U
SW9045D (PH UNITS)			
pH	PH UNITS	5.66	5.78

Notes:

NA = Not analyzed

U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

ug/kg = Micrograms per Kilogram

Bold indicates the analyte was detected

TABLE D-8

Liquid Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location	LWC01		
Sample ID	JM19-LWC01-111314		
Sample Depth (ft)	0 - 0		
Sample Date	11/13/2014		
Analyte	Units	TCLP^{SL}	
HERB (UG/L)			
2,4 DB	UG/L	--	0.25 U
2,4,5-T (TRICHLOROPHENOXYACETIC ACID)	UG/L	--	0.25 U
2,4-D (DICHLOROPHENOXYACETIC ACID)	UG/L	10000	0.25 U
DALAPON	UG/L	--	0.25 U
DICAMBA	UG/L	--	0.25 U
DICHLOROPROP	UG/L	--	0.25 U
DINOSEB	UG/L	--	0.25 U
MCPA	UG/L	--	25 U
MCPP	UG/L	--	25 U
SILVEX (2,4,5-TP)	UG/L	1000	0.25 U
METAL (MG/L)			
Mercury	MG/L	0.2	0.000075 J
PCBs (UG/L)			
PCB-1016 (AROCLOR 1016)	UG/L	--	0.4 U
PCB-1221 (AROCLOR 1221)	UG/L	--	0.4 U
PCB-1232 (AROCLOR 1232)	UG/L	--	0.4 U
PCB-1242 (AROCLOR 1242)	UG/L	--	0.4 U
PCB-1248 (AROCLOR 1248)	UG/L	--	0.4 U
PCB-1254 (AROCLOR 1254)	UG/L	--	0.4 U
PCB-1260 (AROCLOR 1260)	UG/L	--	0.4 U
SW1010A (DEG F)			
Flashpoint	DEG F	--	170 U
SW6020A (MG/L)			
ALUMINUM	MG/L	--	55.8
ANTIMONY	MG/L	--	0.00059 J
ARSENIC	MG/L	5	0.0062
BARIUM	MG/L	100	0.019
BERYLLIUM	MG/L	--	0.0005 U
CADMIUM	MG/L	1	0.0005 U
CALCIUM	MG/L	--	4.2
CHROMIUM, TOTAL	MG/L	5	0.035
COBALT	MG/L	--	0.0015
COPPER	MG/L	--	0.012
IRON	MG/L	--	29.8
LEAD	MG/L	5	0.13
MAGNESIUM	MG/L	--	0.82
MANGANESE	MG/L	--	0.23
NICKEL	MG/L	--	0.0069
POTASSIUM	MG/L	--	1.1

TABLE D-8

Liquid Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location	LWC01		
Sample ID	JM19-LWC01-111314		
Sample Depth (ft)	0 - 0		
Sample Date	11/13/2014		
Analyte	Units	TCLP^{SL}	
SELENIUM	MG/L	1	0.0005 U
SILVER	MG/L	5	0.0005 U
SODIUM	MG/L	--	72.6
THALLIUM	MG/L	--	0.0005 U
VANADIUM	MG/L	--	0.035
ZINC	MG/L	--	0.33
SW8081B (UG/L)			
ALDRIN	UG/L	--	0.01 U
ALPHA BHC	UG/L	--	0.01 U
ALPHA ENDOSULFAN	UG/L	--	0.01 U
ALPHA-CHLORDANE	UG/L	--	0.01 U
BETA BHC	UG/L	--	0.01 U
BETA ENDOSULFAN	UG/L	--	0.01 U
CHLORDANE	UG/L	30	0.05 U
DELTA BHC	UG/L	--	0.01 U
DIELDRIN	UG/L	--	0.01 U
ENDOSULFAN SULFATE	UG/L	--	0.01 U
ENDRIN	UG/L	20	0.01 U
ENDRIN ALDEHYDE	UG/L	--	0.01 U
ENDRIN KETONE	UG/L	--	0.01 U
GAMMA BHC (LINDANE)	UG/L	400	0.01 U
GAMMA-CHLORDANE	UG/L	--	0.01 U
HEPTACHLOR	UG/L	8	0.01 U
HEPTACHLOR EPOXIDE	UG/L	8	0.01 U
METHOXYCHLOR	UG/L	10000	0.02 U
P,P'-DDD	UG/L	--	0.01 U
P,P'-DDE	UG/L	--	0.007 J
P,P'-DDT	UG/L	--	0.025 J
TOXAPHENE	UG/L	500	0.05 U
SW8270D (UG/L)			
1,2,4,5-TETRACHLOROBENZENE	UG/L	--	0.5 U
1-METHYLNAPHTHALENE	UG/L	--	1.2 U
2,2'-OXYBIS(1-CHLOROPROPANE)	UG/L	--	0.5 U
2,4,5-TRICHLOROPHENOL	UG/L	400000	0.5 U
2,4,6-TRICHLOROPHENOL	UG/L	2000	0.5 U
2,4-DICHLOROPHENOL	UG/L	--	0.5 U
2,4-DIMETHYLPHENOL	UG/L	--	4.1 J
2,4-DINITROPHENOL	UG/L	--	5 U
2,4-DINITROTOLUENE	UG/L	130	0.5 U
2,6-DINITROTOLUENE	UG/L	--	0.5 U

TABLE D-8

Liquid Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location	LWC01		
Sample ID	JM19-LWC01-111314		
Sample Depth (ft)	0 - 0		
Sample Date	11/13/2014		
Analyte	Units	TCLP^{SL}	
2-CHLORONAPHTHALENE	UG/L	--	0.5 U
2-CHLOROPHENOL	UG/L	--	0.5 U
2-METHYLNAPHTHALENE	UG/L	--	0.5 U
2-METHYLPHENOL (O-CRESOL)	UG/L	200000	2.33 J
2-NITROANILINE	UG/L	--	0.5 U
2-NITROPHENOL	UG/L	--	0.5 U
3 & 4-Methylphenol	UG/L	--	1.49 J
3,3'-DICHLOROENZIDINE	UG/L	--	0.5 U
3-NITROANILINE	UG/L	--	0.5 U
4,6-DINITRO-2-METHYLPHENOL	UG/L	--	5 U
4-BROMOPHENYL PHENYL ETHER	UG/L	--	0.5 U
4-CHLORO-3-METHYLPHENOL	UG/L	--	0.5 U
4-CHLOROANILINE	UG/L	--	0.5 U
4-CHLOROPHENYL PHENYL ETHER	UG/L	--	0.5 U
4-NITROANILINE	UG/L	--	5 U
4-NITROPHENOL	UG/L	--	5 U
ACENAPHTHENE	UG/L	--	0.5 U
ACENAPHTHYLENE	UG/L	--	0.5 U
ANTHRACENE	UG/L	--	0.5 U
ATRAZINE	UG/L	--	10 U
BENZALDEHYDE	UG/L	--	10 U
BENZO(a)ANTHRACENE	UG/L	--	0.5 U
BENZO(a)PYRENE	UG/L	--	0.5 U
BENZO(b)FLUORANTHENE	UG/L	--	0.5 U
BENZO(g,h,i)PERYLENE	UG/L	--	0.5 U
BENZO(k)FLUORANTHENE	UG/L	--	0.5 U
BENZYL BUTYL PHTHALATE	UG/L	--	5 U
BIS(2-CHLOROETHOXY) METHANE	UG/L	--	0.5 U
BIS(2-CHLOROETHYL) ETHER	UG/L	--	0.5 U
bis(2-ethylhexyl)phthalate	UG/L	--	0.5 U
CAPROLACTAM	UG/L	--	10 U
CARBAZOLE	UG/L	--	0.5 U
CHRYSENE	UG/L	--	0.5 U
DIBENZ(a,h)ANTHRACENE	UG/L	--	0.5 U
DIBENZOFURAN	UG/L	--	0.5 U
DIETHYL PHTHALATE	UG/L	--	0.5 U
DIMETHYL PHTHALATE	UG/L	--	0.5 U
DI-n-BUTYL PHTHALATE	UG/L	--	0.5 U
DI-N-OCTYLPHTHALATE	UG/L	--	0.5 U
FLUORANTHENE	UG/L	--	0.5 U

TABLE D-8

Liquid Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location	LWC01		
Sample ID	JM19-LWC01-111314		
Sample Depth (ft)	0 - 0		
Sample Date	11/13/2014		
Analyte	Units	TCLP^{SL}	
FLUORENE	UG/L	--	0.5 U
HEXACHLOROBENZENE	UG/L	130	1.2 U
HEXACHLOROBUTADIENE	UG/L	500	1.2 U
HEXACHLOROCYCLOPENTADIENE	UG/L	--	5 U
HEXACHLOROETHANE	UG/L	3000	1.2 U
INDENO(1,2,3-C,D)PYRENE	UG/L	--	0.5 U
ISOSAFROLE	UG/L	--	50 U
NAPHTHALENE	UG/L	--	1.45 J
NITROBENZENE	UG/L	2000	0.5 U
N-NITROSODI-n-PROPYLAMINE	UG/L	--	0.5 U
N-NITROSODIPHENYLAMINE	UG/L	--	0.5 U
PENTACHLOROPHENOL	UG/L	100000	0.5 U
PHENANTHRENE	UG/L	--	0.5 U
PHENOL	UG/L	--	0.5 U
PYRENE	UG/L	--	0.5 U
SW9040C (PH UNITS)			
pH	PH UNITS	--	8.07
VOA (UG/L)			
1,1,1-TRICHLOROETHANE	UG/L	--	1 U
1,1,2,2-TETRACHLOROETHANE	UG/L	--	1 U
1,1,2-TRICHLOROETHANE	UG/L	--	1 U
1,1-DICHLOROETHANE	UG/L	--	1 U
1,1-DICHLOROETHENE	UG/L	700	2.5 U
1,2,3-TRICHLOROBENZENE	UG/L	--	1 U
1,2,4-TRICHLOROBENZENE	UG/L	--	1 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/L	--	1 U
1,2-DIBROMOETHANE (EDB)	UG/L	--	1 U
1,2-DICHLOROBENZENE	UG/L	--	1 U
1,2-DICHLOROETHANE	UG/L	500	1 U
1,2-DICHLOROPROPANE	UG/L	--	1 U
1,3-DICHLOROBENZENE	UG/L	--	1 U
1,4-DICHLOROBENZENE	UG/L	7500	1 U
2-HEXANONE	UG/L	--	5 U
ACETONE	UG/L	--	36.5
BENZENE	UG/L	500	1 U
BROMOCHLOROMETHANE	UG/L	--	2.5 U
BROMODICHLOROMETHANE	UG/L	--	1 U
BROMOFORM	UG/L	--	2.5 U
BROMOMETHANE	UG/L	--	2.5 U
CARBON DISULFIDE	UG/L	--	2.5 U

TABLE D-8

Liquid Waste Characterization Sampling 2015

Site 4, NAS Whiting Field, Milton Florida

Location	LWC01		
Sample ID	JM19-LWC01-111314		
Sample Depth (ft)	0 - 0		
Sample Date	11/13/2014		
Analyte	Units	TCLP^{SL}	
CARBON TETRACHLORIDE	UG/L	500	2.5 U
CHLOROBENZENE	UG/L	100000	1 U
CHLOROETHANE	UG/L	--	2.5 U
CHLOROFORM	UG/L	6000	2.38 J
CHLOROMETHANE	UG/L	--	1 U
cis-1,2-DICHLOROETHYLENE	UG/L	--	1 U
cis-1,3-DICHLOROPROPENE	UG/L	--	1 U
CYCLOHEXANE	UG/L	--	12.1
DIBROMOCHLOROMETHANE	UG/L	--	1 U
DICHLORODIFLUOROMETHANE	UG/L	--	1 U
ETHYL BENZENE	UG/L	--	63.8
FREON 113	UG/L	--	2.5 U
Isopropylbenzene	UG/L	--	1 U
METHYL ACETATE	UG/L	--	10 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/L	200000	11.2 J
METHYL ISOBUTYL KETONE (4-METHYL-2-PENT	UG/L	--	2.5 U
METHYL TERT-BUTYL ETHER (MTBE)	UG/L	--	1 U
METHYLCYCLOHEXANE	UG/L	--	5.26
METHYLENE CHLORIDE	UG/L	--	2.5 U
STYRENE	UG/L	--	1 U
TETRACHLOROETHENE (PCE)	UG/L	700	2.5 U
TOLUENE	UG/L	--	344
trans-1,2-DICHLOROETHENE	UG/L	--	1 U
trans-1,3-DICHLOROPROPENE	UG/L	--	1 U
TRICHLOROETHENE (TCE)	UG/L	500	1 U
TRICHLOROFLUOROMETHANE	UG/L	--	1 U
VINYL CHLORIDE	UG/L	200	1 U
XYLENES, TOTAL	UG/L	--	223

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

mg/l Milligrams per Liter

ug/l Micrograms per Liter

Bold indicates the analyte was detected

Shading indicates the analyte exceeded screening criteria

TCLP^{SL} -Screening criteria are from 40 CFR 261.24, Table 1 – Maximum Concentration of Contaminants for the Toxicity

Analytical Laboratory Reports

Provided Separately on CD

Appendix E

Waste Documentation



TRANSPORTATION AND DISPOSAL LOG

TO No	Project No	Project Name	Site Description	Container Type	Container Designation	Waste Profile Sample No	Contractor	Transporter	Date Transported	Transporter EPA ID	Load ID	Disposal Facility	Disp Fac EPA ID	Media	Waste Type (Haz, Nonhaz, TSCA)	Waste Code/ Haz Waste No	Disposal Date	Manifest Number	Disposal Treatment Method (Enter disposal quantity under appropriate method)					Certificate of Disp/ Destruc Date	File Status (see note)																
																			Incineration	Recycle	Landfill	Other	Unit																		
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	001	VZMP 01	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	01	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	002	VZMP 01	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	02	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	003	VZMP 01	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	03	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	004	VZMP 01	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	04	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	005	VZMP 02	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	05	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	006	VZMP 02	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	06	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	007	VZMP 02	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	07	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	008	VZMP 02	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	08	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	009	All VZMPs	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	09	Liquid Env Solutions	FLD981928484	Water	Non-Hazardous	None	1/20/2015	14687				40	gal	1/23/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	010	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	10	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	011	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	11	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	012	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	12	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	013	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	13	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	014	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	14	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	015	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	15	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
JM19	391690	Bioventing Pilot Study	Site 4 - North AVGAS Tank Sludge Disposal Area	Drum	016	VZMP 03	ERS, Inc.	ERS, Inc.	1/20/2015	FDL984261412	16	Chesser Island Road Landfill, Inc	2400060	Soil	Non-Hazardous	None	1/20/2015	14688			x		lb	1/27/2015	4																
																			TOTAL	9800				lb	(4.9 tons)																
																																						40	gal		

Notes:
ERS, Inc. = Environmental Remediation Services, Inc.
File Status Codes
1 = Need Manifest
2 = Need Weight Ticket
4 = File Complete

Notes:
File Status Codes
1 = Need Manifest
2 = Need Weight Ticket
3 = Need CD
4 = File Complete



Requested Facility: Chesser Island Landfill Unsure Profile Number: 402861GA
 Multiple Generator Locations (Attach Locations) Request Certificate of Disposal Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

- 1. Generator Name: Site 4 - NAS Whiting Field, FL
- 2. Site Address: NAS Whiting Field
(City, State, ZIP) Milton FL 32570
- 3. County: Santa Rosa
- 4. Contact Name: Michael Pattison
- 5. Email: michael.pattison@navy.mil
- 6. Phone: (850) 623-7017 7. Fax: _____
- 8. Generator EPA ID: _____ N/A
- 9. State ID: _____ N/A

C. MATERIAL INFORMATION

- 1. Common Name: Drill Cuttings (Containing PPE)
Describe Process Generating Material: See Attached

Waste generated during the sampling and installation of monitoring wells.
- 2. Material Composition and Contaminants: See Attached

1. Soil	98-100 %
2. PPE	0-2 %
3.	
4.	

Total composition must be equal to or greater than 100% ≥100%
- 3. State Waste Codes: _____ N/A
- 4. Color: Brown
- 5. Physical State at 70°F: Solid Liquid Other: _____
- 6. Free Liquid Range Percentage: _____ to _____ N/A
- 7. pH: _____ to _____ N/A
- 8. Strong Odor: Yes No Describe: _____
- 9. Flash Point: <140°F 140°-199°F ≥200° N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

- 1. Analytical attached Yes
Please identify applicable samples and/or lab reports:

GCAL Analytical Laboratories, LLC Project ID# JM19 NAS Whiting Field (214111422)
- 2. Other information attached (such as MSDS)? Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

If I am an agent signing on behalf of the Generator, I have confirmed with the Generator that information contained in this Profile is accurate and complete.

Name (Print): Michael Pattison Date: 12/19/2014
Title: NASWF Environmental Director
Company: US Navy

B. BILLING INFORMATION

SAME AS GENERATOR

- 1. Billing Name: Environmental Remediation Services, Inc.
- 2. Billing Address: 760 Talleyrand Ave
(City, State, ZIP) Jacksonville FL 32202
- 3. Contact Name: Louis Renteria
- 4. Email: L.renteria@ersfl.com
- 5. Phone: (904) 791-9992 6. Fax: (904) 791-9833
- 7. WM Hauled? Yes No
- 8. P.O. Number: 16040
- 9. Payment Method: Credit Account Cash Credit Card

D. REGULATORY INFORMATION

- 1. EPA Hazardous Waste? Yes* No
Code: _____
- 2. State Hazardous Waste? Yes No
Code: _____
- 3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? Yes* No
- 4. Contains Underlying Hazardous Constituents? Yes* No
- 5. From an industry regulated under Benzene NESHAP? Yes* No
- 6. Facility remediation subject to 40 CFR 63 GGGGG? Yes* No
- 7. CERCLA or State-mandated clean-up? Yes* No
- 8. NRC or State-regulated radioactive or NORM waste? Yes* No
- *If Yes, see Addendum (page 2) for additional questions and space.**
- 9. Contains PCBs? → If Yes, answer a, b and c. Yes No
 - a. Regulated by 40 CFR 761? Yes No
 - b. Remediation under 40 CFR 761.61 (a)? Yes No
 - c. Were PCB imported into the US? Yes No
- 10. Regulated and/or Untreated Medical/Infectious Waste? Yes No
- 11. Contains Asbestos? Yes No
→ If Yes: Non-Friable Non-Friable - Regulated Friable

F. SHIPPING AND DOT INFORMATION

- 1. One-Time Event Repeat Event/Ongoing Business
- 2. Estimated Quantity/Unit of Measure: 16
 Tons Yards Drums Gallons Other: _____
- 3. Container Type and Size: 55-gallon drums
- 4. USDOT Proper Shipping Name: _____ N/A

Certification Signature



UNIFORM WASTE PROFILE
 866-694-7327
 www.liquidenviro.com

Internal Use Only:	
Profile #:	
Account #:	
Approved	Non-Approved

PROFILE INFORMATION

US EPA ID#:	State ID#:	TCEQ ID#(TX-Only):	Analytical Attached	MSDS Attached
-------------	------------	--------------------	---------------------	---------------

GENERATOR INFORMATION

Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Contact: _____ Title: _____
 Phone: _____ Fax: _____
 Email: _____

BILLING INFORMATION

Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Contact: _____ Title: _____
 Phone: _____ Fax: _____
 Email: _____

WASTE QUESTIONNAIRE (CHECK ALL THAT APPLY)

Non-hazardous Waste

1. Is this material a hazardous waste (F, K, U, or P listed) as defined by 40 CFR 261 Subpart D? If yes to the above, identify the listing.	Yes	No	Unknown		Yes	No	Unknown
2. Has this material been mixed with a hazardous waste as defined by 40 CFR 261?					Is this a virgin or off-spec product? (If Yes, must include MSDS)		
3. Does this material exhibit any of the following hazardous waste characteristics? Ignitability? (40 CFR Part 261.21) Corrosivity? (40 CFR Part 261.21) Reactivity? (40 CFR Part 261.21) Toxicity? (40 CFR Part 261.21)					1. Unused Product or Chemical		
4. Does this material contain? Herbicides, pesticides, insecticides? Dioxins? Radioactive substances? Domestic Wastes? Biohazardous materials?					2. Waste by-product from process		
5. Is the waste derived from an underground storage tank (UST)?					3. Spill Clean Up		
6. If waste is derived from fuel, is the fuel leaded?					4. Planned Site Remediation		
					5. Representative Sample Provided.		
					Petroleum Contact Water (PCW)/Leaking		
					Underground Storage Tank (LUST) Water		
					Is the generator a Conditionally Exempt Small Quantity Generator (CESQG)?		

Used Oil (as defined by CFR 279.1)

- Is this material Used Oil as defined by 40 CFR 279?
- Has this Used Oil been mixed with hazardous waste?
- Is the source of the waste a Conditionally Exempt Small Quantity Generator?
- Does this Used Oil contain chlorinated paraffins? If yes, attach MSDS
- Does this Used Oil contain TSCA (40 CFR 761) regulated levels of PCB?
- If yes, list PCB level:
- Does this Used Oil contain less (<) than or equal to 1,000 mg/L Total Organic Halogens (TOX)? * If no, rebuttal per 40 CFR 279.10(b)(1)(ii) must be included.
- Is this Used Oil soluble in water?

WASTE STREAM COMPOSITION (TOTAL MUST EQUAL 100%)

Major Components	Concentration	Range
(Water, Oil, Solid, etc.)	Average	Minimum Maximum

WASTE DESCRIPTION

Common Name of Waste: _____
 Process Generating Waste: _____

Physical State	Layers	ph	Flash Point	Specific Gravity
100% Solid Without Free Liquid	Single Phase	<2	8-12.5	Range: To:
100% Liquid With No Solids	Bi-Layered	2-6	>12.5	Color
Liquid/Solid Mixture	Multi Layered	6-8	N/A	Describe
% Free Liquid	Odor	Viscosity		TX-Only Classification
% Settled Solids	None Mild Strong	Low High Medium		Class I Class II Other:
% Total Suspended Solids	Describe:			

TX-ONLY: PLEASE INDICATE WHETHER ANY OF THE FOLLOWING ARE PRESENT:

TCLP Metals	Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver	TCLP Herbicides/Pesticides	(Chlordane, 2-4 Endrin, Heptachlor, Heptachlor epoxide, Lindane, Methoxychlor, Toxaphene, and 2-4-5 TP/Silvex)
TCLP Semivolatiles	(o-Cresol, m-Cresol, p-Cresol, Cresol (total) 2-4 Dinitrotoluene, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorethane, Nitrobenzene, Pentachlorophenol, Pyridine, 2-4-5 Trichlorophenol, and 2-4-6 Trichlorophenol)	TCLP Volatiles	(Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroform, Methyl Ethyl Ketone, 1-4 Dichlorobenzene, 1-2 Dichloroethane, 1-1 Dichloroethylene, Trichloroethylene, Tetrachloroethylene, and Vinyl Chloride)
TCEQ Appendix 1	(TAC 31, Section 335-Subchapter R) or Total Petroleum Table 1, Constituents Hydrocarbons)	RCI	(Reactive Cyanide, Reactive Sulfide, Corrosivity, Ignitability)

TRANSPORTATION INFORMATION

Method of Shipment: Bulk Liquid Bulk Sludge Bulk Solid Drum/Box Other:
 Shipment Frequency: One Time Weekly Monthly Quarterly Annually Other:
 Anticipated Volume: _____

GENERATOR CERTIFICATION AND GUARANTEE - PLEASE READ AND SIGN BELOW

As the generator of the material (waste) described above, I certify that I have provided all relevant information as required by this profile and that the information provided is, to the best of my knowledge and belief, true, accurate and complete. Generator agrees not to deliver or arrange for delivery of any material that does not conform to the waste characterization contained in this profile. I further certify that this material is not a RCRA hazardous waste pursuant to federal, state or local laws and has not been mixed with any chlorinated solvents or any other contaminants including, without limitation, PCBs, pesticides, or other hazardous wastes. If Liquid Environmental Solutions (LES) accepts the material for processing and the material is later determined by LES or any other person to be or contain hazardous waste within the meaning of any federal, state or local law, or contain PCBs in sufficient quantity to render it a TSCA-regulated material, the generator agrees to pay all costs incurred by LES to properly treat, store, dispose or otherwise handle the material and any fines and penalties resulting from LES's handling of generator's material. Generator agrees to promptly notify LES of any change in the composition of the material or process generating the material, and agrees to provide LES with a new Uniform Waste Profile prior to delivering any material to LES that does not conform to the waste characterization contained in this profile. The undersigned is an authorized representative of the generator.

Generator Authorization Signature _____ Date _____ Print Name and Title _____

**NON-HAZARDOUS
WASTE MANIFEST**

1. Generator ID Number
Not Required

2. Page 1 of 3. Emergency Response Phone
904-791-9992

4. Waste Tracking Number
14687

5. Generator's Name and Mailing Address
**Site 4 - NAS Whiting Field, FL
NAS Whiting Field
Milton, FL 32570**

Generator's Site Address (if different than mailing address)

Generator's Phone: **850-623-7017**

6. Transporter 1 Company Name
Environmental Remediation Services, Inc.

U.S. EPA ID Number
FLD984261412

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
**Liquid Environmental Solutions
1640 Talleyrand Avenue
Jacksonville, FL**

U.S. EPA ID Number
FLD981628484

Facility's Phone: **904-354-0372**

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
	No.	Type			
1. Non Hazardous Waste Water (LESA# 520304)	001	DM	0040	G	
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information
**ERS Manifest No: 14687
ERS Job No: 14246**

In case of emergency, call ERS: 904-791-9992

COPY
1424601

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name: **Lonnie Ross** Signature: *Lonnie Ross* Month: **1** Day: **20** Year: **15**

15. International Shipments Import to U.S. Export from U.S. Port of entry/exit: Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: **BOB ANDORF** Signature: *R. Andorf* Month: **1** Day: **20** Year: **15**

Transporter 2 Printed/Typed Name: **BOB ANDORF** Signature: *R. Andorf* Month: **01** Day: **23** Year: **15**

17. Discrepancy
17a. Discrepancy Indication Space Quantity Type Residue Partial Rejection Full Rejection

17b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number

Facility's Phone: 17c. Signature of Alternate Facility (or Generator) Month: Day: Year:

18. Designated Facility Owner or Operator Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: *[Signature]* Signature: *[Signature]* Month: **01** Day: **24** Year: **15**

GENERATOR
INT'L
TRANSPORTER
DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

Not Required

2. Page 1 of

3. Emergency Response Phone

904-791-9992

4. Waste Tracking Number

14688

5. Generator's Name and Mailing Address

Site 4 - NAS Whiting Field, FL
NAS Whiting Field
Milton, FL 32570

Generator's Site Address (if different than mailing address)

Generator's Phone: 850-623-7017

6. Transporter 1 Company Name

Environmental Remediation Services, Inc.

U.S. EPA ID Number

FLD984261412

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

Chesser Island Road Landfill, Inc.
Highway 121 South
Folkston, GA

U.S. EPA ID Number

02400060

Facility's Phone: 912-496-7918

9. Waste Shipping Name and Description

10. Containers

No.

Type

11. Total Quantity

12. Unit Wt./Vol.

1. Drill Cuttings (Containing PPE) WMA# 402861GA

015

DM

09800

P

2.

3.

4.

Copy for File

13. Special Handling Instructions and Additional Information

ERS Manifest No: 14688
ERS Job No: 14246

1468801

In case of emergency, call ERS: 904-791-9992

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name

LOWNIE ROSS

Signature

Lownie Ross

Month Day Year

1 20 15

15. International Shipments: Import to U.S. Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

BOB ANDORF

Signature

Bob Andorf

Month Day Year

1 20 15

Transporter 2 Printed/Typed Name

Michael T Spear

Signature

Michael T Spear

Month Day Year

01 27 15

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name

Crystal Mosley

Signature

Crystal Mosley

Month Day Year

1 27 15

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY