

**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT  
661 BEAR VALLEY PARKWAY  
ESCONDIDO, CALIFORNIA**

**ASSESSORS PARCEL NO. 237-131-01 & -02**

**Prepared For:**

**Spieth & Wohlford, Inc.  
c/o Henthorn & Associates  
P.O. Box 237  
Carlsbad, California 92018**

**Prepared By:**

**Vinje & Middleton Engineering, Inc.  
2450 Auto Park Way  
Escondido, California 92029**

**Job # 13-118-H<sub>2</sub>**

**May 24, 2013**

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## 1.0 INTRODUCTION

### 1.1 Purpose

This Limited Phase II Environmental Site Assessment (ESA) is performed in response to identified environmental concerns associated with the Sites past land uses, as identified in Vinje & Middleton Engineering, Inc. (Vinje & Middleton) *Phase I Environmental Site Assessment, 661 Bear Valley Parkway, Escondido, CA 92025*, dated February 14, 2013. Subject property is located in north San Diego County within the incorporated City of Escondido, State of California. Regional depiction of the Sites location in San Diego County is presented on the attached **Figure 1**.

Subject property consists of 42.12 acres of land occupied by one 3-bedroom, 1-bath, single story residence with a detached single car garage. Access is provided off Bear Valley Parkway. Subject property is further identified by Assessors parcel Numbers (APN's) 237-131-01 and -02.

Focus of this limited Phase II ESA is the condition of near surface soil potentially impacted by past land use activities. Vinje & Middleton performed the below described work under contract with the property owner, Spieth & Wohlford, Inc., executed April 18, 2013.

### 1.2 Limiting Conditions

The basis for this work was specifically identified in above referenced Phase I ESA. Determination of groundwater quality and depth below the surface was not addressed in the above referenced report. Determination of the depth and quality of groundwater was not within the scope of this Limited Phase II ESA investigation.

Sample locations, collection depths, and chosen laboratory analyses were based on our experience and knowledge of contaminants of concern associated with agricultural property within San Diego County and testimony by interviewed persons familiar with historical land use (please see Phase I ESA Report).

## 2.0 BACKGROUND

### 2.1 Site History/Development/Usage

Above referenced Phase I Environmental Site Assessment (ESA) report identified the Site was viewed as a citrus/avocado grove between the years 1947 - 1990. Specific information about the land use was not disclosed. According to interviews and historical research of land in the near vicinity, the subject property was evaluated near the turn of the 20<sup>th</sup> century for gold and silver potential due to its close proximity to actively mined properties on west side of Bear Valley Parkway in late 1800's. Several mine shafts and adit locations were identified on the Subject Property.

The site has not been farmed since approximately 1995. This time period was confirmed by interview responses from ownership representatives and review of historical aerial photographs.

The agricultural land use in addition to the storage of oil and diesel fuels in above ground storage tanks (ASTs) represent potential environmental concerns. No evidence of mining activity was seen in the historical photographs reviewed. Historically, all mining activity in Escondido was discontinued by 1926 and occurred on west side of Bear Valley Parkway. Earliest historical photography covering the Site was 1946.

Services provided to the Site include: water by the City of Escondido; electricity provided by San Diego Gas & Electric; gas provided by a 250-gallon propane storage tank on the southwest corner of the residence, and sewage is processed in an on-site septic system.

Site configuration illustrating project boundaries, and street orientation is shown on the attached Site Plan Map attached as **Figure 2**.

Easements on, over, under, and bordering the project was not identified to represent any recognized environmental concerns.

## **2.2 Proposed Use/Legal Description**

Property owner plans to convert the former agricultural property into a residential subdivision.

Legal Description: Parcel 1, A.P.N.: 237-131-01

Lots 2, 3 and 4 in Block 257 of Rancho Rincon Del Diablo, according to Map thereof No. 648, filed on November 20, 1890, in the City of Escondido, County of San Diego, State of California, in the office of the County Recorder of Said County.

Legal Description: Parcel 2, A.P.N.: 237-131-02

Those portions of Lots 3 and 4 in Block 257 of Rancho Rincon Del Diablo, according to Map thereof No. 648, filed on November 20, 1890, in the Office of the County Recorder of said County, and the unnamed street lying between said Lots 3 and 4, vacated and abandoned to public use May 29, 1939, by the board of supervisors of San Diego County.

## 2.3 Physical Setting

### 2.3.1 Topography

Topographically, the site is marked by a northeast/southwest trending ridge dissected by southwest trending erosional gullies/ravines cut into the gentle to moderate sloping hillside terrain (14% - 31% gradient). Significant surface erosion has occurred in the southeast corner of the property resulting in a steep drainage channel (up to 45% gradient). Site elevations range between 516 - 678 feet above sea level (Figure 2).

Subject property is equal in elevation to west adjacent property, lower in elevation than north and east adjacent properties, and higher than the south adjacent properties.

### 2.3.2 Geology

Regionally, San Diego County is located within the Peninsula Range Geomorphic Province of California. Typified by prominent northwest-trending mountains which include from north to south, the Santa Ana, Agua Tibia, Palomar, Volcan, Cuyamaca and Laguna mountains. The region exhibits gently sloping dissected western surfaces and a steep eastern slope separated from the Colorado River area by abrupt fault scarps.

The San Diego Region is divided into a coastal plain area, a central mountain-valley area, and an eastern mountain valley area. The western edge of the Peninsular Ranges province corresponds with the gently sloping dissected western hills and mountains (Site locale).

Subject property is underlain by late Cretaceous undifferentiated granodiorite with minor tonalite locally intruded by quartz rich pegmatite veins (1999, Tan & Kennedy). This igneous basement complex weathers into top soils identified as the Fallbrook and Ramona Loams, both sandy loams are well draining with fine to coarse grains.

Stream and low elevation drainage are mapped as Quaternary young Holocene colluvial and alluvial stream deposits consisting of silty sand with clay and gravel.

### 2.3.3 Hydrology

The Site is located within the Las Lomas Muertas Hydrologic Sub-Area (905.32), within the San Pasqual Hydrologic Area (905.30), within the San Dieguito Hydrologic Unit (905.00). Groundwater within the Las Lomas Muertas Hydrologic Sub-Area currently has existing beneficial uses designated for municipal, agricultural, and industrial supply purposes.

Surface waters within the 5.32 Hydrologic Sub-Area also have beneficial use designations for municipal, agricultural, industrial process supply, recreation 2, warm fresh water habitat, wildlife habitat, and rare species habitats.

A south trending flow line exists in the southwest corner of the Site and is marked by dense foliage (Figure 2). Three water wells, and a water weir were observed during the site reconnaissance of the west/southwest property boundary.

Depth to groundwater below the Site was not determined within this scope of work; however, it is estimated to be shallow in the lower elevations of the Site.

### 2.4 Adjacent Land Use

Adjacent land use was viewed as residential to the north, northeast, south and west. Vacant land exists adjacent the southeast property boundary line.

## 3.0 PHASE II ACTIVITIES

On May 1, 2013, Vinje & Middleton conducted limited field sampling of surficial soils at twenty-eight (28) locations on the referenced site. Weather conditions were sunny, and mild. Soil sample locations are illustrated on the attached Site Plan Map (**Figure 2**).

### 3.1 Sample Collection and Handling

All soil samples were collected from depths ranging between 0.5 feet to 1 foot below the surface. All hand tools were cleaned prior to use. Precautionary measures were taken to preserve sample integrity. A description of steps involved in sampling, equipment decontamination, documentation, preservation, and laboratory delivery are described in 'Field Procedures' provided herein as **Appendix A**.

### 3.2 Chemical Analyses

Ten (10) soil samples were collected for analysis of organochlorine pesticides (OCPs) using Environmental Protection Agency (EPA) Method 8081A in former grove areas of the property. Ten (10) samples were collected and analyzed for Arsenic metals content using EPA Method 6010B in the former grove areas. A total of five (5) soil samples were collected and analyzed for total petroleum hydrocarbons in the diesel and oil ranges using EPA Method 8015B adjacent to two former above ground storage tanks (ASTs) locations, and three former smudge pot locations in the grove. And three (3) soil samples were collected and analyzed for Mercury using method 7471A and Cyanide using Method 9014, in areas of former mine shafts. Tests were performed by State Certified Analytical Laboratory, Test America, Inc., in their Irvine, California facility.

The organochlorine pesticides (OCPs) were evaluated due to this category of pesticides persistence in the environment, long half-life, and water insolubility. Other classes of pesticide (i.e. Carbamates, and Organophosphorus) break down quickly to inert compounds in the environment, and were eliminated from consideration as potential environmental concerns due to their short toxic duration. Often found in agricultural soils in San Diego County, several OCPs have been banned from use in the United States since the 1970's and are suspected human carcinogens.

Arsenic is both a naturally occurring metal and used in herbicide formulations. Naturally occurring arsenic concentrations in southern California typically exceed the low California Human Health Screening Level (CHHSL) for soil in a residential setting (0.07 mg/kg).

Petroleum hydrocarbons were evaluated in the soil due to known former AST locations and surface stains in areas of former smudge pot locations in grove areas.

No recorded evidence nor interview testimony by property owner(s) could verify whether gold/silver production was ever conducted on the subject property. **A total of six (6) shafts of unknown depth and length were identified in a Preliminary Geotechnical report by this firm.** Based on this information, Vinje & Middleton collected soil samples within close proximity of three former shaft locations for analysis of hazardous chemicals (Mercury and Cyanide) used in precious metals amalgamation and separation.

#### 4.0 EVALUATION OF RESULTS

Soil samples, SS-1 through SS-10, were collected in native soil within former grove areas and analyzed for Organochlorine Pesticides (OCPs). **Table 4-1** provides sample ID, sample depth, sample result, and/or equipment detection limits. All soil sample results were below the laboratory reporting limit or non-detectable. OCPs do not represent a human exposure concern at the subject property based on this limited assessment of former grove soil.

Soil samples, SS-11 through SS-20, were collected in native soil within former grove areas and analyzed for Arsenic. **Table 4-2** provides the Arsenic results. Arsenic concentrations ranged between non-detectable and 3.5 ug/kg which exceed the California Human Health Screening Level (CHHSL) for the metal (0.07 ug/kg).

However, a Department of Toxic Substance Control (DTSC) evaluation of potential school sites in southern California (Los Angeles County, Orange County, Riverside County and San Diego County) determined the upper range of average Arsenic in soil is 12 mg/kg and the study suggests this concentration be used as the screening level for soil in southern California where residential land use is planned. The on-site soil concentrations are well below this DTSC screening level and deemed to be within the naturally occurring concentrations in soil and not the result of a spill or the result of legally applied herbicides. Arsenic concentrations are within the natural background range for southern California soil and mitigation is not warranted.

Results of soil samples analyzed for Petroleum Hydrocarbons (SS-21 through SS-25) are posted in **Table 4-3**. Diesel concentrations ranged between less than equipment detection limits (<5.0 mg/kg) to 260 mg/kg. Oil concentrations ranged between <5.0 and 91 mg/kg. In San Diego County it is recommended that mitigation efforts be implemented if diesel and/or oil concentrations exceeding 1,000 mg/kg in soil. It is our judgement these representative samples indicate that spills surrounding former smudge pot locations do not represent either a human or environmental concern and represent a weathered fuel occurrence at concentrations that do not warrant mitigation efforts. In addition, they occur within 9-inches of the surface and have not migrated vertically in the soil horizon to an extent that would threaten groundwater.

Results of soil samples analyzed for Mercury and Cyanide (SS-26 through SS-28) are posted on **Table 4-4**. Mercury concentrations ranged between non-detectable and 0.039 mg/kg. The CHHSL for Mercury in residential soil is 18 mg/kg. Cyanide was not detected in the three soil samples analyzed. Neither Mercury nor Cyanide was found at the Site in sufficient quantity to represent a human exposure concern. Test America, Inc. official laboratory report is attached as **Appendix B**.



Table 4-1

Organochlorine Pesticide Results  
 661 Bear Valley Parkway  
 Escondido, CA

Sample No.	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10
Depth (Ft.)	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5	1.0
OCP Compound	Units: ug/kg									
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
alpha-BHC	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
beta-BHC	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlordane	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
4,4'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4,4'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4,4'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
delta-BHC	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan sulfate	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
gamma-BHC (Lindane)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methoxychlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toxaphene	<200.	<200.	<200.	<200.	<200.	<200.	<200.	<200.	<200.	<200.

Notes: <5, <10, <50, <200, indicates the laboratory results are less than the posted equipment detection limit. Otherwise, not detectable (ND).

**Table 4-2**

Arsenic Metals Content  
661 Bear Valley Parkway  
Escondido, CA

Sample ID	Depth (ft.)	Arsenic Conc. (ug/kg)	CHHSL (ug/kg)
SS-11	1.0	<2.0	0.07
SS-12	0.75	<2.0	0.07
SS-13	0.5	<2.0	0.07
SS-14	1.0	2.0	0.07
SS-15	0.75	<2.0	0.07
SS-16	0.5	<2.0	0.07
SS-17	1.0	3.5	0.07
SS-18	0.75	<2.0	0.07
SS-19	0.5	<2.0	0.07
SS-20	1.0	<2.0	0.07

Notes: <2.0, indicates the laboratory results are less than the posted equipment detection limit. Otherwise, not detectable (ND).

**Table 4-3**

Petroleum Hydrocarbons C13 - C40 Results  
661 Bear Valley Parkway  
Escondido, CA  
Units: mg/kg

Sample I.D.	Depth (ft.)	EFH (C13 - C40)	DRO (C13 - C22)	ORO (C23 - C32)	ORO (C33 - C40)
SS-21	1.0	<5.0	<5.0	<5.0	<5.0
SS-22	0.5	<5.0	<5.0	<5.0	<5.0
SS-23	0.75	<5.0	<5.0	<5.0	<5.0
SS-24	1.0	370	260	91	<25
SS-25	0.75	9.0	<5.0	<5.0	<5.0

Notes: Indicates the laboratory results are less than the equipment detection limit (<5.0 mg/kg, <25 mg/kg). C13 - C40 is Extractable Fuel Hydrocarbons (EFH); DRO (C13 - C22) Diesel Range Organics; ORO (C23 - C32) Light Oil Range Organics; ORO (C33 - C40) Heavy Oil Range Organics

Table 4-4

Mercury and Cyanide Results  
661 Bear Valley Parkway  
Escondido, CA

Sample ID	Depth (ft.)	Mercury (mg/kg)	Cyanide (mg/kg)
SS-26		<0.020	<0.50
SS-27		<0.020	<0.50
SS-28		0.039	<0.50
CHHSL	----	18.0*	22.0**

Notes: <0.020, <0.50, indicates the laboratory results are less than the respective equipment detection limit. Otherwise, not detectable (ND). \* - from CHHSL Table. \*\* - from Regional Screening Levels Residential Soil Table November 2012.

## 5.0 CONCLUSIONS

This limited Phase II Environmental Site Assessment has been performed in response to recognized environmental concerns identified in Vinje & Middleton Engineering, Inc. **Phase I Environmental Site Assessment, 661 Bear Valley Parkway, Escondido, California 92025**, dated February 14, 2013, and was deemed necessary due to the properties' past land uses and proposed conversion to a residential subdivision.

Vinje & Middleton has completed a limited Phase II Environmental Site Assessment of near surface soil for the presence of chlorinated pesticides, Arsenic, petroleum hydrocarbons, Mercury and Cyanide at 661 Bear Valley Parkway, Escondido, California. The findings and opinions presented in this report result from review of our referenced Phase I ESA report, and collection/analysis of twenty-eight near surface soil samples. This limited Phase II environmental assessment has revealed no evidence of recognized environmental concerns associated with the properties past land use. In our professional opinion, further assessment of this property is not warranted.

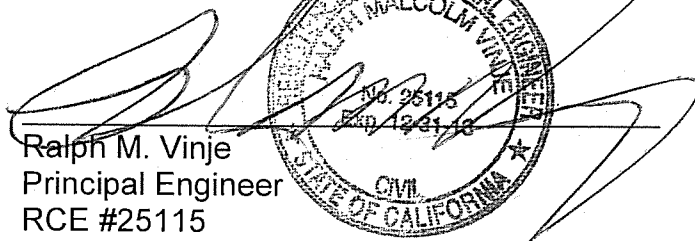
## 6.0 LIMITATIONS

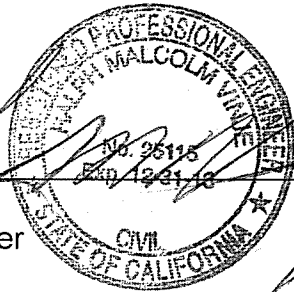
This report was prepared for the exclusive use by our client, Spieth & Wohlford, Inc., and their designated representative(s) and only for the purposes stated within a reasonable time from its issuance, *but in no event later than 1 year from the date of the report*. It should be noted that changes within the condition of a site can occur with time due to natural or man created conditions, either on-site or from adjacent properties. In addition, changes in the standard-of-practice and/or government codes and regulations may occur. Findings and opinions can be considered valid only as of the date of the Site visit.

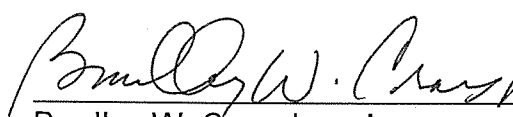
In performance of our professional services, we comply with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions. The client recognizes that conditions often change and that our conclusions are based upon observations and available information. We will not be liable for conditions or consequences arising from relevant facts of information either incorrect, concealed, withheld or not fully disclosed from other sources.

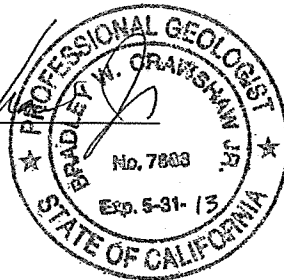
We appreciate your choosing Vinje & Middleton for your environmental needs. If we may be of further assistance on this or any other project, please contact us at (760) 743-1214.

**VINJE & MIDDLETON ENGINEERING, INC.**

  
Ralph M. Vinje  
Principal Engineer  
RCE #25115



  
Bradley W. Crawshaw Jr.  
Project Manager  
PG #7888



Distribution: Addressee (3)



Mapped, edited, and published by the Geological Survey  
Control by USGS, USCGS, USACE, and City of San Diego  
Topography by photogrammetric methods from aerial photographs  
taken 1947. Field checked 1948. Revised from aerial  
photographs taken 1967. Field checked 1968.  
Polygonic projection on 1927 North American datum.  
10,000 foot grid based on California coordinate system, zone 6.  
1000-meter Universal Transverse Mercator grid lines,  
zone 11, shown in blue.  
Red line indicates areas in which only landmark buildings are shown.  
Fine red dashed lines indicate selected fence lines.

UTM OR UTM-2000 COORDINATE SYSTEM  
BASED ON CENTER OF SHEET

SCALE 1:24,000  
CONTOUR INTERVAL 20 FEET  
DOTTED LINES REPRESENT 10-FEET CONTOURS  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION  
Heavy duty Light duty  
Medium duty Unimproved dirt  
Interstate Route U.S. Route State Route

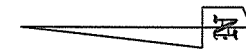
ESCONDIDO, CALIF.  
N3300-W11700-7.5

REGIONAL INDEX MAP  
SPIETH & WOHLFORD, INC.  
661 BEAR VALLEY PARKWAY  
ESCONDIDO, CALIFORNIA 92025







FIGURE 1



# SITE PLAN MAP



## LEGEND

-  Property Boundary Line
-  Parcel Line
-  SS-1 thru SS-10 Organochlorine Pesticide Sample Location with ID
-  SS-11 thru SS-20 Arsenic Sample Location with ID
-  SS-21 thru SS-25 TPH Sample Location with ID
-  SS-26 thru SS-28 Mercury & Cyanide Sample Location with ID



VINJE & MIDDLETON ENGINEERING, INC.  
 2450 Auto Park Way  
 Escondido, CA 92029-1229  
 760-743-1214

Spieth & Wohlford, Inc.  
 661 Bear Valley Parkway  
 Escondido, California 92025

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GRAPHIC SCALE

FIGURE 2



ORGANOCHLORINE PESTICIDE SAMPLE LOCATION WITH RESULTS



VINJE & MIDDLETON ENGINEERING, INC.  
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LEGEND

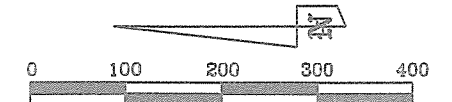
- Property Boundary Line
- - - - Parcel Line
- ★ SS-3 Organochlorine Pesticide (OCP) Sample Location with ID

OCP Analyte	Depth (ft)	Result (ug/g)
All	0.5	ND

OCP Aalytes = 20 total, see lab results for individual compound names  
 ND = Not Detected within equipment reporting limit.

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GRAPHIC SCALE

FIGURE 3






ARSENIC SAMPLE LOCATION WITH RESULTS



VINJE & MIDDLETON ENGINEERING, INC.  
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 760-743-1214

**LEGEND**

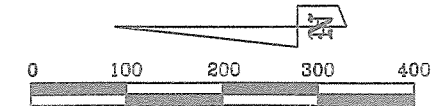
-  Property Boundary Line
-  Parcel Line
-  SS-12 Arsenic Sample Location with ID

Depth (ft.)	Result (mg/kg)
0.75	ND

Arsenic results reported in milligrams arsenic per kilogram soil  
 ND - Not Detected at equipment reporting limit.

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GRAPHIC SCALE





TOTAL PETROLEUM HYDROCARBON SAMPLE LOCATION WITH RESULTS



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**LEGEND**

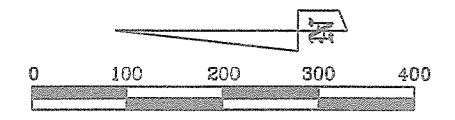


Property Boundary Line  
 Parcel Line  
 TPH Sample Location with ID  
 ND - Not Detected at equipment reporting limit.  
 C13-C40 - Total Extractable Fuel Hydrocarbons,  
 C13-C22 - Diesel Range Organics  
 C23-C32 - Light Oil Range Organics  
 C33-C40 - Heavy Oil Range Organics

Depth (ft.)	C13-C40 (mg/kg)	C13-C22 (mg/kg)	C23-C32 (mg/kg)	C33-C40 (mg/kg)
0.5	ND	ND	ND	ND

Spieth & Wohlford, Inc.  
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VME Job # 13-118-H



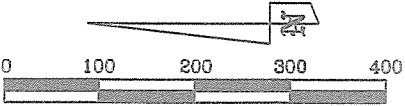


GRAPHIC SCALE

FIGURE 5



MERCURY & CYANIDE SAMPLE LOCATION WITH RESULTS

 <p>VINJE &amp; MIDDLETON ENGINEERING, INC. 2450 Auto Park Way Escondido, CA 92029-1229 760-743-1214</p>	<p style="text-align: center;"><u>LEGEND</u></p> <p>————— Property Boundary Line - - - - - Parcel Line</p> <p> SS-27 Mercury &amp; Cyanide Sample Location with ID</p> <table border="1" style="margin-top: 10px; width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="font-size: small;">Depth (Ft.)</th> <th style="font-size: small;">Mercury (mg/kg)</th> <th style="font-size: small;">Cyanide (mg/kg)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.5</td> <td style="text-align: center;">ND</td> <td style="text-align: center;">ND</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 10px;">ND - Not Detected at equipment reporting limit. mg/kg - milligram of contaminant per kilogram of soil or parts per million.</p>	Depth (Ft.)	Mercury (mg/kg)	Cyanide (mg/kg)	0.5	ND	ND	<p>Spieth &amp; Wohlford, Inc. 661 Bear Valley Parkway Escondido, California 92025</p> <p style="text-align: center;">VME Job # 13-118-H</p> <div style="text-align: center;">  <p>0 100 200 300 400 GRAPHIC SCALE</p> </div>
Depth (Ft.)	Mercury (mg/kg)	Cyanide (mg/kg)						
0.5	ND	ND						
		<p><b>FIGURE 6</b></p>						

# APPENDIX A

## FIELD PROCEDURES

Vinje & Middleton conducted field sampling at the on May 1, 2013. The following procedures were used in sample collection, sample documentation, sample preservation, and documentation until delivery to receiving laboratory.

- All hand tools used in sample collection (i.e. shovel, digging bar, hand trowel) were washed before and after each sampling event in a soapy water solution, tap water rinsed, followed by a second rinse in de-ionized water. This procedure commonly referred to as the 'triple bucket method' is used to assure no cross-contamination between sample sites and preserves sample integrity.
- Representative soil samples were transferred into laboratory provided 4 oz. glass jars, sealed with a Teflon lined lid and custody seal with date sampled and samplers signature, a label applied to the jar indicating project no., sample I.D., time and date sample was collected, analysis to be performed, and samplers name.
- Individual sample jars were placed in sealable plastic bags, bubble wrapped, and placed in a cooler on ice during transport under required chain-of-custody documentation by a laboratory provided courier service. A copy of the chain-of-custody is provided in the analytical report.
- All soils were properly disposed of by the analytical laboratory.
- Sample results issued in this report were provided by e-mail correspondence to the Consultant and included in this report as Appendix B.

# APPENDIX B

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
 TestAmerica Irvine  
 17461 Derian Ave  
 Suite 100  
 Irvine, CA 92614-5817  
 Tel: (949)261-1022

TestAmerica Job ID: 440-45387-1  
 Client Project/Site: 13-118-H2

For:  
 Vinje & Middleton Engineering Inc  
 2450 Auto Park Way #102  
 Escondido, California 92029

Attn: Mr. Brad Crawshaw

*Sushmitha Reddy*

Authorized for release by:  
 5/16/2013 8:17:47 PM

Sushmitha Reddy, Project Manager I  
 sushmitha.reddy@testamericainc.com

### LINKS

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*The test results in this report meet all 2003 NELAP and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Sample Summary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-45387-1	SS-1	Solid	05/01/13 12:10	05/02/13 17:45
440-45387-2	SS-2	Solid	05/01/13 12:41	05/02/13 17:45
440-45387-3	SS-3	Solid	05/01/13 12:47	05/02/13 17:45
440-45387-4	SS-4	Solid	05/01/13 13:12	05/02/13 17:45
440-45387-5	SS-5	Solid	05/01/13 16:02	05/02/13 17:45
440-45387-6	SS-6	Solid	05/01/13 13:30	05/02/13 17:45
440-45387-7	SS-7	Solid	05/01/13 14:08	05/02/13 17:45
440-45387-8	SS-8	Solid	05/01/13 14:36	05/02/13 17:45
440-45387-9	SS-9	Solid	05/01/13 15:27	05/02/13 17:45
440-45387-10	SS-10	Solid	05/01/13 15:02	05/02/13 17:45
440-45387-11	SS-11	Solid	05/01/13 12:20	05/02/13 17:45
440-45387-12	SS-12	Solid	05/01/13 13:02	05/02/13 17:45
440-45387-13	SS-13	Solid	05/01/13 16:08	05/02/13 17:45
440-45387-14	SS-14	Solid	05/01/13 14:00	05/02/13 17:45
440-45387-15	SS-15	Solid	05/01/13 15:38	05/02/13 17:45
440-45387-16	SS-16	Solid	05/01/13 15:48	05/02/13 17:45
440-45387-17	SS-17	Solid	05/01/13 14:18	05/02/13 17:45
440-45387-18	SS-18	Solid	05/01/13 15:20	05/02/13 17:45
440-45387-19	SS-19	Solid	05/01/13 14:42	05/02/13 17:45
440-45387-20	SS-20	Solid	05/01/13 15:10	05/02/13 17:45
440-45387-21	SS-21	Solid	05/01/13 12:00	05/02/13 17:45
440-45387-22	SS-22	Solid	05/01/13 12:32	05/02/13 17:45
440-45387-23	SS-23	Solid	05/01/13 13:53	05/02/13 17:45
440-45387-24	SS-24	Solid	05/01/13 14:27	05/02/13 17:45
440-45387-25	SS-25	Solid	05/01/13 14:52	05/02/13 17:45
440-45387-26	SS-26	Solid	05/01/13 00:01	05/02/13 17:45
440-45387-27	SS-27	Solid	05/01/13 00:01	05/02/13 17:45
440-45387-28	SS-28	Solid	05/01/13 00:01	05/02/13 17:45

TestAmerica Irvine



## Case Narrative

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

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**Job ID: 440-45387-1**

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**Laboratory: TestAmerica Irvine**

**Narrative**

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**Job Narrative**  
**440-45387-1**

### Comments

No additional comments.

### Receipt

The samples were received on 5/2/2013 5:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

### GC Semi VOA

Method(s) 8015B: The matrix spike percent recovery was outside control limits and the matrix spike / matrix spike duplicate (MS/MSD) precision for batch 103032 was outside control limits. Non-homogeneity of the sample matrix is suspected. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 8015B: The following samples required a dilution due to the nature of the sample matrix: SS-24 (440-45387-24). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8081A: The continuing calibration verification (CCV) associated with batch 103185 recovered above the upper control limit for endosulfan sulfate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 440-103185/20), SS-10 (440-45387-10), SS-7 (440-45387-7), SS-8 (440-45387-8), SS-9 (440-45387-9), TimberSIL GlassWood (440-45434-1).

Method(s) 8081A: The continuing calibration verification (CCV) associated with batch 103273 recovered above the upper control limit for delta BHC, 4,4 DDE, and endosulfan sulfate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (440-45387-5 MS), (440-45387-5 MSD), (CCV 440-103273/36), SS-1 (440-45387-1), SS-2 (440-45387-2), SS-3 (440-45387-3), SS-4 (440-45387-4), SS-5 (440-45387-5), SS-6 (440-45387-6).

No other analytical or quality issues were noted.

### Metals

No analytical or quality issues were noted.

### General Chemistry

No analytical or quality issues were noted.

### Organic Prep

No analytical or quality issues were noted.

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-1**

**Lab Sample ID: 440-45387-1**

Date Collected: 05/01/13 12:10

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 19:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	64		45 - 120				05/09/13 08:54	05/09/13 19:49	1
Tetrachloro-m-xylene	61		35 - 115				05/09/13 08:54	05/09/13 19:49	1

5

**Client Sample ID: SS-2**

**Lab Sample ID: 440-45387-2**

Date Collected: 05/01/13 12:41

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:04	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-2**

**Lab Sample ID: 440-45387-2**

Date Collected: 05/01/13 12:41

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8081A - Organochlorine Pesticides (GC) (Continued)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 20:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	75		45 - 120				05/09/13 08:54	05/09/13 20:04	1
Tetrachloro-m-xylene	75		35 - 115				05/09/13 08:54	05/09/13 20:04	1

5

**Client Sample ID: SS-3**

**Lab Sample ID: 440-45387-3**

Date Collected: 05/01/13 12:47

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 20:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	59		45 - 120				05/09/13 08:54	05/09/13 20:18	1
Tetrachloro-m-xylene	57		35 - 115				05/09/13 08:54	05/09/13 20:18	1

**Client Sample ID: SS-4**

**Lab Sample ID: 440-45387-4**

Date Collected: 05/01/13 13:12

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-4**

**Lab Sample ID: 440-45387-4**

Date Collected: 05/01/13 13:12

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 20:33	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	70		45 - 120				05/09/13 08:54	05/09/13 20:33	1
Tetrachloro-m-xylene	66		35 - 115				05/09/13 08:54	05/09/13 20:33	1

5

**Client Sample ID: SS-5**

**Lab Sample ID: 440-45387-5**

Date Collected: 05/01/13 16:02

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 20:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	72		45 - 120				05/09/13 08:54	05/09/13 20:48	1
Tetrachloro-m-xylene	69		35 - 115				05/09/13 08:54	05/09/13 20:48	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-6**

**Lab Sample ID: 440-45387-6**

Date Collected: 05/01/13 13:30

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 21:32	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
DCB Decachlorobiphenyl (Surr)	67		45 - 120				05/09/13 08:54	05/09/13 21:32	1
Tetrachloro-m-xylene	66		35 - 115				05/09/13 08:54	05/09/13 21:32	1

5

**Client Sample ID: SS-7**

**Lab Sample ID: 440-45387-7**

Date Collected: 05/01/13 14:08

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
alpha-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
beta-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Chlordane (technical)	ND		50		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
4,4'-DDD	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
4,4'-DDE	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
4,4'-DDT	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
delta-BHC	ND		10		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Dieldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Endosulfan I	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Endosulfan II	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Endosulfan sulfate	ND		10		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Endrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Endrin aldehyde	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Endrin ketone	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Heptachlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
Methoxychlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 22:51	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-7**

**Lab Sample ID: 440-45387-7**

Date Collected: 05/01/13 14:08

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		200		ug/Kg		05/08/13 11:54	05/08/13 22:51	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
DCB Decachlorobiphenyl (Surr)	57		45 - 120				05/08/13 11:54	05/08/13 22:51	1
Tetrachloro-m-xylene	45		35 - 115				05/08/13 11:54	05/08/13 22:51	1

5

**Client Sample ID: SS-8**

**Lab Sample ID: 440-45387-8**

Date Collected: 05/01/13 14:36

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
alpha-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
beta-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Chlordane (technical)	ND		50		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
4,4'-DDD	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
4,4'-DDE	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
4,4'-DDT	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
delta-BHC	ND		10		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Dieldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Endosulfan I	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Endosulfan II	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Endosulfan sulfate	ND		10		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Endrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Endrin aldehyde	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Endrin ketone	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Heptachlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Methoxychlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
Toxaphene	ND		200		ug/Kg		05/08/13 11:54	05/08/13 23:06	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
DCB Decachlorobiphenyl (Surr)	84		45 - 120				05/08/13 11:54	05/08/13 23:06	1
Tetrachloro-m-xylene	66		35 - 115				05/08/13 11:54	05/08/13 23:06	1

**Client Sample ID: SS-9**

**Lab Sample ID: 440-45387-9**

Date Collected: 05/01/13 15:27

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
alpha-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
beta-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Chlordane (technical)	ND		50		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
4,4'-DDD	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
4,4'-DDE	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
4,4'-DDT	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-9**

**Lab Sample ID: 440-45387-9**

Date Collected: 05/01/13 15:27

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	ND		10		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Dieldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Endosulfan I	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Endosulfan II	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Endosulfan sulfate	ND		10		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Endrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Endrin aldehyde	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Endrin ketone	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Heptachlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Methoxychlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
Toxaphene	ND		200		ug/Kg		05/08/13 11:54	05/08/13 23:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	76		45 - 120				05/08/13 11:54	05/08/13 23:20	1
Tetrachloro-m-xylene	60		35 - 115				05/08/13 11:54	05/08/13 23:20	1

5

**Client Sample ID: SS-10**

**Lab Sample ID: 440-45387-10**

Date Collected: 05/01/13 15:02

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8081A - Organochlorine Pesticides (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
alpha-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
beta-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Chlordane (technical)	ND		50		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
4,4'-DDD	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
4,4'-DDE	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
4,4'-DDT	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
delta-BHC	ND		10		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Dieldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Endosulfan I	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Endosulfan II	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Endosulfan sulfate	ND		10		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Endrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Endrin aldehyde	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Endrin ketone	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Heptachlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Methoxychlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
Toxaphene	ND		200		ug/Kg		05/08/13 11:54	05/08/13 23:35	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	67		45 - 120				05/08/13 11:54	05/08/13 23:35	1
Tetrachloro-m-xylene	60		35 - 115				05/08/13 11:54	05/08/13 23:35	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-11**

**Lab Sample ID: 440-45387-11**

Date Collected: 05/01/13 12:20

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:10	5	

5

**Client Sample ID: SS-12**

**Lab Sample ID: 440-45387-12**

Date Collected: 05/01/13 13:02

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:12	5	

**Client Sample ID: SS-13**

**Lab Sample ID: 440-45387-13**

Date Collected: 05/01/13 16:08

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:14	5	

**Client Sample ID: SS-14**

**Lab Sample ID: 440-45387-14**

Date Collected: 05/01/13 14:00

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	2.0		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:16	5	

**Client Sample ID: SS-15**

**Lab Sample ID: 440-45387-15**

Date Collected: 05/01/13 15:38

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:18	5	

**Client Sample ID: SS-16**

**Lab Sample ID: 440-45387-16**

Date Collected: 05/01/13 15:48

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:40	5	

**Client Sample ID: SS-17**

**Lab Sample ID: 440-45387-17**

Date Collected: 05/01/13 14:18

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	3.5		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:42	5	

TestAmerica Irvine



## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-18**

**Lab Sample ID: 440-45387-18**

Date Collected: 05/01/13 15:20

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:44	5

5

**Client Sample ID: SS-19**

**Lab Sample ID: 440-45387-19**

Date Collected: 05/01/13 14:42

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:45	5

**Client Sample ID: SS-20**

**Lab Sample ID: 440-45387-20**

Date Collected: 05/01/13 15:10

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:47	5

**Client Sample ID: SS-21**

**Lab Sample ID: 440-45387-21**

Date Collected: 05/01/13 12:00

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13 - C40	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:20	1
DRO (C13-C22)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:20	1
ORO (C23-C32)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:20	1
ORO (C33-C40)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	74		40 - 140	05/08/13 11:18	05/09/13 01:20	1

**Client Sample ID: SS-22**

**Lab Sample ID: 440-45387-22**

Date Collected: 05/01/13 12:32

Matrix: Solid

Date Received: 05/02/13 17:45

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13 - C40	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:42	1
DRO (C13-C22)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:42	1
ORO (C23-C32)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:42	1
ORO (C33-C40)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	78		40 - 140	05/08/13 11:18	05/09/13 01:42	1

TestAmerica Irvine

## Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-23**

**Lab Sample ID: 440-45387-23**

Date Collected: 05/01/13 13:53

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13 - C40	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:05	1
DRO (C13-C22)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:05	1
ORO (C23-C32)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:05	1
ORO (C33-C40)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:05	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>n-Octacosane</i>	80		40 - 140				05/08/13 11:18	05/09/13 02:05	1

5

**Client Sample ID: SS-24**

**Lab Sample ID: 440-45387-24**

Date Collected: 05/01/13 14:27

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13 - C40	370		25		mg/Kg		05/08/13 11:18	05/10/13 00:44	5
DRO (C13-C22)	260		25		mg/Kg		05/08/13 11:18	05/10/13 00:44	5
ORO (C23-C32)	91		25		mg/Kg		05/08/13 11:18	05/10/13 00:44	5
ORO (C33-C40)	ND		25		mg/Kg		05/08/13 11:18	05/10/13 00:44	5
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>n-Octacosane</i>	80		40 - 140				05/08/13 11:18	05/10/13 00:44	5

**Client Sample ID: SS-25**

**Lab Sample ID: 440-45387-25**

Date Collected: 05/01/13 14:52

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13 - C40	9.0		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:27	1
DRO (C13-C22)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:27	1
ORO (C23-C32)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:27	1
ORO (C33-C40)	ND		5.0		mg/Kg		05/08/13 11:18	05/09/13 02:27	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>n-Octacosane</i>	74		40 - 140				05/08/13 11:18	05/09/13 02:27	1

**Client Sample ID: SS-26**

**Lab Sample ID: 440-45387-26**

Date Collected: 05/01/13 00:01

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		05/13/13 17:57	05/13/13 19:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50		mg/Kg		05/14/13 15:16	05/14/13 19:27	1

TestAmerica Irvine

# Client Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-27**

**Lab Sample ID: 440-45387-27**

Date Collected: 05/01/13 00:01

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		05/13/13 17:57	05/13/13 19:51	1

5

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50		mg/Kg		05/14/13 15:16	05/14/13 19:27	1

**Client Sample ID: SS-28**

**Lab Sample ID: 440-45387-28**

Date Collected: 05/01/13 00:01

Matrix: Solid

Date Received: 05/02/13 17:45

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.039		0.020		mg/Kg		05/13/13 17:57	05/13/13 19:53	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50		mg/Kg		05/14/13 15:16	05/14/13 19:27	1

## Method Summary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

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Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
8081A	Organochlorine Pesticides (GC)	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV
9014	Cyanide	SW846	TAL IRV



**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-1**

**Lab Sample ID: 440-45387-1**

Date Collected: 05/01/13 12:10

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.02 g	2 mL	103267	05/09/13 08:54		TAL IRV
Total/NA	Analysis	8081A		1			103273	05/09/13 19:49	KS	TAL IRV

**Client Sample ID: SS-2**

**Lab Sample ID: 440-45387-2**

Date Collected: 05/01/13 12:41

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	2 mL	103267	05/09/13 08:54		TAL IRV
Total/NA	Analysis	8081A		1			103273	05/09/13 20:04	KS	TAL IRV

**Client Sample ID: SS-3**

**Lab Sample ID: 440-45387-3**

Date Collected: 05/01/13 12:47

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	2 mL	103267	05/09/13 08:54		TAL IRV
Total/NA	Analysis	8081A		1			103273	05/09/13 20:18	KS	TAL IRV

**Client Sample ID: SS-4**

**Lab Sample ID: 440-45387-4**

Date Collected: 05/01/13 13:12

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.01 g	2 mL	103267	05/09/13 08:54		TAL IRV
Total/NA	Analysis	8081A		1			103273	05/09/13 20:33	KS	TAL IRV

**Client Sample ID: SS-5**

**Lab Sample ID: 440-45387-5**

Date Collected: 05/01/13 16:02

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.03 g	2 mL	103267	05/09/13 08:54		TAL IRV
Total/NA	Analysis	8081A		1			103273	05/09/13 20:48	KS	TAL IRV

**Client Sample ID: SS-6**

**Lab Sample ID: 440-45387-6**

Date Collected: 05/01/13 13:30

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.02 g	2 mL	103267	05/09/13 08:54		TAL IRV
Total/NA	Analysis	8081A		1			103273	05/09/13 21:32	KS	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-7**

**Lab Sample ID: 440-45387-7**

Date Collected: 05/01/13 14:08

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	2 mL	103040	05/08/13 11:54	AB	TAL IRV
Total/NA	Analysis	8081A		1			103185	05/08/13 22:51	KS	TAL IRV

**Client Sample ID: SS-8**

**Lab Sample ID: 440-45387-8**

Date Collected: 05/01/13 14:36

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.03 g	2 mL	103040	05/08/13 11:54	AB	TAL IRV
Total/NA	Analysis	8081A		1			103185	05/08/13 23:06	KS	TAL IRV

**Client Sample ID: SS-9**

**Lab Sample ID: 440-45387-9**

Date Collected: 05/01/13 15:27

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.06 g	2 mL	103040	05/08/13 11:54	AB	TAL IRV
Total/NA	Analysis	8081A		1			103185	05/08/13 23:20	KS	TAL IRV

**Client Sample ID: SS-10**

**Lab Sample ID: 440-45387-10**

Date Collected: 05/01/13 15:02

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.01 g	2 mL	103040	05/08/13 11:54	AB	TAL IRV
Total/NA	Analysis	8081A		1			103185	05/08/13 23:35	KS	TAL IRV

**Client Sample ID: SS-11**

**Lab Sample ID: 440-45387-11**

Date Collected: 05/01/13 12:20

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:10	TK	TAL IRV

**Client Sample ID: SS-12**

**Lab Sample ID: 440-45387-12**

Date Collected: 05/01/13 13:02

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:12	TK	TAL IRV

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## Lab Chronicle

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-13**

**Lab Sample ID: 440-45387-13**

Date Collected: 05/01/13 16:08

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:14	TK	TAL IRV

**Client Sample ID: SS-14**

**Lab Sample ID: 440-45387-14**

Date Collected: 05/01/13 14:00

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:16	TK	TAL IRV

**Client Sample ID: SS-15**

**Lab Sample ID: 440-45387-15**

Date Collected: 05/01/13 15:38

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:18	TK	TAL IRV

**Client Sample ID: SS-16**

**Lab Sample ID: 440-45387-16**

Date Collected: 05/01/13 15:48

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:40	TK	TAL IRV

**Client Sample ID: SS-17**

**Lab Sample ID: 440-45387-17**

Date Collected: 05/01/13 14:18

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:42	TK	TAL IRV

**Client Sample ID: SS-18**

**Lab Sample ID: 440-45387-18**

Date Collected: 05/01/13 15:20

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:44	TK	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-19**

**Lab Sample ID: 440-45387-19**

Date Collected: 05/01/13 14:42

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:45	TK	TAL IRV

**Client Sample ID: SS-20**

**Lab Sample ID: 440-45387-20**

Date Collected: 05/01/13 15:10

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	102693	05/07/13 09:07	DT	TAL IRV
Total/NA	Analysis	6010B		5			103112	05/08/13 14:47	TK	TAL IRV

**Client Sample ID: SS-21**

**Lab Sample ID: 440-45387-21**

Date Collected: 05/01/13 12:00

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	CA LUFT			30.01 g	1 mL	103032	05/08/13 11:18	A1L	TAL IRV
Total/NA	Analysis	8015B		1			103012	05/09/13 01:20	JR	TAL IRV

**Client Sample ID: SS-22**

**Lab Sample ID: 440-45387-22**

Date Collected: 05/01/13 12:32

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	CA LUFT			29.99 g	1 mL	103032	05/08/13 11:18	A1L	TAL IRV
Total/NA	Analysis	8015B		1			103012	05/09/13 01:42	JR	TAL IRV

**Client Sample ID: SS-23**

**Lab Sample ID: 440-45387-23**

Date Collected: 05/01/13 13:53

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	CA LUFT			30.00 g	1 mL	103032	05/08/13 11:18	A1L	TAL IRV
Total/NA	Analysis	8015B		1			103012	05/09/13 02:05	JR	TAL IRV

**Client Sample ID: SS-24**

**Lab Sample ID: 440-45387-24**

Date Collected: 05/01/13 14:27

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	CA LUFT			29.96 g	1 mL	103032	05/08/13 11:18	A1L	TAL IRV
Total/NA	Analysis	8015B		5			103502	05/10/13 00:44	CN	TAL IRV

TestAmerica Irvine



## Lab Chronicle

Client: Vinje & Middleton Engineering Inc  
 Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

**Client Sample ID: SS-25**

**Lab Sample ID: 440-45387-25**

Date Collected: 05/01/13 14:52

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	CA LUFT			30.06 g	1 mL	103032	05/08/13 11:18	A1L	TAL IRV
Total/NA	Analysis	8015B		1			103012	05/09/13 02:27	JR	TAL IRV

**Client Sample ID: SS-26**

**Lab Sample ID: 440-45387-26**

Date Collected: 05/01/13 00:01

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.49 g	50 mL	104174	05/13/13 17:57	MM	TAL IRV
Total/NA	Analysis	7471A		1			104222	05/13/13 19:48	DB	TAL IRV
Total/NA	Prep	9010C			2.00 g	50 mL	104439	05/14/13 15:16	BS	TAL IRV
Total/NA	Analysis	9014		1			104531	05/14/13 19:27	BT	TAL IRV

**Client Sample ID: SS-27**

**Lab Sample ID: 440-45387-27**

Date Collected: 05/01/13 00:01

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.51 g	50 mL	104174	05/13/13 17:57	MM	TAL IRV
Total/NA	Analysis	7471A		1			104222	05/13/13 19:51	DB	TAL IRV
Total/NA	Prep	9010C			1.99 g	50 mL	104439	05/14/13 15:16	BS	TAL IRV
Total/NA	Analysis	9014		1			104531	05/14/13 19:27	BT	TAL IRV

**Client Sample ID: SS-28**

**Lab Sample ID: 440-45387-28**

Date Collected: 05/01/13 00:01

Matrix: Solid

Date Received: 05/02/13 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.50 g	50 mL	104174	05/13/13 17:57	MM	TAL IRV
Total/NA	Analysis	7471A		1			104222	05/13/13 19:53	DB	TAL IRV
Total/NA	Prep	9010C			1.99 g	50 mL	104439	05/14/13 15:16	BS	TAL IRV
Total/NA	Analysis	9014		1			104531	05/14/13 19:27	BT	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-103032/1-A  
Matrix: Solid  
Analysis Batch: 103012

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 103032

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C13 - C40	ND		5.0		mg/Kg		05/08/13 11:18	05/08/13 19:22	1
DRO (C13-C22)	ND		5.0		mg/Kg		05/08/13 11:18	05/08/13 19:22	1
ORO (C23-C32)	ND		5.0		mg/Kg		05/08/13 11:18	05/08/13 19:22	1
ORO (C33-C40)	ND		5.0		mg/Kg		05/08/13 11:18	05/08/13 19:22	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
n-Octacosane	75		40 - 140	05/08/13 11:18	05/08/13 19:22	1

Lab Sample ID: LCS 440-103032/2-A  
Matrix: Solid  
Analysis Batch: 103012

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 103032

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
EFH (C10-C28)	33.3	28.6		mg/Kg		86	45 - 115

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
n-Octacosane	78		40 - 140

Lab Sample ID: 440-45425-A-1-A MS  
Matrix: Solid  
Analysis Batch: 103012

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 103032

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
EFH (C10-C28)	8.3		33.3	20.8	F	mg/Kg		37	40 - 120

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
n-Octacosane	55		40 - 140

Lab Sample ID: 440-45425-A-1-B MSD  
Matrix: Solid  
Analysis Batch: 103012

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 103032

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
EFH (C10-C28)	8.3		33.4	33.9	F	mg/Kg		77	40 - 120	48	30

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
n-Octacosane	82		40 - 140

### Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-103040/1-A  
Matrix: Solid  
Analysis Batch: 103185

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 103040

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
alpha-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1

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## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-103040/1-A  
Matrix: Solid  
Analysis Batch: 103185

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 103040

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
beta-BHC	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Chlordane (technical)	ND		50		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
4,4'-DDD	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
4,4'-DDE	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
4,4'-DDT	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
delta-BHC	ND		10		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Dieldrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Endosulfan I	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Endosulfan II	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Endosulfan sulfate	ND		10		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Endrin	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Endrin aldehyde	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Endrin ketone	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Heptachlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Heptachlor epoxide	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Methoxychlor	ND		5.0		ug/Kg		05/08/13 11:54	05/08/13 21:52	1
Toxaphene	ND		200		ug/Kg		05/08/13 11:54	05/08/13 21:52	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr)	79		45 - 120	05/08/13 11:54	05/08/13 21:52	1
Tetrachloro-m-xylene	57		35 - 115	05/08/13 11:54	05/08/13 21:52	1

Lab Sample ID: LCS 440-103040/2-A  
Matrix: Solid  
Analysis Batch: 103185

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 103040

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Aldrin	33.3	27.7		ug/Kg		83	50 - 115
alpha-BHC	33.3	28.6		ug/Kg		86	60 - 115
beta-BHC	33.3	28.3		ug/Kg		85	60 - 115
4,4'-DDD	33.3	30.9		ug/Kg		93	60 - 120
4,4'-DDE	33.3	32.1		ug/Kg		96	60 - 120
4,4'-DDT	33.3	34.2		ug/Kg		103	65 - 120
delta-BHC	33.3	30.6		ug/Kg		92	60 - 115
Dieldrin	33.3	31.4		ug/Kg		94	65 - 115
Endosulfan I	33.3	30.4		ug/Kg		91	40 - 120
Endosulfan II	33.3	30.5		ug/Kg		91	55 - 120
Endosulfan sulfate	33.3	29.1		ug/Kg		87	65 - 115
Endrin	33.3	30.7		ug/Kg		92	55 - 120
Endrin aldehyde	33.3	28.6		ug/Kg		86	55 - 115
Endrin ketone	33.3	32.2		ug/Kg		97	65 - 115
gamma-BHC (Lindane)	33.3	28.8		ug/Kg		87	55 - 115
Heptachlor	33.3	28.8		ug/Kg		86	55 - 115
Heptachlor epoxide	33.3	29.6		ug/Kg		89	55 - 115
Methoxychlor	33.3	30.4		ug/Kg		91	65 - 120

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## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-103040/2-A  
Matrix: Solid  
Analysis Batch: 103185

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 103040

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	87		45 - 120
Tetrachloro-m-xylene	70		35 - 115

Lab Sample ID: 440-45434-A-1-F MS  
Matrix: Solid  
Analysis Batch: 103185

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 103040

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Aldrin	ND		250	215		ug/Kg		86	40 - 115	
alpha-BHC	ND		250	224		ug/Kg		90	40 - 115	
beta-BHC	ND		250	203		ug/Kg		81	40 - 120	
4,4'-DDD	ND		250	201		ug/Kg		80	40 - 130	
4,4'-DDE	ND		250	221		ug/Kg		88	35 - 130	
4,4'-DDT	ND		250	231		ug/Kg		92	35 - 130	
delta-BHC	ND		250	200		ug/Kg		80	45 - 120	
Dieldrin	ND		250	212		ug/Kg		85	40 - 125	
Endosulfan I	ND		250	218		ug/Kg		87	40 - 120	
Endosulfan II	ND		250	214		ug/Kg		86	40 - 125	
Endosulfan sulfate	ND		250	216		ug/Kg		87	45 - 120	
Endrin	ND		250	236		ug/Kg		94	45 - 125	
Endrin aldehyde	ND		250	179		ug/Kg		71	30 - 120	
Endrin ketone	ND		250	234		ug/Kg		93	40 - 120	
gamma-BHC (Lindane)	ND		250	215		ug/Kg		86	40 - 120	
Heptachlor	ND		250	222		ug/Kg		89	40 - 115	
Heptachlor epoxide	ND		250	211		ug/Kg		85	45 - 115	
Methoxychlor	ND		250	241		ug/Kg		96	40 - 135	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	87		45 - 120
Tetrachloro-m-xylene	75		35 - 115

Lab Sample ID: 440-45434-A-1-G MSD  
Matrix: Solid  
Analysis Batch: 103185

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 103040

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Aldrin	ND		249	210		ug/Kg		84	40 - 115	NC	30	
alpha-BHC	ND		249	216		ug/Kg		87	40 - 115	4	30	
beta-BHC	ND		249	191		ug/Kg		77	40 - 120	6	30	
4,4'-DDD	ND		249	191		ug/Kg		77	40 - 130	5	30	
4,4'-DDE	ND		249	215		ug/Kg		87	35 - 130	9	30	
4,4'-DDT	ND		249	225		ug/Kg		90	35 - 130	4	30	
delta-BHC	ND		249	192		ug/Kg		77	45 - 120	4	30	
Dieldrin	ND		249	202		ug/Kg		81	40 - 125	8	30	
Endosulfan I	ND		249	212		ug/Kg		85	40 - 120	8	30	
Endosulfan II	ND		249	199		ug/Kg		80	40 - 125	8	30	
Endosulfan sulfate	ND		249	226		ug/Kg		91	45 - 120	5	30	
Endrin	ND		249	227		ug/Kg		91	45 - 125	4	30	

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## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 440-45434-A-1-G MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Total/NA								
Analysis Batch: 103185				Prep Batch: 103040								
Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Endrin aldehyde	ND		249	176		ug/Kg		71	30 - 120		1	30
Endrin ketone	ND		249	232		ug/Kg		93	40 - 120		14	30
gamma-BHC (Lindane)	ND		249	208		ug/Kg		84	40 - 120		9	30
Heptachlor	ND		249	219		ug/Kg		88	40 - 115		2	30
Heptachlor epoxide	ND		249	204		ug/Kg		82	45 - 115		11	30
Methoxychlor	ND		249	242		ug/Kg		97	40 - 135		NC	30
<b>MSD MSD</b>												
<b>Surrogate</b>	<b>%Recovery</b>		<b>Qualifier</b>	<b>Limits</b>								
DCB Decachlorobiphenyl (Surr)	84			45 - 120								
Tetrachloro-m-xylene	74			35 - 115								

Lab Sample ID: MB 440-103267/1-A				Client Sample ID: Method Blank							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 103273				Prep Batch: 103267							
Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
	Result	Qualifier									
Aldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
alpha-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
beta-BHC	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Chlordane (technical)	ND		50		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
4,4'-DDD	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
4,4'-DDE	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
4,4'-DDT	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
delta-BHC	ND		10		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Dieldrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Endosulfan I	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Endosulfan II	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Endosulfan sulfate	ND		10		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Endrin	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Endrin aldehyde	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Endrin ketone	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
gamma-BHC (Lindane)	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Heptachlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Heptachlor epoxide	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Methoxychlor	ND		5.0		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
Toxaphene	ND		200		ug/Kg		05/09/13 08:54	05/09/13 19:20	1		
<b>MB MB</b>											
<b>Surrogate</b>	<b>%Recovery</b>		<b>Qualifier</b>	<b>Limits</b>		<b>Prepared</b>		<b>Analyzed</b>		<b>Dil Fac</b>	
DCB Decachlorobiphenyl (Surr)	85			45 - 120		05/09/13 08:54		05/09/13 19:20		1	
Tetrachloro-m-xylene	74			35 - 115		05/09/13 08:54		05/09/13 19:20		1	

Lab Sample ID: LCS 440-103267/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 103273				Prep Batch: 103267							
Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits			
		Added	Result						Qualifier		
Aldrin	33.3	28.0		ug/Kg		84	50 - 115				
alpha-BHC	33.3	29.4		ug/Kg		88	60 - 115				

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## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-103267/2-A

Matrix: Solid

Analysis Batch: 103273

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 103267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
beta-BHC	33.3	30.3		ug/Kg		91	60 - 115	
4,4'-DDD	33.3	29.5		ug/Kg		89	60 - 120	
4,4'-DDE	33.3	30.3		ug/Kg		91	60 - 120	
4,4'-DDT	33.3	31.7		ug/Kg		95	65 - 120	
delta-BHC	33.3	31.6		ug/Kg		95	60 - 115	
Dieldrin	33.3	30.2		ug/Kg		91	65 - 115	
Endosulfan I	33.3	28.8		ug/Kg		86	40 - 120	
Endosulfan II	33.3	29.0		ug/Kg		87	55 - 120	
Endosulfan sulfate	33.3	32.7		ug/Kg		98	65 - 115	
Endrin	33.3	31.0		ug/Kg		93	55 - 120	
Endrin aldehyde	33.3	26.2		ug/Kg		79	55 - 115	
Endrin ketone	33.3	29.6		ug/Kg		89	65 - 115	
gamma-BHC (Lindane)	33.3	29.5		ug/Kg		89	55 - 115	
Heptachlor	33.3	30.9		ug/Kg		93	55 - 115	
Heptachlor epoxide	33.3	28.7		ug/Kg		86	55 - 115	
Methoxychlor	33.3	29.4		ug/Kg		88	65 - 120	

Surrogate	%Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	86		35 - 115

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Lab Sample ID: 440-45387-5 MS

Matrix: Solid

Analysis Batch: 103273

Client Sample ID: SS-5

Prep Type: Total/NA

Prep Batch: 103267

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
Aldrin	ND		33.3	25.8		ug/Kg		77	40 - 115	
alpha-BHC	ND		33.3	25.7		ug/Kg		77	40 - 115	
beta-BHC	ND		33.3	27.0		ug/Kg		81	40 - 120	
4,4'-DDD	ND		33.3	26.5		ug/Kg		80	40 - 130	
4,4'-DDE	ND		33.3	28.1		ug/Kg		85	35 - 130	
4,4'-DDT	ND		33.3	29.6		ug/Kg		89	35 - 130	
delta-BHC	ND		33.3	27.9		ug/Kg		84	45 - 120	
Dieldrin	ND		33.3	26.8		ug/Kg		81	40 - 125	
Endosulfan I	ND		33.3	26.3		ug/Kg		79	40 - 120	
Endosulfan II	ND		33.3	26.2		ug/Kg		79	40 - 125	
Endosulfan sulfate	ND		33.3	29.4		ug/Kg		88	45 - 120	
Endrin	ND		33.3	28.0		ug/Kg		84	45 - 125	
Endrin aldehyde	ND		33.3	23.2		ug/Kg		70	30 - 120	
Endrin ketone	ND		33.3	26.6		ug/Kg		80	40 - 120	
gamma-BHC (Lindane)	ND		33.3	25.9		ug/Kg		78	40 - 120	
Heptachlor	ND		33.3	27.3		ug/Kg		82	40 - 115	
Heptachlor epoxide	ND		33.3	26.4		ug/Kg		79	45 - 115	
Methoxychlor	ND		33.3	27.0		ug/Kg		81	40 - 135	

Surrogate	%Recovery	MS Qualifier	Limits

TestAmerica Irvine

## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 440-45387-5 MS  
Matrix: Solid  
Analysis Batch: 103273

Client Sample ID: SS-5  
Prep Type: Total/NA  
Prep Batch: 103267

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	77		35 - 115

Lab Sample ID: 440-45387-5 MSD  
Matrix: Solid  
Analysis Batch: 103273

Client Sample ID: SS-5  
Prep Type: Total/NA  
Prep Batch: 103267

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Aldrin	ND		33.3	25.1		ug/Kg		75	40 - 115	3	30	
alpha-BHC	ND		33.3	24.8		ug/Kg		75	40 - 115	3	30	
beta-BHC	ND		33.3	26.6		ug/Kg		80	40 - 120	1	30	
4,4'-DDD	ND		33.3	26.6		ug/Kg		80	40 - 130	0	30	
4,4'-DDE	ND		33.3	28.4		ug/Kg		85	35 - 130	1	30	
4,4'-DDT	ND		33.3	29.8		ug/Kg		89	35 - 130	1	30	
delta-BHC	ND		33.3	26.7		ug/Kg		80	45 - 120	5	30	
Dieldrin	ND		33.3	26.8		ug/Kg		80	40 - 125	0	30	
Endosulfan I	ND		33.3	26.4		ug/Kg		79	40 - 120	0	30	
Endosulfan II	ND		33.3	23.5		ug/Kg		71	40 - 125	11	30	
Endosulfan sulfate	ND		33.3	25.9		ug/Kg		78	45 - 120	13	30	
Endrin	ND		33.3	28.5		ug/Kg		86	45 - 125	2	30	
Endrin aldehyde	ND		33.3	22.2		ug/Kg		67	30 - 120	4	30	
Endrin ketone	ND		33.3	23.8		ug/Kg		71	40 - 120	11	30	
gamma-BHC (Lindane)	ND		33.3	25.2		ug/Kg		76	40 - 120	3	30	
Heptachlor	ND		33.3	26.3		ug/Kg		79	40 - 115	3	30	
Heptachlor epoxide	ND		33.3	26.1		ug/Kg		78	45 - 115	1	30	
Methoxychlor	ND		33.3	25.3		ug/Kg		76	40 - 135	7	30	

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	80		45 - 120
Tetrachloro-m-xylene	73		35 - 115

### Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-102693/1-A ^5  
Matrix: Solid  
Analysis Batch: 103112

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 102693

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0		mg/Kg		05/07/13 09:07	05/08/13 14:00	5

Lab Sample ID: LCS 440-102693/2-A ^5  
Matrix: Solid  
Analysis Batch: 103112

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 102693

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	49.5	45.9		mg/Kg		93	80 - 120

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## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-45437-A-1-B MS ^5  
Matrix: Solid  
Analysis Batch: 103112

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 102693

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Arsenic	3.8		50.0	51.7		mg/Kg		96	75 - 125

Lab Sample ID: 440-45437-A-1-C MSD ^5  
Matrix: Solid  
Analysis Batch: 103112

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 102693

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Arsenic	3.8		49.5	47.1		mg/Kg		87	75 - 125	9	20

### Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-104174/1-A  
Matrix: Solid  
Analysis Batch: 104222

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 104174

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020		mg/Kg		05/13/13 17:57	05/13/13 19:10	1

Lab Sample ID: LCS 440-104174/2-A  
Matrix: Solid  
Analysis Batch: 104222

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 104174

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Mercury	0.800	0.677		mg/Kg		85	80 - 120

Lab Sample ID: 440-46080-A-1-E MS  
Matrix: Solid  
Analysis Batch: 104222

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 104174

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Mercury	0.19		0.800	0.838		mg/Kg		81	70 - 130

Lab Sample ID: 440-46080-A-1-F MSD  
Matrix: Solid  
Analysis Batch: 104222

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 104174

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Mercury	0.19		0.816	0.973		mg/Kg		96	70 - 130	15	20

### Method: 9014 - Cyanide

Lab Sample ID: MB 440-104439/1-A  
Matrix: Solid  
Analysis Batch: 104531

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 104439

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cyanide, Total	ND		0.020		mg/Kg		05/14/13 15:16	05/14/13 19:26	1

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## QC Sample Results

Client: Vinje & Middleton Engineering Inc  
 Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Method: 9014 - Cyanide (Continued)

Lab Sample ID: LCS 440-104439/2-A  
 Matrix: Solid  
 Analysis Batch: 104531

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 104439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Lower	Upper
Cyanide, Total	0.200	0.185		mg/Kg		93	90	110

Lab Sample ID: 440-45387-27 MS  
 Matrix: Solid  
 Analysis Batch: 104531

Client Sample ID: SS-27  
 Prep Type: Total/NA  
 Prep Batch: 104439

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
									Lower	Upper
Cyanide, Total	ND		5.03	4.36		mg/Kg		87	70	115

Lab Sample ID: 440-45387-27 MSD  
 Matrix: Solid  
 Analysis Batch: 104531

Client Sample ID: SS-27  
 Prep Type: Total/NA  
 Prep Batch: 104439

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
									Lower	Upper		
Cyanide, Total	ND		5.00	4.22		mg/Kg		84	70	115	3	15

8

## QC Association Summary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### GC Semi VOA

#### Analysis Batch: 103012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-21	SS-21	Total/NA	Solid	8015B	103032
440-45387-22	SS-22	Total/NA	Solid	8015B	103032
440-45387-23	SS-23	Total/NA	Solid	8015B	103032
440-45387-25	SS-25	Total/NA	Solid	8015B	103032
440-45425-A-1-A MS	Matrix Spike	Total/NA	Solid	8015B	103032
440-45425-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	103032
LCS 440-103032/2-A	Lab Control Sample	Total/NA	Solid	8015B	103032
MB 440-103032/1-A	Method Blank	Total/NA	Solid	8015B	103032

#### Prep Batch: 103032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-21	SS-21	Total/NA	Solid	CA LUFT	
440-45387-22	SS-22	Total/NA	Solid	CA LUFT	
440-45387-23	SS-23	Total/NA	Solid	CA LUFT	
440-45387-24	SS-24	Total/NA	Solid	CA LUFT	
440-45387-25	SS-25	Total/NA	Solid	CA LUFT	
440-45425-A-1-A MS	Matrix Spike	Total/NA	Solid	CA LUFT	
440-45425-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	CA LUFT	
LCS 440-103032/2-A	Lab Control Sample	Total/NA	Solid	CA LUFT	
MB 440-103032/1-A	Method Blank	Total/NA	Solid	CA LUFT	

#### Prep Batch: 103040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-7	SS-7	Total/NA	Solid	3546	
440-45387-8	SS-8	Total/NA	Solid	3546	
440-45387-9	SS-9	Total/NA	Solid	3546	
440-45387-10	SS-10	Total/NA	Solid	3546	
440-45434-A-1-F MS	Matrix Spike	Total/NA	Solid	3546	
440-45434-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	
LCS 440-103040/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-103040/1-A	Method Blank	Total/NA	Solid	3546	

#### Analysis Batch: 103185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-7	SS-7	Total/NA	Solid	8081A	103040
440-45387-8	SS-8	Total/NA	Solid	8081A	103040
440-45387-9	SS-9	Total/NA	Solid	8081A	103040
440-45387-10	SS-10	Total/NA	Solid	8081A	103040
440-45434-A-1-F MS	Matrix Spike	Total/NA	Solid	8081A	103040
440-45434-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8081A	103040
LCS 440-103040/2-A	Lab Control Sample	Total/NA	Solid	8081A	103040
MB 440-103040/1-A	Method Blank	Total/NA	Solid	8081A	103040

#### Prep Batch: 103267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-1	SS-1	Total/NA	Solid	3546	
440-45387-2	SS-2	Total/NA	Solid	3546	
440-45387-3	SS-3	Total/NA	Solid	3546	
440-45387-4	SS-4	Total/NA	Solid	3546	
440-45387-5	SS-5	Total/NA	Solid	3546	
440-45387-5 MS	SS-5	Total/NA	Solid	3546	

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## QC Association Summary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### GC Semi VOA (Continued)

#### Prep Batch: 103267 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-5 MSD	SS-5	Total/NA	Solid	3546	
440-45387-6	SS-6	Total/NA	Solid	3546	
LCS 440-103267/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-103267/1-A	Method Blank	Total/NA	Solid	3546	

#### Analysis Batch: 103273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-1	SS-1	Total/NA	Solid	8081A	103267
440-45387-2	SS-2	Total/NA	Solid	8081A	103267
440-45387-3	SS-3	Total/NA	Solid	8081A	103267
440-45387-4	SS-4	Total/NA	Solid	8081A	103267
440-45387-5	SS-5	Total/NA	Solid	8081A	103267
440-45387-5 MS	SS-5	Total/NA	Solid	8081A	103267
440-45387-5 MSD	SS-5	Total/NA	Solid	8081A	103267
440-45387-6	SS-6	Total/NA	Solid	8081A	103267
LCS 440-103267/2-A	Lab Control Sample	Total/NA	Solid	8081A	103267
MB 440-103267/1-A	Method Blank	Total/NA	Solid	8081A	103267

#### Analysis Batch: 103502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-24	SS-24	Total/NA	Solid	8015B	103032

### Metals

#### Prep Batch: 102693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-11	SS-11	Total/NA	Solid	3050B	
440-45387-12	SS-12	Total/NA	Solid	3050B	
440-45387-13	SS-13	Total/NA	Solid	3050B	
440-45387-14	SS-14	Total/NA	Solid	3050B	
440-45387-15	SS-15	Total/NA	Solid	3050B	
440-45387-16	SS-16	Total/NA	Solid	3050B	
440-45387-17	SS-17	Total/NA	Solid	3050B	
440-45387-18	SS-18	Total/NA	Solid	3050B	
440-45387-19	SS-19	Total/NA	Solid	3050B	
440-45387-20	SS-20	Total/NA	Solid	3050B	
440-45437-A-1-B MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-45437-A-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	
LCS 440-102693/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-102693/1-A ^5	Method Blank	Total/NA	Solid	3050B	

#### Analysis Batch: 103112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-11	SS-11	Total/NA	Solid	6010B	102693
440-45387-12	SS-12	Total/NA	Solid	6010B	102693
440-45387-13	SS-13	Total/NA	Solid	6010B	102693
440-45387-14	SS-14	Total/NA	Solid	6010B	102693
440-45387-15	SS-15	Total/NA	Solid	6010B	102693
440-45387-16	SS-16	Total/NA	Solid	6010B	102693
440-45387-17	SS-17	Total/NA	Solid	6010B	102693

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## QC Association Summary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Metals (Continued)

#### Analysis Batch: 103112 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-18	SS-18	Total/NA	Solid	6010B	102693
440-45387-19	SS-19	Total/NA	Solid	6010B	102693
440-45387-20	SS-20	Total/NA	Solid	6010B	102693
440-45437-A-1-B MS ^5	Matrix Spike	Total/NA	Solid	6010B	102693
440-45437-A-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	102693
LCS 440-102693/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	102693
MB 440-102693/1-A ^5	Method Blank	Total/NA	Solid	6010B	102693

#### Prep Batch: 104174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-26	SS-26	Total/NA	Solid	7471A	
440-45387-27	SS-27	Total/NA	Solid	7471A	
440-45387-28	SS-28	Total/NA	Solid	7471A	
440-46080-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	
440-46080-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	
LCS 440-104174/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 440-104174/1-A	Method Blank	Total/NA	Solid	7471A	

#### Analysis Batch: 104222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-26	SS-26	Total/NA	Solid	7471A	104174
440-45387-27	SS-27	Total/NA	Solid	7471A	104174
440-45387-28	SS-28	Total/NA	Solid	7471A	104174
440-46080-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	104174
440-46080-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	104174
LCS 440-104174/2-A	Lab Control Sample	Total/NA	Solid	7471A	104174
MB 440-104174/1-A	Method Blank	Total/NA	Solid	7471A	104174

### General Chemistry

#### Prep Batch: 104439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-26	SS-26	Total/NA	Solid	9010C	
440-45387-27	SS-27	Total/NA	Solid	9010C	
440-45387-27 MS	SS-27	Total/NA	Solid	9010C	
440-45387-27 MSD	SS-27	Total/NA	Solid	9010C	
440-45387-28	SS-28	Total/NA	Solid	9010C	
LCS 440-104439/2-A	Lab Control Sample	Total/NA	Solid	9010C	
MB 440-104439/1-A	Method Blank	Total/NA	Solid	9010C	

#### Analysis Batch: 104531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-45387-26	SS-26	Total/NA	Solid	9014	104439
440-45387-27	SS-27	Total/NA	Solid	9014	104439
440-45387-27 MS	SS-27	Total/NA	Solid	9014	104439
440-45387-27 MSD	SS-27	Total/NA	Solid	9014	104439
440-45387-28	SS-28	Total/NA	Solid	9014	104439
LCS 440-104439/2-A	Lab Control Sample	Total/NA	Solid	9014	104439
MB 440-104439/1-A	Method Blank	Total/NA	Solid	9014	104439

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## Definitions/Glossary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

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### Qualifiers

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#### GC Semi VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

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### Glossary

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Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Certification Summary

Client: Vinje & Middleton Engineering Inc  
Project/Site: 13-118-H2

TestAmerica Job ID: 440-45387-1

### Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-13
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	03-28-13 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-13
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

\* Expired certification is currently pending renewal and is considered valid.

TestAmerica Irvine

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0049 FAX (480) 785-0851  
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

## CHAIN OF CUSTODY FORM

Client Name/Address: Vincent Muddleton Engineering Inc 2450 Auto Park Way Esccondido CA 92029		Project/PO Number: 13-118-Hm		Analysis Required			
Project Manager: B. Crawshaw		Phone Number: (760) 745-1214					
Sampler: M. Allen		Fax Number: (760) 739-0343					
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Special Instructions
SS-1	Soil	Gal	1	5-1-13	12:10	---	
SS-2					12:41	---	
SS-3					12:47	---	
SS-4					13:12	---	
SS-5					16:02	---	
SS-6					13:30	---	
SS-7					14:08	---	
SS-8					1436	---	
SS-9					1527	---	
SS-10					1502	---	
SS-11					1220	---	
SS-12					1302	---	
SS-13					1608	---	
SS-14					1400	---	
Relinquished By: Valene Steneradden		Date/Time: 5/2/13 2:35 PM		Received By: [Signature]		Date/Time: 5/2/13 1435	
Relinquished By: [Signature]		Date/Time: 5/2/13 1745		Received By: [Signature]		Date/Time: 5/2/13 1745	
Relinquished By: [Signature]		Date/Time: 5/16/12		Received in Lab By: [Signature]		Date/Time: 5/2/13 17:45	
				Turnaround Time: (Check)			
				same day		72 hours	
				24 hours		5 days	
				48 hours		normal	
				Sample integrity: (Check)		intact <input checked="" type="checkbox"/> on ice <input checked="" type="checkbox"/>	

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

## CHAIN OF CUSTODY FORM

TAL-0013(1007)

Page 2 of 2

Client Name / Address:		Project/PO Number:		Analysis Required													
Vince + Middleton Engineering Inc. 2450 Auto Park Way Escondido, CA 92029		13-118-H2															
Project Manager:		Phone Number:		Sample Matrix		Container Type		# of Cont.		Sampling Date		Sampling Time		Preservatives		Special Instructions	
B. Crawshaw		(760) 743-1214		Soil		COL		1		5-1-13		1538		---			
Sampler:		Fax Number:															
M. Alles		(760) 739-0343															
SS-15																	
SS-16																	
SS-17																	
SS-18																	
SS-19																	
SS-20																	
SS-21																	
SS-22																	
SS-23																	
SS-24																	
SS-25																	
SS-26																	
SS-27																	
SS-28																	
Relinquished By:		Date/Time:		Sample Matrix		Container Type		# of Cont.		Sampling Date		Sampling Time		Preservatives		Special Instructions	
Valerie Steneradden		5/2/13 2:35 PM		Soil		COL		1		5-1-13		1538		---			
Relinquished By:		Date/Time:															
Valerie Steneradden		5/2/13 17:45															
Relinquished By:		Date/Time:															
Van Banda		5/2/13 12:45															
Turnaround Time: (Check)		same day															
		24 hours															
		48 hours															
		72 hours															
		5 days															
		normal															
Sample Integrity: (Check)		intact															
		on ice															

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



## Login Sample Receipt Checklist

Client: Vinje & Middleton Engineering Inc

Job Number: 440-45387-1

Login Number: 45387

List Source: TestAmerica Irvine

List Number: 1

Creator: Perez, Angel

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	M. Alles
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

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# APPENDIX C

## REFERENCES

American Society for Testing and Materials ASTM Designation E1903-97;  
Standard Guide for Environmental Site Assessments: Phase II Process, 1997.

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Quadrangle, San Diego County, California, Siang S. Tan and Michael P. Kennedy, 1999.

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California Environmental Protection Agency, Use of California Human Health  
Screening Levels (CHHSLs) In Evaluation of Contaminated Properties, January 2005.

Test America, Analytical Report, Job ID: 440-45387-1, May 16, 2013.

The Gold Mining Days of Escondido and San Diego County, Escondido Historical  
Society, Frank Lorey III, 2000.

Vinje & Middleton Engineering, Inc., Phase I Environmental Site Assessment,  
661 Bear Valley Parkway, Escondido, California 92025; Assessors Parcel Numbers:  
237-131-01 & -02, February 14, 2013.