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# Pilot Testing Report
**Former CENCO Refinery**
**12345 Lakeland Road, Santa Fe Springs, CA**

**SLIC No. 0318, ID No. 2040071**
**CAO 97-118**

Prepared on Behalf of

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Prepared for

**Regional Water Quality Control Board**
**Los Angeles Region**

Prepared By

MUREX environmental, inc

I, Michael Barranco, do hereby declare, under penalty of perjury under the laws of the State of California, that I am the Environmental Coordinator for Lakeland Development Company, that I am authorized to attest to the veracity of the information contained in the report described herein, and that the information contained in

the November 21, 2011 Pilot Testing Report, Former CENCO Refinery

is true and correct, and that this declaration was executed at Lakeland Development, in Santa Fe Springs, California on 11-21-11.

Signed,

Michael Barranco

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# 1.0 INTRODUCTION

Murex Environmental Inc. (Murex) has prepared this report of findings for the pilot testing activities at the former Powerine/CENCO refinery located at 12345 Lakeland Road in Santa Fe Springs, California (Site, see **Figure 1**) on behalf of Lakeland Development Company (Lakeland). This report was prepared to address the Los Angeles Regional Water Quality Control Board (LARWQCB) letter, dated March 11, 2011, titled "Approval of Work Plan for Pilot Testing, Pursuant to California Water Code Section 13304 Cleanup and Abatement Order No. 97-118" (**Appendix A**).

The LARWQCB is the lead agency overseeing work pursuant to the Clean-up and Abatement Order. The Department of Toxic Substance Control (DTSC) is also involved, and reviews human health-related studies on behalf of the LARWQCB.

## 1.1 Purpose of Pilot Test

The September 17, 2010 document titled "Pilot Testing Workplan" (workplan) by Murex Environmental provides background and detail on the results of site characterization activities, a framework for the selection of remedial alternatives for testing, the rationale for the selection of pilot testing locations, and the proposed procedures for all of the tests.

As described in the workplan, several chemicals are present in sufficient concentration in Site soil and groundwater so as to warrant remediation, both as a result of exceeding calculated human health risk concentrations, as well as exceeding published regulatory thresholds.

The purpose of the pilot testing activities is to evaluate selected remedial technologies in terms of their application and effectiveness in the reduction of petroleum hydrocarbon and volatile organic compound (VOC) contaminant concentrations at the Site and to collect site-specific design and operational parameters for the full scale design of the final remedial action.

## 1.2 Remediation Technologies Selected for Pilot-Scale Testing

Three different zones (shallow soil zone [0-10 ft-bgs], deep soil zone [10-100 ft-bgs, approximately], and the saturated zone) were considered for remedial evaluation. The considered remedial action approaches addresses environmental impacts within the property boundaries only (off-site impacts are not addressed).

According to the findings of the Baseline Human Health Risk Assessment (HHRA) (Arcadis, 2009) and the Addendum to the Baseline Human Health Risk Assessment (HRA Addendum) (Murex, 2010), certain compounds present in Site soil exceed acceptable human health limits. Given

the distribution, extent, concentration, and characteristics of the health risk-related compounds present in the shallow soil zone, ***excavation*** was selected as the best-fit technology for addressing the contamination in the upper 10 ft of soil. The delineated impacted shallow soil, within the 55-acres site, is based on a limited number of soil sampling locations (grid spacing of approximately of 75-100 feet). In order to estimate the volume of shallow soil that will need to be excavated with a reasonable level of certainty, Murex recommended that a study be performed using data from additional shallow soil sampling, to model the most cost-effective spacing for samples, in relation to the refinement of planned excavation locations and overall soil volume. The soil sampling was a part of the pilot test and was performed in Areas 4, 5 and 6, which are shown on **Figure 2**.

In the deeper soil at certain locations within the Site (i.e., vadose zone, 10-100 ft-bgs), TPH, benzene, and other petroleum constituents are present at elevated concentration. The HRA and HRA Addendum indicate these contaminants do not present any unacceptable health hazard, however, they may present a threat to groundwater quality. These contaminants can be biologically degraded in oxygen-rich environments and as a result, ***bioventing*** was selected as the most appropriate and cost-effective technology for further testing in the pilot-scale phase. Bioventing was carried out in pilot testing Areas 1 and 2, which are shown on **Figure 2**.

Similarly, the dissolved-phase plume of TPH, benzene, and other gasoline-related constituents is also manageable using techniques to aerate/oxygenate the groundwater and volatilize the COCs. ***Air sparging***, using a traditional sparging well design, as well as a more innovative ***in-well air stripping*** design were selected as the best-fit technologies for further testing in the pilot-scale phase. These technologies were employed in Area 3, which is shown on **Figure 2**.

## 1.3 Report Organization

This report is broken into sections as follows:

1. Section 1 contains an introduction and a description of the technologies tested.
2. Section 2 contains discussion of site history, site geology and hydrogeology, and chemical impacts and their distribution.
3. Section 3 describes the installation of pilot test wells and the advancement of borings, as well as the chemical testing results from soil analysis.
4. Section 4 details the pilot testing activities performed between June and September 2011.
5. Section 5 discusses the results of pilot testing activities and describes the output and significance of data analysis.

6. Section 6 lists the overall findings of the data analysis and draws conclusions as to how the full-scale application of the tested technologies would be implemented most effectively.

# 2.0 SITE BACKGROUND

## 2.1 Site Description and History

The site is approximately 55 acres in size and is bordered to the north by Florence Avenue, to the south by Lakeland Road, and to the east by Bloomfield Avenue (**Figure 1**). The Site is bordered on all sides by commercial and industrial properties. The site was operated as an oil refinery from the 1930s until July 1995. Oil-production-related structures such as ponds and aboveground holding tanks may have also been located onsite during these years (Haley & Aldrich, Inc. [Haley & Aldrich], 2005). The refinery ceased operations in July 1995. Since then, refinery structures, such as tanks, overhead piping, and other infrastructure, have been removed in stages. The remaining refinery structures are scheduled to be removed for reuse elsewhere or recycling prior to the redevelopment of the property for commercial/industrial use. **Figure 2** shows an aerial photo of the Site in its current state of decommissioning.

Previous refining operations included processing crude oil into several grades of fuel including kerosene, leaded gasoline and aviation fuel, unleaded gasoline, jet fuel, high and low-sulfur diesel, fuel oil, and petroleum coke. Soil and groundwater quality beneath and in proximity to the site have been impacted by accidental spills. Soil and groundwater investigations are being conducted pursuant to a CAO No. 97-118 issued by the LARWQCB to Powerine Oil Company (CENCO Refining Company) in 1997 (Haley & Aldrich, 2005). A summary of previous site investigations is presented below.

## 2.2 Regional Geology and Hydrogeology

The site is located within the Santa Fe Springs Plain Subgeomorphic Province of the Los Angeles Coastal Plain at an elevation of approximately 130 to 140 feet (ft) above mean sea level (amsl). This plain is a slightly rolling topographic feature sloping gently to the northeast in the vicinity of the site due to the northwest trending Santa Fe Springs–Coyote Hills anticlinal system. The site is positioned above the southern limb of the Santa Fe Springs Anticline. Petroleum accumulation associated with this anticlinal structure has resulted in substantial oil production in the Santa Fe Springs area. Prominent topographic features in the area include the Puente and Coyote Hills to the northeast, east, and southeast (**Figure 1**). The San Gabriel River is located approximately 1.75 miles west of the site and flows from north-northeast to south-southwest (**Figure 1**; Haley & Aldrich, 2005; Versar, 2000).

The Los Angeles Coastal Plain area is a large structural basin that has accumulated thousands of feet of sediments since Miocene time and has been tectonically active. The Los Angeles Coastal Plain generally consists of alluvial materials deposited by the Los Angeles, San Gabriel, and Santa Ana Rivers. The Santa Fe Springs Plain is comprised of the Upper Pleistocene–age

Lakewood Formation (California Division of Mines and Geology, 1999). The Lakewood Formation and the underlying San Pedro Formation are folded over the anticlinal dome structure (Haley & Aldrich, 2005; Versar, 2000).

Several regional water-bearing units have been identified within the older alluvial fan and valley deposits of the Lakewood Formation and underlying San Pedro Formation. In the site area, the Lakewood Formation begins at ground surface, ranges from 100 to 180 ft thick, and is composed of three hydrostratigraphic units: 1) the Bellflower Aquiclude (upper unit), 2) the Exposition Aquifer, and 3) the Gage Aquifer. The Exposition and Gage aquifers consist predominantly of sands and fine gravels with discontinuous, thinly bedded silts and clays. These aquifers have an approximate combined thickness of 100 to 150 ft, approximately half of which is saturated (Versar, 2000).

Within the site vicinity, the Bellflower Aquiclude consists of a heterogeneous mixture of clays, silty clays, silts, and extensive interbedded lenses of sandy or gravelly silts and clays and has an estimated thickness between 20 and 40 ft. The major water-bearing unit of interest for this investigation is the Exposition Aquifer (otherwise known as the Artesia Aquifer), the upper water bearing unit of the Lakewood Formation. The Exposition Aquifer is composed of coarse gravel, coarse to fine sand, and interbedded silts and clays with a general southwesterly dip and thickness between 40 and 80 ft. The Exposition Aquifer is separated from the Gage Aquifer by an unnamed aquiclude.

Information for the site area in Santa Fe Springs indicates that the depth to first-encountered groundwater within the Exposition Aquifer ranges from 75 to 100 ft-bgs. The Gage Aquifer consists predominantly of sands and fine gravels with an estimated thickness between 30 and 60 ft (Department of Water Resources [DWR], 1961; Versar, 2000; Haley & Aldrich, 2005; DHES, 2006).

## 2.3 Local Geology and Hydrogeology

In the Site vicinity, the Santa Fe Springs Plain consists of the late Pleistocene alluvium of the Lakewood Formation. The Lakewood Formation unconformably overlies the lower Pleistocene San Pedro Formation and the Pliocene Pico Formation. The Lakewood Formation consists of interbedded clays, silts, silty sands, and sands representative of stream-type alluvial and floodplain deposits (Versar, 2000). Previous (Haley & Aldrich, 2005, Blasland, Bouck & Lee, Inc. [BBL], 2006; ARCADIS, 2009) subsurface investigations conducted at the site confirm that the lithology is a vertically and laterally heterogeneous mélange of such alluvial deposits.

The underlying materials consist of interbedded alluvial sediments ranging in texture from poorly graded sands through fat clays. In general, the eastern portion of the site contains more coarser-grained sediments (sand and gravel) than the western portion of the site.

**Figure 3** shows the Site, as well as two cross-section cut lines. **Figures 4 and 5** depict geologic cross sections, corresponding to **Figure 3** cut lines A-A' and B-B'.

Based on groundwater level measurements obtained between August 19, 2011 and September 1, 2011, first-encountered groundwater beneath the Site ranges in elevation from approximately 33 to 50 feet above mean sea level (ft-amsl). The average horizontal groundwater gradient is approximately 0.007 foot per foot (ft/ft), which represents what is considered a moderately steep gradient. The groundwater flow direction originates from the northeast and turns south across the area of study (Murex, 2011). This direction and gradient are consistent with historical measurements.

Aquifer testing performed at the Site by IT Corporation (IT, 1986) resulted in calculated transmissivities between 124 and 13,613 gallons per day per foot within groundwater. IT interpreted the results as an indication of a highly heterogeneous water-bearing zone containing significant boundary effects. However, the aquifer materials encountered between approximately 90 and 130 ft-bgs during recent installations of groundwater monitoring wells (MW-701 through MW-715) were generally uniform across the saturated zone, and composed of medium to fine sand.

Local public and municipal production wells were researched by Haley & Aldrich (2005). According to DWR (2001), two municipal supply wells are operated within and by the City of Santa Fe Springs at locations further than 1 mile from the Site:

- Well 03S/11W-20R09S, located approximately 3.7 miles south-southeast of the Site, generated approximately 1,526 acre-ft of groundwater from July 1, 2000, through June 30, 2001.

- Well 02S/11W-30R03S, located approximately 2.9 miles north of the Site, generated approximately 1,878 acre-ft of groundwater during that same period.

## 2.4 Summary of Previous Investigation

### 2.4.1 Previous Investigations – Soil

BBL (2006) conducted a soil investigation between November 8, 2005, and February 8, 2006, in accordance with the *Additional Site Investigation Work Plan* (Haley & Aldrich, 2005) as approved by LARWQCB (2005). The BBL investigation focused primarily on shallow soil (from ground surface to approximately 20 ft-bgs). Although other historical investigations were conducted prior to that (IT, 1985; Versar, 2000), the BBL investigation consisted of collecting sample data from a total of 220 soil borings evenly distributed (100 by 100 foot grid) across the Site. In addition, an active soil-gas survey was conducted at 221 locations across the Site. Soil gas samples were collected and analyzed using semi-permanent soil-gas probes at depths of 5 and 10 ft-bgs.

In 2009, ARCADIS performed an additional soil investigation at the Site in accordance with the LARWQCB approved work plan titled *Supplemental Soil Investigation Workplan* (dated August 2007) to address data gaps identified in the 2006 investigation. The soil investigation was performed in three subsurface zones at the Site: (1) surface (ground surface to approximately 2 ft below ground surface [bgs]), (2) shallow (2 to approximately 20 ft-bgs), and (3) deep (20 to approximately 90 ft-bgs, the approximate depth to groundwater at that time). The surface and shallow soil investigations focused on closing data gaps. Deep soil was investigated primarily to target areas with known historical accidental petroleum hydrocarbon releases. Soil samples were also gathered under former structures, (i.e., former petroleum product holding tanks), to a depth of approximately 40 ft-bgs as part of this investigation.

The results of the soil and soil gas sampling activities are summarized in the following documents:

- *Additional Site Investigation Report*, by BBL, dated August 8, 2006.
- *Supplemental Soil Investigation Report*, by Arcadis, dated June 8, 2009.

These results were also compiled and used to complete the HRA in 2009. The HRA Addendum, submitted in August, 2010 to address comments on the HRA from the DTSC, is under review at this time.

### 2.4.2 Previous Investigations - Groundwater

Groundwater monitoring has occurred at the site since August 1986 and continues presently on a quarterly basis. The most recent monitoring event for which results are available was conducted in August 2011 by Murex, in which 59 wells were gauged for water levels and FPPH

and 38 of those wells were sampled for analysis of TPHg and VOCs. The footprint of impacted groundwater emanating from the southwestern corner of the site has not changed substantially in shape or size since the previous groundwater monitoring events. The locations of on-Site groundwater monitoring wells are shown on **Figure 3**.

Intrinsic biodegradation continues to be viable, in at least some areas of the site and vicinity, based on nitrate, sulfate, Fe2+, methane, alkalinity, and ORP results. The main limiting factor is oxygen, which if introduced mechanically to groundwater, could spur significant reduction in contamination through biodegradation.

## 2.5 Summary of Subsurface Impacts

In general, chemicals of concern (COCs) at the site include TPH as various mixtures, VOCs, PAHs, and petroleum product additives and processing chemicals (including metals and other VOCs). Three-dimensional isometric views of TPH-, VOC- and sVOC-impacted soil are presented in **Figures 6, 7** and **8**, respectively.

As described above, the Site subsurface is divided into the following major horizons for purposes of remedy selection: (1) shallow soil (0 to approximately 10 ft-bgs); (2) deep soil (10 to approximately 90 to 100 ft-bgs, the approximate depth to groundwater); and (3) groundwater.
Initially, in the 2006 and 2009 Site characterization reports by Arcadis, concentrations of chemicals were compared to the lowest published screening levels from various published sources (CSLs) to delineate the lateral and vertical extent of impact. The HRA and HRA Addendum reduced the list of COCs by evaluating the health risks to theoretical future receptors. The forthcoming Remedial Action Plan (RAP) will discuss the selected COCs and the proposed clean-up goals for the Site.

### 2.5.1 Shallow Soil

The shallow zone extends from ground surface to approximately 10 ft-bgs. Based upon the findings of the HRA and the HRA Addendum, COCs in the surface soil samples includ TPHg (gasoline-range organics (GRO), C6-C12), TPHd (diesel-range organics, (DRO), C13-C22), and TPHo (motor oil-range organics (MRO), C23-C36), SVOCs, VOCs, and arsenic.

### 2.5.2 Deep Soil

The deep soil is considered soil extending from approximately 10 ft-bgs to approximately 90 to 100 ft-bgs, near the water table below the Site. COPCs exceeding CSLs in the deep soil samples include TPHg, TPHd, TPHo, SVOCs, and VOCs. **Figures 6, 7 and 8** graphically present the total TPH plume, total VOC plume and total SVOC plume, respectively, in the subsurface impacted

soil from ground surface to approximately 90 ft-bgs. In general, the PAHs and VOCs occur in similar locations and depths as the TPH detections, although not in all areas.

#### 2.5.3 Site Groundwater

Based on groundwater level measurements obtained between August 19, 2011 and September 1, 2011, first-encountered groundwater beneath the site vicinity ranges in elevation from approximately 33 to 50 feet above mean sea level (ft-amsl). The average horizontal groundwater gradient is approximately 0.007 foot per foot (ft/ft), which represents what is considered a moderately steep gradient. The groundwater flow direction originates from the northeast and turns south across the area of study (Murex, 2011). This direction and gradient are consistent with historical measurements.

**Figure 9** depicts a site map showing groundwater elevation contours as well as sampling results for TPH and benzene during the third quarter 2011 groundwater monitoring report. Sampling and analysis of groundwater from on-Site wells in August 2011 indicates that TPHg is present at concentrations ranging from 260 micrograms per liter (µg/L) in monitoring well MW-702 to 11,000 µg/L in monitoring well MW-704. Benzene concentrations ranged from 0.57 µg/L in well W-8 to 2,900 µg/L in well W-10.

# 3.0 INSTALLATION & SUPPLEMENTAL CHARACTERIZATION ACTIVITIES

Three types of pilot tests were conducted in six separate areas to address impacted soil in the shallow and deep zones and impacted groundwater within the Site boundary. The areas and corresponding pilot tests are:

- Areas 1 and 2: Bioventing
- Area 3: Air Sparging and In-well Air Stripping
- Areas 4, 5 and 6: Shallow Soil Plume Confirmation Testing

The locations of testing borings, wells and monitoring points for each of the areas 1 through 6 are shown in **Figure 10**. Each of the test areas were selected based on the contaminant distribution in the subsurface, lithology, and access.

Details of the pilot testing activities and results are outlined in Section 3 and 4 of this report, respectively. The following subsections present the installation details of test wells (ie, monitoring, vapor extraction, air injection, air sparging) and equipment, supplemental soil characterization borings, and experimental setup for each of the tests.

## 3.1 Pre-Field Activities

Prior to the start of the field mobilization, several preliminary tasks were completed. These include:

1. Health & Safety – Murex updated the Site Health & Safety plan to address activities associated with the new scope of work, which included working in potentially explosive atmospheres, proper collection and management of flammable liquids, and the use of full-face air purifying respirators.

2. Mark-Out and Clearance – Murex visited the Site several times to mark proposed test well locations, meet with public utility providers and private utility location services to detect, mark, and note the locations of underground utilities, to move borings where necessary due to utility or access conflicts, to inspect availability and size of electrical power infrastructure, and to meet with Site personnel and subcontractors for safety briefings.

3. Well Permits – Murex procured well installation permits from the Los Angeles County Department of Environmental Health for the installation of wells that would enter the groundwater table (vadose zone wells do not require permits).

4. Notifications – Murex notified the LARWQCB prior to the start of field work.

## 3.2 Well Installation

**Figure 10** depicts the layout of the pilot testing wells, located in Areas 1 through 3.

### 3.2.1 Bioventing

The bioventing pilot test was implemented at two areas within the Site – one located on the western portion of the Site (Area 1) and one located on the eastern portion (Area 2), as shown in **Figure 10**. These locations were selected for their known elevated TPH concentrations, and the fact that the lithology in these locations differed from one another. The test was applied in a similar manner at both locations; the test involved and required the construction of the following total number of wells.

- Two vapor extraction wells (VE-1 at Area 1, VE-2 at Area 2);
- Two air injection wells (AI-1 at Area 1, AI-2 at Area 2);
- Ten vapor monitoring points (MP-1 through MP-5 at Area 1, MP-6 through MP-10 at Area 2).

Wells were installed using a hollow stem auger drill rig, and were installed using coarse sand (#2/12) filter packs and hydrated bentonite chip seals.

The wells were installed as triple-nested, dividing the deep zone into three subzones: A, B and C. A layout of the wells, including exact distances and positioning, is shown on **Figure 11 (Area 1) and Figure 12 (Area 2)**. The specific construction details for each of the well types are shown in **Figure 13 (AI)**, **Figure 14 (VE)**, and **Figure 15 (MP)**. Final well construction details are provided in **Table I**.

### 3.2.2 Air Sparging

The air sparging pilot test was implemented at one area within the Site (Area 3) located near monitoring well W-10 as shown in **Figure 10**. The test involved:

- One air sparging well (AS-1);
- Three monitoring wells (One previously existing well [W-10] and two newly-installed wells [SVE-1 and IAS-1]).

Wells were installed using a hollow-stem auger to a depth of approximately 130 ft-bgs according to California well standards.

A layout of the wells, including exact distances and positioning, is shown on **Figure 16**. SVE-1 is designed to be triple-nested, where two vapor monitoring wells are screened in the unsaturated zone and the third and deepest well will be screened above and below the groundwater table. Well construction details are enumerated in **Table I** and also shown in **Figures 17 (AS)**, **18 (IAS-1)**, and **19 (SVE-1)**.

#### 3.2.3 In-Well Air Stripping

The in-well air stripping pilot test was implemented at one area within the Site (Area 3) located near monitoring well W-10 as shown in **Figure 16**. The test involved:

- One in-well air stripping well (IAS-1);
- Two monitoring wells (One previously existing well [W-10] and one newly installed
- well [SVE-1]).

SVE-1 and IAS-1 were constructed for and used in both the air sparging and in-well air stripping pilot tests. Therefore, no new wells needed to be constructed specifically for this pilot test alone.

#### 3.2.4 Shallow Soil Plume Confirmation Testing

**Figure 10** depicts the layout of all soil sampling locations on-site for Areas 4 through 6. Layouts of Areas 4, 5 and 6 separately can be found in **Figures 16, 12 and 11**, respectively**.** The shallow soil sampling plan implemented did not require the installation of any permanent equipment.

### 3.3 Soil Sampling During Well Installation

Soil samples were collected from the boreholes during the installation of the vapor extraction and monitoring point wells to provide information on the lithology and chemical concentrations of the soil in Areas 1, 2 and 3. Chemical concentrations of soil samples collected from well installations in areas 1, 2, and 3 are located in **Table II**. Results of geotechnical testing, conducted on a subset of those samples, have been tabulated in **Table III**.

As each boring was advanced, boring logs were prepared using the Unified Soils Classification System (USCS) to describe the soils and evidence of contamination under the direction of a California-registered geologist (see **Appendix B**). Samples were taken from the auger using a split-spoon sampler, at 5-foot intervals. Several horizons located where pilot test well screens were to be placed were selected for analysis of TPHg, TPHd, TPHo, VOCs, and SVOCs. Selected samples were also subjected to geotechnical analyses, such as grain size analysis, air permeability, moisture content, and fraction of organic content.

A summary of the chemical analytical data can be found in **Table II**. A summary of the geotechnical data can be found in **Table III**. Geotechnical laboratory reports for all the samples can be found in **Appendix C**. Chemical laboratory analytical reports for all soil samples can be found in **Appendix D**.

## 3.4 Equipment Selection & Permitting

After reviewing available rental equipment specifications, Air Quality Management District of the South Coast (SCAQMD) permits for operation, and vendor proposals, Mako Industries was selected as the equipment vendor for each of the pilot test equipment systems.

The air injection system selected featured 25 CFM and 150 PSI delivery in order to meet air injection and air sparging specifications for Areas 1, 2, and 3.

An electric catalytic oxidizer (ECAT) and medium vacuum system, capable of achieving 250 CFM and up to 12 inches of mercury (in-Hg) vacuum, was selected in order to meet design specifications for vapor extraction and control in Areas 1, 2, and 3.

During the initial tests conducted in Area 1 using the electric catalytic oxidizer, levels of methane in the influent air stream exceeded estimated values. A thermal oxidizer / medium vacuum system was selected for a short duration test in order to achieve adequate step-testing extraction flow rates in Areas 1 and 2.

Equipment specifications for each of the equipment skids can be found in **Appendix E**. The "various locations" SCAQMD permit required to operate this equipment on-site can be found in **Appendix F**.

In order to comply with the SCAQMD permit testing requirements, monthly air testing was performed at the outlet of our vapor control system. Samples were collected via Summa canisters and submitted for analysis by EPA method TO-15 in order to ensure benzene concentrations at the outlet did not exceed 0.15 ppm. Daily field readings were also taken at the outlet of the vapor control system to ensure VOC concentrations did not exceed the 75 ppm(v) permit requirement. These levels were not exceeded during the pilot test, and the operation of the system was within SCAQMD permit compliance.

## 3.5 Description of Experimental Setup

### 3.5.1 Wells & Piping

Well and piping installations in bioventing Areas 1 and 2 were identical. Vapor monitoring (MP) wells 1-10 were constructed with ½" flush-threaded schedule 40 PVC piping. MP wells in the shallowest subzone, Zone A, were screened at 15 ft-bgs. The deeper Zone B and Zone C MP wells were screened at 45 and 75 ft-bgs, respectively. Each MP well featured a one-foot length of 0.020" continuous-slot PVC well screen. These wells were nested (i.e., constructed in a single borehole). A typical well construction diagram is shown in **Figure 15**.

Air Injection (AI) wells 1 and 2 were constructed with 2-inch flush-threaded schedule 40 PVC piping, as nested wells, to depths of 20, 50, and 80 ft-bgs for the A, B, and C zones, respectively. Each AI well featured 10 feet of 0.020" continuous-slot PVC well screen. A typical well construction diagram is shown in **Figure 13**.

Similar to the AI wells, Vapor Extraction (VE) wells 1 and 2 were also constructed with 2-inch flush-threaded schedule 40 PVC piping, as nested wells, to depths of 30, 60, and 90 ft-bgs for the A, B, and C zones, respectively. Each well VE well featured 25 feet of 0.020" continuous-slot PVC well screen. A typical well construction diagram is shown in **Figure 14**.

In addition to W-10, a previously installed monitoring well, 3 new wells were installed for the air sparging and in-well air stripping pilot test in Area 3. The Soil Vapor Extraction well, SVE-1, was designed similarly to the VE wells of Areas 1 and 2, however, its lowest screened interval descended into groundwater. A typical well construction diagram is shown in **Figure 19**.

Air sparge well AS-1 was constructed with 1-1/2-inch schedule 40 galvanized steel. The well is 125 feet deep, with a 0.020" continuous-slot galvanized steel well screen. The construction diagram for well AS-1 is shown in **Figure 17**.

The in-well air stripping well IAS-1, is 125 feet deep. It was constructed with ½-inch air injection line, inside of a 2-1/2-inch ejection discharge pipe between 85 and 125 ft-bgs, inside of a 4-inch flush-threaded scheduled 40 PVC well pipe. The IAS well screen is 40' of 0.020" continuous-slot PVC. Figure 18 contains a well construction diagram for the IAS well.

### 3.5.2 Vapor Treatment

During the air injection and push-pull steady-state tests in Areas 1 and 2, as well as the air sparging tests in Area 3, an ECAT was used for off-gas treatment. The ECAT operated using an

electrical heater and catalytic module between 650 and 1,100 degrees Fahrenheit. Electrical power was supplied by on-Site sources through temporary electrical infrastructure.

This oxidizer was intended to also be used during the step test portions of the push-pull test as well, where higher flow rates are generated. However, the high concentration of methane encountered in Site soil exceeded the operational parameters for the ECAT. The heating value of methane (i.e., natural gas) is greater than that of gasoline, and caused the ECAT to overheat quickly as influent flow rates from the test wells were increased. To achieve the necessary vacuums/flow rates required for the step testing, a thermal-catalytic oxidizer, heated by an external propane supply, was mobilized to the Site for two days in July 2011. The thermal oxidizer was able to operate up to a maximum temperature of 1,800 degrees Fahrenheit. Due to the high heating value of the influent vapor, very little propane was consumed during the step tests.

Equipment specifications for both oxidizers can be found in **Appendix E**.

#### 3.5.3 Instrumentation & Monitoring Equipment

Each of the oxidizer/blower skids was equipped with integrated temperature and flow monitoring devices, allowing the pilot test field crew to dial-in specific flow rates and oxidizer temperatures using the manual and automatic dilution valves, the influent ball valve, and the recirculation globe valve.

In Areas 1, 2 and 3, handheld instruments were used to gather field readings of gasses. The Eagle 2 Gas Sample Drawing Monitor, by RKI Instruments, was used to record readings of $CH_4$, $O_2$, $CO_2$ and $H_2S$ in air samples taken from wells and from the system. The unit was also used to monitor methane and $H_2S$ for health and safety purposes.

VOCs were recorded using a photo ionization detector (PID) from RAE Systems, the MiniRAE 2000. Well Pressure was determined using Magnehelic differential pressure gages by Dwyer Instruments, Inc. Temperature and pressure gauges were also placed throughout the system, at well heads and near sample ports.

In Area 3, groundwater parameters were determined using an YSI 600 XLM logging sonde. This device was used to measure temperature, specific conductivity, pH, dissolved oxygen, and ORP. Solinst Water Level Loggers were placed in each of the wells to measure changes in water level.

# 4.0 PILOT TESTING ACTIVITIES

The following section outlines the procedures followed in the implementation of the pilot test activities.

## 4.1 Deviations from the Pilot Testing Workplan

There were no significant deviations in the implementation of the workplan.

## 4.2 Bioventing (Areas 1 & 2)

### 4.2.1 Baseline Gas Data

Prior to any air injection or extraction, the VE, MP, and AI wells were purged using a vacuum pump, and baseline soil vapor data was monitored during purging with hand-held field instruments. Purging continued until oxygen and carbon dioxide stabilized. After stabilization, soil gas data was recorded and samples were collected for laboratory analysis.

The sampling schedule consisted of the following:

- Three field measurements collected from each well: immediately after purging, 30 minutes after sampling and 2 hours after purging.

- One soil vapor sample for laboratory analysis collected from all wells. The samples were collected simultaneously with the third field measurement. Samples were collected in Tedlar bags and shipped to a State-certified laboratory for analysis. The analysis included fixed gasses by ASTM D-1946 for oxygen and carbon dioxide, and modified EPA 8015 for methane, TPH, and VOCs.

All field data sheets can be found in **Appendix G**. A summary of the baseline soil vapor laboratory results can be found in **Table IV**. A summary of baseline gas field data can be found in **Table V**.

### 4.2.2 Radius of Pressure and Oxygen Influence

Two trials were run for this test. First, an air injection only test was performed. Second, the test was run using air injection and vapor extraction simultaneously (i.e., “push-pull”).

Further, both types of trials were performed for each of the three subzones (A, B and C) separately. Zone A is defined as the soil zone from 10 to 30 feet bgs. Zone B ranges from 30 to 60 feet, and Zone C extends from 60 to 90 feet.

The air injection started at the shallowest subzone, Zone A, (10-30 feet) with an air flow of 11 cubic feet per minute (cfm) injected at the same shallow interval. Field measurements (oxygen, carbon dioxide, methane, pressure, total volatile organics) were taken every 15 minutes for the first four hours. A summary of field measurements for the air injection test can be found in **Table V**.

After four hours, the frequency of field measurements was recorded every 30 minutes for the next two hours and every one hour for the next two hours. After the first day of injection, field measurements were recorded at least two times per day. The air injection continued until oxygen levels reached at least 10% in the MP wells. The test was repeated for each subzone. At the end of the test, the in-situ respiration test was conducted, which is described in the following subsection.

The air injection test was applied to both Areas 1 and 2. The test was then repeated using air injection and vapor extraction simultaneously using the same schedule described above. The "push-pull" test was also applied to both Areas 1 and 2. Results from the push-pull test can be found in **Table VI**.

System readings outlining all the injection flow rates for the pilot tests in both areas 1 and 2 can be found in **Table VII**.

#### 4.2.3 In-Situ Respiration Test

The in-situ respiration tests were completed immediately following the pressure and oxygen influence testing described in Section 3.3.2. Two in-situ respiration tests were done: one following the air injection only test and one following the push-pull test. The intent of this test was to measure the rate of depletion (i.e., respiration) of oxygen in the subsurface once active air injection was stopped.

The procedure for the in-situ respiration test was as follows. With the air injection still running, a round of oxygen, carbon dioxide, methane, and total volatile organics readings was recorded as the starting condition for in-situ respiration test. In the pilot testing workplan, it was explained that the MP wells which were located in impacted areas, have a baseline oxygen reading of less than 2%, or have at least 10% oxygen level at the end of the influence test will be included in this test. Those wells were:

- VE-1C, MP-1C, MP-2C, MP-3C, MP-4C, MP-5C, MP-6A, MP-6B , MP-6C, MP-7A, MP-7B, MP-7C, MP-8A, MP-8B, MP-8C, MP-9A, MP-9B, MP-9C, MP-10A, MP-10B, and MP-10C.

After completing the field measurements during air injection, the air injection was stopped. Field measurements continued to be recorded every 30 minutes for the first 2 hours, hourly for the next three hours, and every 2-3 hours thereafter (until the end of the field day). Two rounds of measurements were taken daily for the next two days. A final measurement was taken the following week.

Field measurements from the in-situ respiration tests can be found in **Table VIII**.

#### 4.2.4 Step Test

Step tests were conducted on the vapor extraction wells VE-1A, B, C and VE-2A, B, and C and were intended provide data useful for the design of a future full-scale system. Unlike the steady-state push-pull test which was previously conducted, the extraction flow rate (cfm) in these step tests varied. The extraction flow rate was increased in a step-wise manner in each of the tests. Vacuum from each of the monitoring points (MP-1 to MP-10) was recorded for each step-wise extraction flow rate increase. In most cases, the test was conducted at four intervals, the last of which usually was of short duration due to the overheating of the thermal oxidizer unit, above 1,800 degrees Fahrenheit.

The flow rates tested during the step tests ranged from 22 cubic feet per minute (cfm) to 279 cfm. Results from the step tests can be found in **Table IX**.

### 4.3 Air Sparging (Area 3)

**Figure 16** presents the layout of the air sparging wells, and **Figure 17** provides the well construction details for AS-1. **Figure 18** presents the construction of well IAS-1, and SVE-1A/B/C are shown in **Figure 19**.

#### 4.3.1 Baseline Data

The baseline data in Area 3 was collected prior to the startup of air injection or vapor extraction. Baseline data collected included vapor TPH concentration data from the surrounding wells, groundwater data from samples collected after well completion, and groundwater elevation data, which is summarized below:

- Groundwater samples were collected and analyzed from W-10, SVE-1C, and AS-1 for TPHg, VOCs, and PAHs;

- Vapor samples collected after well installations from SVE-1A, B, and C, W-10, and IAS-1 using the vapor well purging procedure described previously in section

3.3.1. Calibrated field instruments were used to record oxygen, carbon dioxide, methane, and total volatile organics. One vapor sample per zone from SVE-1 was collected for laboratory analysis (methane and fixed gases);

A summary of the groundwater analytical results, including the measured depth to groundwater, can be found in **Table X**. A summary of the Area 3 baseline soil vapor laboratory results can be found in **Table IV**. The complete laboratory reports for the groundwater parameters and soil vapor samples can be found in **Appendix D**. Field data sheets for all pilot sampling and pilot testing activities can be found in **Appendix G**.

#### 4.3.2 Air Sparging Zone of Influence

Air was injected at well AS-1. Immediately after the start of air injection, groundwater parameter readings were recorded from wells SVE-1C, W-10, and IAS-1. Injection pressures and groundwater parameter readings were recorded in a step-wise fashion at three flow rates: 5, 10, and 15 cfm. At each flow rate, air was injected into AS-1 for 15 minutes and then allowed 15 minutes of respiration. This process was continued for approximately 5 hours, until optimal levels of dissolved oxygen (DO) were reached.

On the following day, air was continuously injected into AS-1 while groundwater parameter readings were recorded at well IAS-1 (hourly).

The overall duration of the test was 2.5 days. Field readings from the air sparging test can be found in **Table XI**.

#### 4.3.3 Respiration

On the first day of air sparing, during and immediately following the test, DO readings were continuously monitored at well SVE-1C. Readings were taken every 4 minutes until DO levels had stabilized, and thereafter, were measured once per hour over the next 12 hours.

## 4.4 In-Well Air Stripping (Area 3)

**Figure 16** presents the layout of the in-well air stripping wells, and **Figure 18** provides the well construction details for IAS-1. As shown, an air injection pipe within well IAS-1 was used to sparge air into the groundwater inside of a 2-1/2-inch discharger pipe, which was inside of the 4-inch groundwater well. During operation, air was injected through the ½-inch PVC injector pipe, forcing air and water up out of the discharger pipe. The water then reached the upper portion of the 4-inch well screen and recharged into the aquifer after being stripped. The TPH and VOC-laden air was then extracted from the top of the well as volatile chemicals evaporated from both the stripped groundwater and from the capillary fringe zone.

The test procedures for collecting DO readings in groundwater are similar to the ones presented for the air sparging test. The duration of this test was 11 days. DO readings were collected hourly the first day and twice a day thereafter. Between each daily reading, an YSI 600 XLM logging device was used to collect hourly DO readings in one of the two wells, W-10 or SVE-1C.

## 4.5 Shallow Soil Plume Confirmation Testing (Areas 4, 5 and 6)

TPHg, TPHd, TPHo, VOCs, and SVOCs may be present above published regulatory or health risk-based levels in shallow soil (0-10 ft-bgs) at the Site. Data collected from soil investigations performed to-date at the Site have allowed the delineation of these chemicals. However, despite the number of soil borings advanced, some areas still leave as much as 100 feet between borings, which means that soil excavation volume estimates and locations based on that data could be greatly over- or under-estimated In order to estimate the volume of shallow soil that will need to be excavated with a reasonable level of certainty, Murex recommended in the September 2010 work plan that additional shallow soil sampling be performed, with a bias towards identifying the most obvious data gaps in areas where COC concentrations are high. The experiment included a data analysis technique that would help to judge the value of the added data in comparison to the cost of having over-excavated soil during remediation.

Three areas were selected based on the previous soil data and are shown on **Figure 10**, as well as **Figures 12, 13, and 16.** A total of 30 locations were sampled at 1, 3, 6, and 9 feet bgs. The samples were collected using a direct-push, Geoprobe drill rig and analyzed for TPH, VOCs, and SVOCs. A select subset of some of the most obviously contaminated (i.e., judged by odor and appearance) of these samples were also analyzed for Title 22 metals, in order to be able to completely pre-characterize waste soil for disposal and provide accurate cost estimates during remedial planning.

## 4.6 Data Collection Methods Overview & QA/QC

In Areas 1 and 2, air samples and pressure readings were taken in each of the wells. Air samples were taken via Tedlar bags, by means of a vacuum pump and vacuum box. The pump was first used to purge the well and the vacuum box was then connected with a dedicated Tedlar sample bag fitted inside. The vacuum pump was then used to generate a vacuum in the box, allowing a well air sample to be suctioned into the Tedlar. Readings were taken from the Tedlars using the RKI Eagle 2 and the MiniRAE 2000. Pressure readings were taken directly from the well port using Magnehelic gauges. Air samples from the electric-catalytic oxidizer were also consistently taken to ensure the system was staying within permit limits.

Data collection methods in Area 3 differed from Areas 1 and 2. Vapor samples were initially being taken from W-10 and SVE-1C but the results were insignificant towards the experimental goals, allowing the procedure to be foregone. The YSI 600 XLM sonde was moved from well to well to collect, primarily, DO and ORP readings. Solinst water level loggers were left in each well to consistently log water level readings.

To ensure quality assurance and control, field results were compared with results from laboratory analysis. During this process, two errors were discovered in the laboratory analyses, both concerning the baseline soil vapor analytical data. First, the chain of custody was misread by the laboratory on baseline soil vapor samples for Area 2, and VOCs were not analyzed. By the time this was realized, the hold time had expired and the samples could no longer be analyzed. Secondly, methane results in Areas 1 for baseline soil vapor came back at levels exceeding 1,000,000 ppm(v) (i.e., greater than 100%). SunStar Laboratory confirms that this was due to an equipment error. Therefore, methane values in these instances (**Table IV**) were calculated based on the percentages of other gases subtracted from 100%. Comparison of the results of the calculation showed consistency with samples that were analyzed without error, indicating valid data.

## 4.7 Waste Management

Soil and decontamination water generated during the pilot test activities was managed in accordance with established Site procedures, as well as State and Federal waste management requirements.

Soil was stored on Site in covered roll-off bins, and was labeled as investigative-derived waste, pending profile analysis. Once profiled, the soil was transported and disposed by a licensed transportation, storage, and disposal facility (TSDF) under State manifest custody, according to the applicable waste code corresponding to the completed profile.

Wastewater generated from the decontamination of drilling and sampling equipment was stored on-Site and managed by the Lakeland processing facility, a licensed wastewater handler.

Waste disposal manifests can be found in **Appendix H**.

# 5.0 RESULTS AND DISCUSSION

The following section describes the findings of the pilot test and discusses their significance. Much of the field-collected data, including air injection and vapor extraction flow rates, monitoring point well pressures, vapor concentrations, and system readings has been tabulated in graph format for discussion purposes and are located in Appendix I.

## 5.1 Soil Sampling During Well Installation

Pilot test areas were chosen based upon the results of previous investigations conducted by Arcadis, outlined in their *Additional Site Investigation Report* (August 8, 2006) and *Supplemental Soil Investigation Report* (June 8, 2009). The information obtained from the supplemental soil sampling summarized in this section confirms what these previous two reports outlined.

Soil samples were taken from borings obtained during well installation for the purposes of further characterizing the level of contamination in the areas to be tested. Samples from the soil borings were taken between 15 and 125 ft–bgs. Samples taken between 0 and 30 ft-bgs are considered to be in Zone A. Thirty to 60 ft-bgs characterizes Zone B, and samples obtained from 60 ft-bgs to the water table are part of Zone C. The saturated zone is considered any depth below the water table.

Samples were analyzed for VOCs, PAHs, and TPH as well as grain size, air permeability, moisture content and fraction of organic content. Lack of soil recovery from some samples prevented them from being able to be analyzed for some or all physical parameter tests. Chemical analytical results and physical parameter results can be found in **Table II and Table III**, respectively. Pilot test Area 1 shows elevated concentrations of total TPH, petroleum-related VOCs and sVOCs as can be seen in **Figures 20, 21 and 22**, respectively. Area 2 is located in an area of the Site exhibiting high total TPH and sVOCs, but with lower VOC concentrations. Area 3 exhibits relatively low concentrations of COCs throughout the vadose zone, but high concentrations of TPHg, TPHd, and VOCs at and below the water table. These characteristics were the reasons for their selections as test areas.

### 5.1.1 Findings From Area 1

In Area 1, Zone A, benzene was detected in 3 wells at levels ranging from 29 µg/kg in VE-1 to 1,100 µg/kg in MP-3. Boring MP-3 also showed the maximum detections of TPHg (4,700,000 µg/kg), TPHo (3,000,000 µg/kg) and TPHd (12,000,000 µg/kg). This is likely due to the presence of silt found in the top 5 to 30 ft-bgs in the southwest area of Area 1, which is relatively impermeable. In addition, MP-3 is the southwestern most well in Area 1 which means it is the closest proximity to the actual area on-site where the former refining operations occurred.

The lowest TPHg concentration was detected in MP-1 at a level of 680 µg/kg. The lowest TPHo was found in MP-5 at a level of 63,000 µg/kg. TPHd was found in 5 wells at a range from 13,000 µg/kg in VE-1 to 12,000,000 in MP-3.

Benzene was also detected in Area 1, Zone B samples from a range of 28 µg/kg in MP-5 to 110 µg/kg found in MP-1 and VE-1. All three phases of TPH were found in Area 1, Zone B. TPHg was detected in 5 wells ranging from 770 µg/kg in MP-2 to 11,000 µg/kg in MP-5. TPHd was detected in 3 wells ranging from 10,000 µg/kg in VE-1 to 460,000 µg/kg in MP-5. TPHo was detected in only 2 wells: 38,000 µg/kg in MP-5 and 110,000 in MP-3.

Benzene was detected in only one well in Area 1, Zone C: VE-1 at 86 µg/kg. All three phases of TPH are found in Area 1, Zone C. TPHg was detected in 5 wells. Both the minimum and maximum detections were found in MP-1. The minimum TPHg concentration is 850 µg/kg at a depth of 70 ft-bgs and the maximum TPHg concentration is 23,000 µg/kg at a depth of 75 feet-bgs in MP-1. TPHd was detected in 5 wells ranging from 11,000 µg/kg in VE-1 to 71,000 µg/kg in MP-2. TPHo was detected in only 2 wells: 17,000 µg/kg in VE-1 and 160,000 in MP-2.

#### 5.1.2 Findings From Area 2

In Area 2, benzene was detected in only two wells, and at relatively low concentrations. In MP-9 and VE-2, benzene was detected at concentrations ranging from 11 and 34 ug/kg.

In Area 2, Zone A, the minimum TPHg detected was 1,100 µg/kg in MP-6. The maximum TPHg detected was 390,000 µg/kg in VE-2. TPHo was detected from a range of 32,000 µg/kg in MP-9 to 130,000 µg/kg in MP-7. TPHd was detected in four separate well borings, ranging from 29,000 µg/kg in MP-8 to 2,500,000 µg/kg in VE-2.

In Area 2, Zone B, TPHg was detected in two well borings: 600,000 µg/kg in MP-9 and 770,000 µg/kg in VE-2. TPHo and TPHd were each detected in 4 well borings. TPHo ranged from 28,000 µg/kg in MP-7 to 58,000 µg/kg in VE-2.

All three phases of TPH were found in Area 2, Zone C wells. TPHg was detected only in VE-2 in two distinct samples. At 75 ft-bgs it was detected at 96,000 µg/kg. At 90 ft-bgs, it was detected at 250,000 µg/kg. TPHo was detected in 3 well borings. The VE-2 boring had both the minimum TPHo detection of 34,000 µg/kg at 75 ft-bgs and the maximum detection of 79,000 µg/kg at 90 ft-bgs. TPHd ranged from 13,000 µg/kg in MP-9 to 1,400,000 µg/kg in VE-2.

#### 5.1.3 Findings From Area 3

In Area 3, all samples taken from well borings in zone A and B were non-detect for benzene, d(a,h)a, b(a)p, TPHg, TPHo and TPHd. Only samples taken from zone C and in the saturated

zone exhibitied detections for these constituents. Benzene was detected from ranges of 32 µg/kg in SVE-1C to 27,000 µg/kg in AS-1C. TPHg ranged from 1,700 µg/kg in SVE-1C to 5,400,000 µg/kg in AS-1C. TPHo ranged from 34,000 µg/kg in SVE-1C to 330,000 µg/kg in AS-1C. TPHd ranged from 68,000 µg/kg to 2,800,000 µg/kg in AS-1C. The lack of any detections in the soil above where these compounds were detected is indicative of a release that occurred away from this area and migrated at depth.

## 5.2 Vapor Concentrations – Areas 1 and 2

Baseline soil vapor samples were collected for laboratory analysis in Areas 1 through 3 prior to any pilot testing. These results can be found in **Table IV**. Prior to the start of the pilot tests, field readings for methane, VOCs, and oxygen were also taken and are summarized in **Table V.** In addition, during the vapor extraction phases, vapor was monitored for methane, VOCs, and oxygen to evaluate the concentration trend over time. The vapor extraction influent measurements are summarized in **Table VII**. **Graphs 19 through 21** (**Appendix I**) show the influent VOCs concentration trend during the vapor extraction operation. The VES influent vapor data will be used in the selection and design of the vapor treatment system.

The following sections describe the results for each of the three zones.

### 5.2.1 Shallow A Zone

**Baseline** - The results of the vapor analyses and field readings for Areas 1, 2, and 3 indicated that methane concentrations in the shallow A Zone are in the range of 700,000 to 900,000 ppmv, or 70% to 90%, which is high, even for petroleum-impacted soil. The oxygen concentration range was from 0.56% to about 20%. The few high readings are considered erroneous. While it is reasonable to have higher concentrations of oxygen in the shallow zone than the deeper zones, concentrations in the range of 18 to 20% may have been caused by leakage or short circuiting during the sampling procedures. The range of VOC concentrations was from 769 to 2,211 ppmv.

**Influent** – The influent methane concentrations at the early phase of the extraction were similar to those measured for the baseline. The methane concentration measurements in the Area 1, A Zone indicated a decrease after about 4 days of extraction. However, in Area 2 – shallow A Zone, methane concentrations remained high throughout the experiment; higher than the field instrument detection range. The concentrations of VOCs ranged between 850 ppmv and 1,700 ppmv as shown in **Graph 19**. VOC concentrations for the influent vapor stream, for both Areas 1 and 2 in the A Zone, showed a steady decrease in concentrations over time.

#### 5.2.2 Intermediate B Zone

**Baseline** - In the intermediate B Zone, methane concentrations were consistently high ranging from about 650,000 to 860,000 ppmv, or 65% to 86%. Oxygen concentrations ranged from about 0.6% to 10.6%, but the majority of test results indicated the oxygen concentration to be less than 2%. Total VOC concentrations ranged from about 1,200 ppmv to greater than 9,990 ppmv with most data in the range of 1,000 to 2,000 ppmv.

**Influent** - The influent methane concentrations at the early phase of the extraction were similar to those measured for the baseline. The methane concentration measurements in Areas 1 and 2 in the B Zone did not indicate a decrease after about 4 days of extraction. VOC concentrations for the influent vapor stream, for both Areas 1 and 2, showed a decrease in concentrations over time. The concentrations ranged between 1,200 ppmv and 3,200 ppmv as shown in **Graph 20**.

#### 5.2.3 Deep C Zone

**Baseline** - Baseline soil vapor samples taken from the deep C Zone showed high levels of methane, consistent with the shallower zones. Methane concentrations were generally near 750,000 ppmv, or 75%. Oxygen levels ranged from .5% to about 17%, but most results were less than 2%. The deep zone indicated higher VOC concentrations than the A and B zones, with concentrations ranging from 1,500 ppmv to greater than 10,000 ppmv. In general, the results were greater than 4,000 ppmv.

**Influent** - The influent methane concentrations at the early phase of the extraction were similar to those measured for the baseline. The methane concentration measurements in Area 1 –C Zone indicated a decrease after about 4 days of extraction. However, in Area 2 – shallow A Zone, methane concentrations remained higher than the field instrument detection range. VOC concentrations for the influent vapor stream, for Area 1, C Zone showed an increase in VOC concentrations over time from approximately 4,000 ppmv to over 10,000 ppmv. This observation may be due to the position of the vapor extraction well in relation to a subsurface source/hot spot. In Area 2, VOC concentrations slightly decreased throughout the experiment. The final concentrations in Area 2, C Zone were near 3,700 ppmv. Graphs of Zone C for both areas are shown in **Graph 21**.

As noted, the methane concentrations measured were high, exceeding initial estimates, indicating that the degradation of petroleum hydrocarbons has been occurring, in large part, in an oxygen-deficient (anaerobic) environment. It is expected that methane concentration will decrease during air injection and vapor extraction over time as aerobic degradation begins to

become the dominant mechanism, although it may take several weeks or longer, depending on injection/extraction rates, number of injection/extraction wells, moisture content, and biodegradation rates.

## 5.3 Bioventing – Areas 1 and 2

The bioventing pilot tests had three primary objectives:

- To evaluate the potential for supplying oxygen throughout the impacted soil depth;
- To obtain data on the rate at which indigenous microorganisms will biodegrade the petroleum hydrocarbon when stimulated by oxygen; and
- To evaluate the potential for sustaining these biodegradation rates until the petroleum hydrocarbon compounds are remediated to regulatory acceptable levels.

### 5.3.1 Air Injection Only

Field oxygen measurements (**Table V**), recorded during the air injection test, were plotted against time for all the probes. The oxygen concentration trends for each monitoring probe and for each of the three zones are shown in **Graphs 1 through 6** in **Appendix I**.

The oxygen measurements for the shallow A Zone in Area 1 were not recorded beyond the first day. As a result, this data was not used for the evaluation of oxygen radius of influence. However, the data did indicate that oxygen levels in the A Zone of Area 1 ranged from about 1% to less than 10% (**Graph 1**), confirming that the background oxygen measurements were not representative of the actual oxygen levels.

For the three zones in Area 2 and zones B and C in Area 1 (**Graphs 2 through 6**) the data show a substantial increase of oxygen concentrations over time for monitoring probes located within 50 feet from the air injection well. The data indicated that in approximately one day, the oxygen level can reach the minimum 5% level to create an aerobic biodegradation condition. Near-full soil oxygen saturation (i.e., approaching atmospheric levels between 19% and 21%) occurred at approximately 40 to 65 hours for the majority of the monitoring area.

Monitoring well MP-10, located about 100 feet from the air injection well, had a less significant oxygen level increase (about 1%) in the 80 hour air injection duration. In order to further evaluate the radius of oxygen influence over distance, the oxygen concentration over distance was plotted for the duration of the air injection. **Graphs 7 through 12** depict the oxygen concentration trend over distance from the air injection.

For air injection only, the 5% oxygen radii of influence (the minimum oxygen level for bioremediation) are obtained from the graphs as follows:

**Oxygen Radius of Influence**

| Zone | Area 1 | Area 2 |
|---|---|---|
| A | - | 90 ft |
| B | 98 ft | 60 ft |
| C | 90 ft | 65 ft |

#### 5.3.2 Air Injection and Vapor Extraction (Push-Pull)

Trends in oxygen levels during the simultaneous air injection and vapor extraction test ("push-pull") can be seen by analyzing field data measurements located in **Table VI**. Graphs depicting the change in oxygen content of the soil can be seen in **Graphs 13 through 18** in **Appendix I**.

The effect of using vapor extraction on the system in addition to air injection, thus creating a recirculation effect, was that the soil was able to achieve the necessary 5% oxygen concentration required for bioremediation much faster, taking at most a few hours in the majority of the wells in both areas and depth zones. Saturation levels were reached between 30-40 hours and remained steady throughout the remainder of the test.

#### 5.3.3 In-Situ Respiration

**Graphs 22 through 25** show the respiration data taken after the air injection test (**Graph 22**) and push-pull tests (**Graphs 23-25**). After the systems were shut off, oxygen concentrations would decrease, as shown in the graphs, mainly due to the biological activities where oxygen is consumed by the existing microorganisms in the breakdown of petroleum hydrocarbon products.

The following table shows the oxygen consumption rates per well and the calculated average in each area and zone for which there was sufficient data. Wells MP-5 and MP-10 have not been included in the table as their results were inconsistent with the other wells in their areas.

| WELL ID | SLOPE (% $O_2$ CONSUMPTION/HR) | % $O_2$ CONSUMPTION/DAY |
|---|---|---|
| MP-1C | .0543 | 1.3% |
| MP-2C | .1172 | 2.8% |
| MP-3C | .1024 | 2.5% |
| MP-4C | .0723 | 1.7% |
| **AREA 1C** | **.087 (Average)** | **2.1% (Average)** |
| MP-6A | .0296 | .71% |
| MP-7A | .0058 | .14% |
| MP-8A | .0177 | .43% |
| MP-9A | .0189 | .45% |
| **AREA 2A** | **.018 (Average)** | **.43% (Average)** |
| MP-6B | .0153 | .37% |
| MP-7B | .0366 | .88% |
| MP-8B | .0108 | .26% |
| MP-9B | .0101 | .24% |
| **AREA 2B** | **.0182 (Average)** | **.44% (Average)** |
| MP-6C | .0284 | .68% |
| MP-7C | .0063 | .15% |
| MP-8C | .0264 | .63% |
| MP-9C | .0474 | 1.1% |
| **AREA 2C** | **.027 (Average)** | **.65% (Average)** |

It should be noted that the rate of oxygen degradation in monitoring well MP-8A more than doubled in the last five days from an average of 0.43% to 0.9%. Similar significant increases were noted in monitoring wells MP-8C, MP-7A, MP-6C, and MP-9C. These observations may be due to required time (a lag time) for the intrinsic microorganism colonies to reestablish themselves under the new aerobic condition.

#### 5.3.4 Step Test

During the step tests performed in Area 1 and 2, extraction flow rate was varied upwards in a step-wise fashion. An understanding of how the system will react when certain system conditions are applied will aid the engineer in choosing the appropriate system equipment for a full scale design. Bioventing is, in general, a low-vacuum (i.e., less than 30 inches of water vacuum) application. However, when conducting a step test, it is necessary to achieve a broad range of vacuum in order to stress the test well and provide measurement points in order to

generate a representative graph. **Graphs 26 through 31** in **Appendix I** show the extraction flow rate of the step tests in VE-1 and VE-2 plotted against the source vacuum. They depict the rates of flow that can be expected to be achieved given assumed vacuum ranges when designing and selecting blower equipment in a full-scale design.

**Graphs 32 to 56** depict the vacuum of the system versus distance at varying extraction flow rates. The results indicate that, at the lower vacuum range ideal for bioventing, the radius of influence as measured by pressure readings would be approximately between 30 and 60 feet from the extraction well for all three zones.

However, in bioventing applications, the purpose of the vapor extraction is primarily to introduce and distribute oxygen into the unsaturated zone, which can be accomplished with very low rates of air flow and pressure. It is therefore reasonable to assume that distances greater than those measured using pressure as an indicator can be used for bioventing well spacing where a combination of air injection and vapor extraction wells are used.

## 5.4 Air Sparging – Area 3

Prior to the start of continuous air sparging in AS-1 in Area 3, a short pulsing test was conducted to determine if a change in head could be seen in surrounding wells. During the pulse test, the system was run for approximately one hour, then shut off when an increase head response was seen in the nearby monitoring wells. The system was turned on and off in this pattern for approximately 8 hours. The effect of air sparging on groundwater elevation, in wells SVE-1C, W-10, and IAS-1, was apparent. Hydraulic head rose in response to each system pulse and step-wise increase in air injection flow.

Following the 5 CFM pulse step, the groundwater elevation rose approximately 1.34 ft in SVE-1C (8.7 feet from AS-1), 0.17 ft in W-10 (15.3 feet from AS-1) , and 0.27 ft in IAS-1 (31 feet from AS-1). Following the 10 CFM pulse step, hydraulic head rose approximately 3.94 ft in SVE-1C, 0.34 ft in W-10, and 0.50 ft in IAS-1. During the 15 CFM pulse step, hydraulic head rose approximately 5.00 ft in SVE-1C, 0.035 ft in W-10, and 0.77 ft in IAS-1. These observations indicate a generalized relationship of air flow through the air sparge well to the effective distance of air flow transferred outwards before it surfaces above the groundwater table.

The hydraulic head radius of influence as a result of air sparging is estimated to be on the order of 33 feet as shown in **Graph 61**.

Dissolved oxygen data was also recorded during this pulse test. Ideally, for aerobic degradation of petroleum hydrocarbons in groundwater, dissolved oxygen should be maintained above 2

mg/L or greater. **Graphs 57 through 59** show the change in dissolved oxygen over time in wells W-10, SVE-1C and IAS-1, respectively, as a result of pulsing the air sparge well with compressed air. SVE-1C, the closest well to the air sparge well, reached near-saturation level (water is considered saturated with oxygen at 9 mg/L) in approximately one hour (see **Graph 58**). After the pulse test was finished, air sparging was conducted on a continual basis, and dissolved oxygen readings were taken in well IAS-1 during this time, since it is located further away from the air sparge well. Those results can be seen in **Graph 60**, which indicate that dissolved oxygen levels reached the minimum required for aerobic degradation within approximately one day, and would likely continue to increase over time until an equilibrium is reached between the injection and consumption of oxygen.

After several hours of testing, the system was shut off and an oxygen degradation test was conducted in well, SVE-1C (**Graph 62**), since this well had reached saturation. The hydraulic head and dissolved oxygen levels steadily decreased during the seven hours of monitoring. The oxygen degradation rate is approximately 14.5% per day.

## 5.5 In-Well Air Stripping

In-well air stripping resulted in a gradual hydraulic head and dissolved oxygen increases in wells SVE-1C and W-10 (**Graphs 63 and 64**). By using pressurized air to aerate the water in the saturated zone, water is pushed up the well (through a 2.5-inch ejector pipe) and then through the outer 4-inch well screen, enters the unsaturated zone (above the water table). The water moves down and laterally away from the well to reach the water table again. Through this air injection and re-infiltration, oxygen is delivered to groundwater and simultaneously flushes the soil above the water table.

In comparison to air sparging method, in-well air stripping takes significantly longer to introduce oxygen into groundwater. However, it mechanically removes a greater amount of volatiles from groundwater through stripping and simultaneously flushes the capillary fringe zone. As a result, where petroleum hydrocarbons exist above the water table (within the capillary zone), in-well stripping may be more effective as a remedy long-term.

The results of the groundwater elevation taken in the monitoring wells indicated a noticeable increase. For W-10 (approximately 25 feet from IAS-1) and SVE-1C (approximately 34 feet from IAS-1) the groundwater elevation increased by approximately 0.5 and 0.6 inches, respectively. **Graphs 67 and 68** depict the elevation change over time for both monitoring wells during the IAS operation. Oxygen concentrations also increased by about 0.5% to 2% in monitoring wells W-10 and SVE-1C over a period of about 100 hours of in-well air stripping.

The radius of influence for the in-well air stripping is estimated to be on the order of at least 33 feet.

**Graph 65** shows the influent VOC concentrations while the air injection system was operating. As expected the VOC concentrations decreased over time from about 1,500 ppmv to about 5 ppmv. Methane concentrations decreased from a high reading of 12,750 ppm to non-detect. **Graph 66** shows a comparison of influent VOC concentrations with the air injection on and off to evaluate the source of VOC in the vapor stream. It is apparent from the graph that VOC concentrations are mainly as a result of the vapor extraction from the vadose zone, which were consistently in the range of 150 to 250 ppmv.

## 5.6 Shallow Soil Sampling – Areas 4, 5 and 6

Based on the soil investigations performed to-date at the Site, areas of shallow soil (0 to 10 ft-bgs) with chemical impacts above various applicable regulatory and human-health risk levels were delineated. It is expected that excavation will be the proposed remedy for these shallow soil impacts.

The estimated areas of elevated soil impact outlined were based on the historical sampling data, a limited number of soil sampling locations (grid spacing of approximately of 75-100 feet). In order to estimate the volume of shallow soil that will need to be excavated with a reasonable level of certainty, additional shallow soil sampling was collected from the three selected areas, which would act as representative subsets of data to determine the value of increased sampling density. The three areas selected are known to have been impacted by compounds that are human-health risk drivers or exceed LARWQCB published cleanup goals. These levels are considered screening levels, subject to adjustment as negotiations with the LARWQCB continue. The contaminants considered in the evaluation were benzene, dibenzo(a)(h)anthracene, TPHg, TPHd, TPHo. The screening levels are as follows:

| Chemical | Limit | Source |
|---|---|---|
| TPHg | 500 mg/kg | LARWQCB Guidance |
| TPHd | 1,000 mg/kg | LARWQCB Guidance |
| TPHo | 10,000 mg/kg | LARWQCB Guidance |
| Benzene | 4 mg/kg | Health-Risk Calculated Value |
| Dibenzo(a,h)anthracene | 0.6 mg/kg | Health-Risk Calculated Value |

The results of the new soil samples are summarized in **Table XIV**.

The results indicated the following:

- TPHg was detected above the threshold level of 500 mg/Kg in 11 samples out of 118;
- TPHd was detected above the threshold level of 1,000 mg/Kg in 43 samples out of 118;
- TPHo was detected above the threshold level of 10,000 mg/Kg in 4 samples out of 118;
- Benzene was detected about the risk level of 4 mg/Kg only in one sample out of 118;
- Dibenzo(a)(h)anthracene was not detected above the reporting limit in all samples. Seven samples out of 118 have the reporting limit above the risk level of 0.6 mg/Kg;

The historical and new soil analytical data within the three areas were used to evaluate the extent of contamination in the top 10 feet with respect to the calculated risk drivers. For those samples with results below the detection levels, the value of the detection levels were taken as the soil concentration for the corresponding analyte. The evaluation methodology, performed for each area independently, can be summarized as follows:

1. The data was grouped into four layers:
    a. Layer 1 - 0 to 1.50 ft-bgs
    b. Layer 2 - 1.50 to 4.00 ft-bgs
    c. Layer 3 - 4.00 to 7.00 ft-bgs
    d. Layer 4 - 7.00 to 11.00 ft-bgs

2. Historical data was used to develop an estimated soil plume (SP0) for each layer using spatial interpolation by kriging the logarithmic value of the data.

3. Additional soil boring locations were selected based on historical data and their corresponding estimated plumes and new soil data collected;

4. The new data was added to the old data and a new soil plume (SP1) was developed for each layer based on the same spatial interpolation model (Kriging).

5. The old (SP0) and new (SP1) plumes for each layer were compared;

6. Volumes of impacted soil were estimated based on the new plumes.

The results are shown in Appendix J where isoconcentrations are presented per layer for the old data only and for the old and new data together. The comparison between SP0's and SP1's are summarized as follows:

| Area | Benzene | Dibenzo(a,h)a | TPHg | TPHd | TPHo |
|---|---|---|---|---|---|
| 4 | No change | Significant change | No change | Significant change | Small change |
| 5 | No change | Moderate change | No change | Significant change | No change |
| 6 | No change | No change | No change | Significant change | No change |

For Area 4, the significant change in plume estimate is mainly due to data gaps in the old data. In other words, the old data did not have samples collected from a large portion of Area 4 due to limited access at that time.

For Area 5, the additional new data was able to enhance the resolution of the impacted soil. The estimated impacted volume with the new data is estimated at approximately 2,200 cubic yards where the old data would result in a volume estimate on the order of 100 cubic yards.

For Area 6, the additional new data resulted in an estimate of impacted soil of about 4,800 cubic yards versus an estimate of about 1,500 cubic yards for the old data only.

The additional new data did not improve the resolution of impacted soil above the thresholds for benzene (likely due to the high threshold and the relative age of the release), TPHg and TPHo. Due to the high detection limit, it is most likely that it did not improve the resolution for Dibenzo(a)(h)anthracene.

Based on the soil evaluation and assumptions for the investigation in the top 10 feet, the total estimated volumes of impacted soil that would require removal for the three Areas is as follows:

- Area 4: Approximately 1,400 cubic yards for soil impacted with Dibenzo (a,h) anthracene and 3,700 cubic yards for soil impacted with TPHd;
- Area 5: Approximately 2,200 cubic yards for soil impacted with TPHd; and
- Area 6: Approximately 4,800 cubic yards for soil impacted with TPHd.

Some noteworthy observations for the top 10 feet soil investigation include:

- In the top ten feet, less volatile and less mobile compounds were more likely to be detected above the cleanup levels than those that are more volatile and more mobile such as benzene and TPHg.

- The percent of samples exhibiting concentrations for TPHd above the limit of 1,000 mg/Kg for all the data is 6.6% for Area 4, 4.5% for Area 5, and 10% for Area 6, indicating TPHd is the major driver for soil cleanup in shallow soil.

- Since the evaluation assumed the detection level as the concentration detected, soil impacts by Dibenzo(a)(h)anthracene may not be above the health risk limit of 0.6 mg/Kg. As a result, lower detection levels should be sought during the remedial action implementation to eliminate this uncertainty.

The shallow soil sampling exercise was useful in providing insight as to which chemicals and concentration ranges benefit from additional characterization resolution (i.e., sample spacing), and which contaminants have been adequately characterized so as not to waste time and money continuing with additional characterization prior to and during the remediation effort.

#### 5.6.1 Metals Analysis

A subset of the samples was also analyzed for Title 22 Metals, by EPA method 6010 to provide data on the metals content of the soil in areas likely to be excavated in the future. This data will be used to provide pre-disposal characterization planning and cost estimates in identifying soil disposal options and is summarized in **Table XV**.

# 6.0 CONCLUSIONS

## 6.1 Summary

Murex conducted pilot testing activities between June and September 2011. The activities included the installation of test and monitoring wells, advancement of borings, and the operation of equipment in order to evaluate design parameters and confirm applicability of the selected remedial technologies, which are:

- Excavation for shallow soil from 0 to 10 ft-bgs;
- Bioventing for vadose zone soil from 10 to 100 ft-bgs; and
- Air sparging and in-well air stripping in Site groundwater.

Data collected during the pilot testing activities was evaluated, summarized, presented herein, and used to refine remedial designs for the full-scale implementation of each of these technologies. The following sections summarize the significant findings of this study.

## 6.2 Design Considerations

The following design parameters should be considered during the design phase of the remedial action:

### 6.2.1 Influent Concentrations

The following table summarizes the expected influent concentrations of vapor extracted from the vadose zone.

| Zone | Methane (ppmv) | VOCs (ppmv) | Oxygen (%) |
|---|---|---|---|
| Shallow Zone (A) | 700,000 – 900,000 | 850 - 1750 | 0.5 - 10 |
| Intermediate Zone (B) | 650,000 – 850,000 | 1200 - 3200 | 0.6 - 2 |
| Deep Zone (C) | 700,000 – 900,000 | 3,700 – 10,000 | 0.5 - 2 |

#### 6.2.2 Air Injection & Oxygen Respiration

The following table summarizes the air injection influence distance based on an assumed air injection flow rate between 5 and 20 cfm, depending on zone and proximity to contaminated soil.

| Zone | $O_2$ Radius of Influence |
|---|---|
| A | 90 ft |
| B | 60-95 ft |
| C | 65-90 ft |

Oxygen consumption occurs in the unsaturated zone at a rate of approximately 0.5% to 2.1% per day.

#### 6.2.3 Vapor Extraction Design Parameters

The design extraction flow rate for vapor extraction will be 1 to 2 cfm per linear foot of screen, and the expected radius of influence is 35 to 60 ft (spacing would be larger than radius of influence when combined with air injection).

#### 6.2.4 Air Sparging Design Parameters

The design radius of influence for air sparging is approximately 33 feet for an air sparge well screened below approximately 25 feet below the water table, and an injection rate of 5 to 15 cfm will be used. The oxygen degradation rate in groundwater is 14.5% per day, meaning pulsing in zones is a viable approach to air sparging. This will allow the use of smaller equipment infrastructure and lower energy costs.

#### 6.2.5 In-Well Air Stripping Parameters

Assuming an air injection rate of approximately 35 cfm, the radius of influence for a an IAS well is approximately 30 feet, when screened at least 20 feet below the water table. IAS has a much lower oxygen distribution capability than an air sparging well, however offers other unique advantages such as flushing the capillary fringe zone and stripping groundwater in one drilled well, rather than requiring a second well to extract vapor. It is likely that a combination of air sparging and IAS wells will be used in the full scale design, with IAS wells and AS wells networked in an overlapping formation.

#### 6.2.6 Vapor Management/Treatment

The vapor extracted from the vadose zone contains aromatic and aliphatic hydrocarbons, is highly flammable, exhibiting a high heating value and contains only de minimis levels of chlorinated solvents. The VOC and methane content will decrease over time, but will likely

remain high for an extended period of time. These factors make thermal oxidation and other combustion options the best fit technologies for off-gas treatment. However, until oxygen propagation is widespread and methane production from methanogenic bacteria subsides, the influent vapor of a full scale system will likely be too rich for a typical thermal oxidation system, especially at flow rates over 200 cfm. Strategies could include the use of air injection only prior to vapor extraction or the use of a specially-designed, high-heat tolerant oxidizer system. In either case, the system designed for use at the site will need to accommodate extremely high temperatures.

#### 6.2.7 Excavation

Once final cleanup goals are negotiated and finalized with the LARWQCB, an evaluation should be performed to identify data gaps that exist in shallow soil, either because of infrastructure or because of the relationship between contaminant and historical sample spacing. The goal of the analysis will be to identify areas that require additional sample, and those that will not require additional sampling prior to mobilizing to begin excavation. In general, TPHd appears to be the most prevalent contaminant that requires additional characterization, and this will likely be the case in both areas that have been sampled, as well as areas that were passed over because of the presence of tanks and piping infrastructure.

## 7.0 CLOSING

I certify under penalty of law that this document and all enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained herein is, to the best of my knowledge and belief, true, accurate and complete, however, is reliant upon public agency records, which could be incomplete or inaccurate beyond our control.

Should you have any questions or concerns regarding the material herein, please do not hesitate to contact the undersigned at (714) 508-0800.

Sincerely,
MUREX ENVIRONMENTAL, INC.

REGISTERED PROFESSIONAL ENGINEER
JEREMY R. SQUIRE
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CIVIL # 69466
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STATE OF CALIFORNIA

**Jeremy R Squire, PE**
**Senior Engineer**

**Paris Hajali, Ph.D., P.E.**
**Principal**

## 8.0 REFERENCES


1. ARCADIS, 2007. *Supplemental Soil Investigation Workplan, Former CENCO Refinery, 12345 Lakeland Road, Santa Fe Springs, California.* Prepared for Isola Law Group, LLP. August 31.

2. ARCADIS, 2009. *First Quarter 2009 Groundwater Monitoring Report, Former CENCO Refinery, 12345 Lakeland Road, Santa Fe Springs, California.* Prepared for Isola Law Group, LLP. May 1.

3. ARCADIS, 2009. Supplemental Site Investigation Report, *Former CENCO Refinery, 12345 Lakeland Road, Santa Fe Springs, California.* Prepared for Isola Law Group, LLP. June 8.

4. BBL, an ARCADIS Company (BBL), 2006. *Additional Site Investigation Report, Former CENCO Refinery*. Prepared for Isola Law Group, LLP. August 8.

5. California Division of Mines and Geology (CDMG) Open File Report 99-04. Geologic *Map of the Whittier Quadrangle 7.5 Minute Topographic Map, Los Angeles and Orange Counties, California, Version 1.0.* (1999).

6. California Department of Water Resources (DWR). Bulletin No. 104, June 1961, Reprinted May 1988. *Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A Groundwater Geology.*

7. California Department of Water Resources (DWR) Southern District. October 2001. *Watermaster Service in the Central Basin, Los Angeles County.* (July 1, 2000 – June 30, 2001).

8. Environmental Protection Agency, 1994/2004. *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers.*

9. Haley & Aldrich, Inc. 2005. *Additional Site Investigation Workplan, Cenco Refining Company*, 12345 Lakeland Road, Santa Fe Springs, California. Prepared for Isola & Bowers, LLP. May 9.

10. Murex, 2011. *Third Quarter 2011 Groundwater Monitoring Report, Former CENCO Refinery, Santa Fe Springs, California*. Prepared for Isola Law Group, LLP. October 14.

11. Versar. 2000. *Revised Master Workplan, CENCO Refining Company, Santa Fe Springs, California* (January 2000).

**Table I**
**Well Construction Details**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well ID | Date | By | Elevation | | Casing Diameter (in) | Screen | | Depth (ft) | | Well Location |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ground Surface | Top of Casing | | Slot | Length | Total Depth | | |
| | | | (ft) | (ft amsl) | | (in) | (ft) | Casing | Hole | |
| MP-1A | 5/25/2011 | Murex | 138.664 | 138.627 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 1 |
| MP-1B | 5/25/2011 | Murex | 138.664 | 138.569 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 1 |
| MP-1C | 5/25/2011 | Murex | 138.664 | 138.651 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 1 |
| MP-2A | 5/25/2011 | Murex | 138.732 | 138.691 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 1 |
| MP-2B | 5/25/2011 | Murex | 138.732 | 138.676 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 1 |
| MP-2C | 5/25/2011 | Murex | 138.732 | 138.661 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 1 |
| MP-3A | 5/24/2011 | Murex | 138.723 | 138.751 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 1 |
| MP-3B | 5/24/2011 | Murex | 138.723 | 138.690 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 1 |
| MP-3C | 5/24/2011 | Murex | 138.723 | 138.710 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 1 |
| MP-4A | 5/23-24/2011 | Murex | 138.823 | 138.734 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 1 |
| MP-4B | 5/23-24/2011 | Murex | 138.823 | 138.745 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 1 |
| MP-4C | 5/23-24/2011 | Murex | 138.823 | 138.756 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 1 |
| MP-5A | 5/23/2011 | Murex | 138.616 | 138.589 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 1 |
| MP-5B | 5/23/2011 | Murex | 138.616 | 138.541 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 1 |
| MP-5C | 5/23/2011 | Murex | 138.616 | 138.606 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 1 |
| MP-6A | 5/18/2011 | Murex | 139.369 | 140.411 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 2 |
| MP-6B | 5/18/2011 | Murex | 139.369 | 140.392 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 2 |
| MP-6C | 5/18/2011 | Murex | 139.369 | 140.389 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 2 |
| MP-7A | 5/19/2011 | Murex | 139.025 | 140.058 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 2 |
| MP-7B | 5/19/2011 | Murex | 139.025 | 140.042 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 2 |
| MP-7C | 5/19/2011 | Murex | 139.025 | 140.050 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 2 |
| MP-8A | 5/19-20/2011 | Murex | 139.638 | 140.695 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 2 |
| MP-8B | 5/19-20/2011 | Murex | 139.638 | 140.725 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 2 |
| MP-8C | 5/19-20/2011 | Murex | 139.638 | 140.681 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 2 |
| MP-9A | 5/17-18/2011 | Murex | 139.139 | 140.110 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 2 |
| MP-9B | 5/17-18/2011 | Murex | 139.139 | 140.100 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 2 |
| MP-9C | 5/17-18/2011 | Murex | 139.139 | 140.103 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 2 |
| MP-10A | 5/20/2011 | Murex | 141.509 | 142.427 | 0.5 | 0.02 | 14-15 | 15 | 76 | Area 2 |
| MP-10B | 5/20/2011 | Murex | 141.509 | 142.416 | 0.5 | 0.02 | 44-45 | 45 | 76 | Area 2 |
| MP-10C | 5/20/2011 | Murex | 141.509 | 142.418 | 0.5 | 0.02 | 74-75 | 75 | 76 | Area 2 |
| SVE-1A | 5/31/2011 | Murex | 141.339 | 141.064 | 2 | 0.02 | 5-30 | 30 | 121 | Area 3 |
| SVE-1B | 5/31/2011 | Murex | 141.339 | 141.113 | 2 | 0.02 | 35-60 | 60 | 121 | Area 3 |
| SVE-1C | 5/31/2011 | Murex | 141.339 | 141.100 | 2 | 0.02 | 75-120 | 120 | 121 | Area 3 |
| VE-1A | 5/26/2011 | Murex | 138.701 | 138.642 | 2 | 0.02 | 5-30 | 30 | 91 | Area 1 |
| VE-1B | 5/26/2011 | Murex | 138.701 | 138.625 | 2 | 0.02 | 35-60 | 60 | 91 | Area 1 |
| VE-1C | 5/26/2011 | Murex | 138.701 | 138.601 | 2 | 0.02 | 65-90 | 90 | 91 | Area 1 |
| VE-2A | 5/17/2011 | Murex | 139.158 | 140.059 | 2 | 0.02 | 5-30 | 30 | 91 | Area 2 |
| VE-2B | 5/17/2011 | Murex | 139.158 | 140.053 | 2 | 0.02 | 35-60 | 60 | 91 | Area 2 |
| VE-2C | 5/17/2011 | Murex | 139.158 | 140.074 | 2 | 0.02 | 65-90 | 90 | 91 | Area 2 |
| AI-1A | 5/26-27/2011 | Murex | 138.975 | 138.873 | 2 | 0.02 | 10-20 | 20 | 82 | Area 1 |
| AI-1B | 5/26-27/2011 | Murex | 138.975 | 138.973 | 2 | 0.02 | 40-50 | 50 | 82 | Area 1 |
| AI-1C | 5/26-27/2011 | Murex | 138.975 | 139.023 | 2 | 0.02 | 70-80 | 80 | 82 | Area 1 |
| AI-2A | 5/16/2011 | Murex | 139.003 | 139.097 | 2 | 0.02 | 10-20 | 20 | 82 | Area 2 |

**Table I**
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**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well ID | Date | By | Elevation | | Casing Diameter (in) | Screen | | Depth (ft) | | Well Location |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ground Surface | Top of Casing | | Slot | Length | Total Depth | | |
| | | | (ft) | (ft amsl) | | (in) | (ft) | Casing | Hole | |
| AI-2B | 5/16/2011 | Murex | 139.003 | 139.129 | 2 | 0.02 | 40-50 | 50 | 82 | Area 2 |
| AI-2C | 5/16/2011 | Murex | 139.003 | 139.056 | 2 | 0.02 | 70-80 | 80 | 82 | Area 2 |
| AS-1 | 6/1/2011 | Murex | 141.259 | 140.837 | 1.5 | 0.02 | 120-125 | 125 | 127 | Area 3 |
| IAS-1 | 6/2/2011 | Murex | 141.467 | 141.203 | 4 | 0.02 | 85-125 | 125 | 130 | Area 3 |

**NOTES:**

ft Feet
in Inches
amsl Above mean sea level

**Table II**
**Supplemental Deep Soil Characterization Analytical Results**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Sample Depth | Pilot Test Area | Zone | Date | 1,2,4-TMB | 1,3,5-TMB | B | E | T | NAP | B (a) p | d (a,h) a | TPHg | TPHd | TPHo | m/p-X | o-X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Units in µg/kg | | | | | | | | | | | | | | | | | |
| MP1 | 15 | 1 | A | 5/25/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | 680 | <10000 | <10000 | <5.0 | <5.0 |
| MP1 | 35 | 1 | B | 5/25/2011 | <5.0 | <5.0 | 110 | 10 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| MP1 | 45 | 1 | B | 5/25/2011 | 6.3 | <5.0 | <5.0 | <5.0 | <5.0 | 6.6 | <300 | <300 | 950 | <10000 | <10000 | <5.0 | <5.0 |
| MP1 | 70 | 1 | C | 5/25/2011 | 8.2 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | 850 | <10000 | <10000 | 5.6 | <5.0 |
| MP1 | 75 | 1 | C | 5/25/2011 | 170 | 48 | <5.0 | 60 | <5.0 | 30 | <300 | <300 | 23000 | 30000 | <10000 | 79 | 18 |
| MP2 | 15 | 1 | A | 5/25/2011 | 31 | 9.4 | <5.0 | <5.0 | <5.0 | 90 | <300 | <300 | 4800 | 30000 | <10000 | <5.0 | <5.0 |
| MP2 | 35 | 1 | B | 5/25/2011 | 5.2 | <5.0 | 39 | 6.2 | <5.0 | 8.2 | <300 | <300 | 770 | <10000 | <10000 | <5.0 | <5.0 |
| MP2 | 45 | 1 | B | 5/25/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 8.9 | <300 | <300 | 900 | <10000 | <10000 | <5.0 | <5.0 |
| MP2 | 70 | 1 | C | 5/25/2011 | 16 | <5.0 | <5.0 | <5.0 | <5.0 | 5 | <300 | <300 | 2100 | <10000 | <10000 | <5.0 | <5.0 |
| MP2 | 75 | 1 | C | 5/25/2011 | 130 | 30 | <5.0 | 7.6 | <5.0 | 40 | <300 | <300 | 13000 | 71000 | 160000 | 15 | <5.0 |
| MP3 | 15 | 1 | A | 5/24/2011 | 480 | 140 | 1100 | 200 | 13000 | 23000 | <30000 | <30000 | 4700000 | 12000000 | 3000000 | 58000 | 470 |
| MP3 | 45 | 1 | B | 5/24/2011 | 57 | 15 | <5.0 | <5.0 | <5.0 | 97 | <300 | <300 | 8500 | 180000 | 110000 | 5.2 | <5.0 |
| MP3 | 75 | 1 | C | 5/24/2011 | 310 | 94 | <5.0 | 52 | <5.0 | 240 | <300 | <300 | 12000 | 12000 | <10000 | 130 | 32 |
| MP4 | 15 | 1 | A | 5/23/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | 990 | 23000 | <10000 | <5.0 | <5.0 |
| MP4 | 45 | 1 | B | 5/23/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| MP4 | 75 | 1 | C | 5/23/2011 | 37 | 8.2 | <5.0 | 12 | <5.0 | 42 | <300 | <300 | 3900 | 63000 | <10000 | 6.8 | <5.0 |
| MP5 | 15 | 1 | A | 5/23/2011 | 150 | 44 | 99 | 73 | 64 | 5100 | <300 | <300 | 17000 | 1500000 | 63000 | 160 | 80 |
| MP5 | 45 | 1 | B | 5/23/2011 | 98 | 32 | 28 | 110 | 59 | 320 | <300 | <300 | 11000 | 460000 | 38000 | 220 | 39 |
| MP5 | 75 | 1 | C | 5/23/2011 | 16 | 7 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | 7.1 | <5.0 |
| VE1 | 10 | 1 | A | 5/26/2011 | 23 | 6.6 | <5.0 | <5.0 | <5.0 | 63 | <300 | <300 | 1200 | 13000 | <10000 | <5.0 | <5.0 |
| VE1 | 20 | 1 | A | 5/26/2011 | <5.0 | <5.0 | 29 | <5.0 | <5.0 | 9.8 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| VE1 | 40 | 1 | B | 5/26/2011 | 21 | 23 | 110 | 24 | <5.0 | <5.0 | <300 | <300 | 4800 | 10000 | <10000 | 10 | <5.0 |
| VE1 | 50 | 1 | B | 5/26/2011 | 5.3 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | 3300 | <10000 | <10000 | <5.0 | <5.0 |
| VE1 | 75 | 1 | C | 5/26/2011 | 16 | 6.6 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | 1600 | 11000 | <10000 | <5.0 | <5.0 |
| VE1 | 90 | 1 | C | 5/26/2011 | 190 | 91 | 86 | 110 | <5.0 | <5.0 | <300 | <300 | 8500 | <10000 | 17000 | 220 | <5.0 |
| MP6 | 15 | 2 | A | 5/18/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 6.2 | <300 | <300 | 1100 | <10000 | <10000 | <5.0 | <5.0 |
| MP6 | 45 | 2 | B | 5/18/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 31 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| MP6 | 75 | 2 | C | 5/18/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 7.2 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| MP7 | 15 | 2 | A | 5/19/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 30 | <300 | <300 | 3400 | 360000 | 130000 | <5.0 | <5.0 |
| MP7 | 45 | 2 | B | 5/19/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | 22000 | 28000 | <5.0 | <5.0 |
| MP7 | 75 | 2 | C | 5/19/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | 30000 | 46000 | <5.0 | <5.0 |
| MP8 | 15 | 2 | A | 5/19/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | 29000 | 38000 | <5.0 | <5.0 |
| MP8 | 45 | 2 | B | 5/19/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | 25000 | 33000 | <5.0 | <5.0 |
| MP8 | 75 | 2 | C | 5/19/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | 77000 | 65000 | <5.0 | <5.0 |
| MP9 | 15 | 2 | A | 5/17/2011 | 69 | 31 | 11 | 18 | <5.0 | 5300 | <300 | <300 | 96000 | 720000 | 32000 | 36 | 8.6 |
| MP9 | 45 | 2 | B | 5/17/2011 | 620 | 160 | 18 | 43 | 11 | 4900 | <300 | <300 | 600000 | 2200000 | 56000 | 220 | 89 |
| MP9 | 75 | 2 | C | 5/17/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 120 | <300 | <300 | <500 | 13000 | <10000 | <5.0 | <5.0 |
| MP10 | 15 | 2 | A | 5/20/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| MP10 | 45 | 2 | B | 5/20/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| MP10 | 75 | 2 | C | 5/20/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |

**Table II**
**Supplemental Deep Soil Characterization Analytical Results**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Sample Depth | Pilot Test Area | Zone | Date | 1,2,4-TMB | 1,3,5-TMB | B | E | T | NAP | B (a) p | d (a,h) a | TPHg | TPHd | TPHo | m/p-X | o-X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Units in µg/kg | | | | | | | | | | | | | | | | | |
| VE2 | 20 | 2 | A | 5/17/2011 | 1900 | 130 | 22 | 29 | <5.0 | 9500 | <300 | <300 | 390000 | 2500000 | 82000 | 69 | 26 |
| VE2 | 40 | 2 | B | 5/17/2011 | 4000 | 170 | 34 | 34 | 9 | 2600 | <300 | <300 | 280000 | 1500000 | 51000 | 170 | 59 |
| VE2 | 50 | 2 | B | 5/17/2011 | 400 | 100 | 9.9 | 21 | <5.0 | 5400 | <300 | <300 | 770000 | 2000000 | 58000 | 84 | 6.4 |
| VE2 | 75 | 2 | C | 5/17/2011 | 5.4 | <5.0 | <5.0 | <5.0 | <5.0 | 500 | <300 | <300 | 96000 | 430000 | 34000 | <5.0 | <5.0 |
| VE2 | 90 | 2 | C | 5/17/2011 | 530 | 140 | 19 | 21 | <5.0 | 3500 | <300 | <300 | 250000 | 1400000 | 79000 | 90 | 29 |
| SVE-1 | 20 | 3 | A | 5/31/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| SVE-1 | 40 | 3 | B | 5/31/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| SVE-1 | 50 | 3 | B | 5/31/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| SVE-1 | 75 | 3 | C | 5/31/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| SVE-1 | 100 | 3 | Saturated | 5/31/2011 | 5 | <5.0 | 32 | 6 | <5.0 | 35 | <300 | <300 | 1700 | 250000 | 34000 | 20 | 5.7 |
| SVE-1 | 120 | 3 | Saturated | 5/31/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| AS1 | 30 | 3 | A | 6/1/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| AS1 | 60 | 3 | B | 6/1/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| AS1 | 80 | 3 | C | 6/1/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| AS1 | 95 | 3 | C | 6/1/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | 2200 | 76000 | 47000 | <5.0 | <5.0 |
| AS1 | 105 | 3 | Saturated | 6/1/2011 | 560 | 200 | 27000 | 22000 | 48000 | 470 | <300 | <300 | 5400000 | 2800000 | 330000 | 130000 | 30000 |
| AS1 | 110 | 3 | Saturated | 6/1/2011 | <5.0 | <5.0 | 220 | <5.0 | 6.8 | <5.0 | <300 | <300 | 1400 | <10000 | <10000 | <5.0 | <5.0 |
| AS1 | 115 | 3 | Saturated | 6/1/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| AS1 | 125 | 3 | Saturated | 6/1/2011 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <300 | <300 | <500 | <10000 | <10000 | <5.0 | <5.0 |
| IAS1 | 95 | 3 | C | 6/2/2011 | 1800 | 690 | 1400 | 680 | 1200 | 600 | <300 | <300 | 2800000 | 1600000 | 250000 | 3800 | 1000 |
| IAS1 | 115 | 3 | Saturated | 6/2/2011 | 4600 | 460 | 1100 | 2300 | 4600 | 520 | <300 | <300 | 1200000 | 270000 | 46000 | 12000 | 3200 |
| IAS1 | 125 | 3 | Saturated | 6/2/2011 | 1500 | 380 | 420 | 590 | 980 | 390 | <300 | <300 | 200000 | 68000 | <10000 | 3400 | 900 |

**NOTES:**
1,2,4-TMB | 1,2,4-Trimethylbenzene
1,3,5-TMB | 1,3,5-Trimethylbenzene
B | Benzene
E | Ethylbenzene
T | Methylbenzene
NAP | Naphthalene
B (a) p | Benzo (a) pyrene
d (a,h)a | Dibenz (a,h) anthracene
TPHg | C6-C12
TPHd | C13-C28
TPHo | C29-C40
m/p-X | m,p-Xylene
o-X | o-Xylene

**Table III**
**Supplemental Deep Soil Characterization Geotechnical Results**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Location | Depth (ft- bgs) | Test Area | Zone | USCS | Soil Type | Moisture Content (%) | FOC (% by mass) | K (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| MP-2 | 15 | 1 | A | SC | Sandy Clay | 11.7 | 0.67 | $9.6 \times 10^{-6}$ |
| MP-2 | 35 | 1 | B | CL | Silty Clay | 17.2 | 1.04 | $2.3 \times 10^{-7}$ |
| MP-2 | 45 | 1 | C | SM | Silty Sand | 2.9 | 0.22 | NA |
| MP-2 | 70 | 1 | C | NA | NA | NA | NA | $1.3 \times 10^{-3}$ |
| MP-3 | 15 | 1 | A | ML | Sandy Silt | 12.7 | 1.27 | NA |
| MP-3 | 45 | 1 | B | SM | Silty Sand | 4.5 | 0.39 | NA |
| MP-3 | 75 | 1 | C | SM | Silty Sand | 3.5 | 0.25 | NA |
| MP-4 | 15 | 1 | A | SM | Silty Sand | 10.1 | 0.76 | NA |
| MP-4 | 45 | 1 | B | SM | Silty Sand | 3.8 | 0.32 | NA |
| MP-4 | 75 | 1 | C | SM | Silty Sand | 4.3 | 0.28 | NA |
| MP-5 | 15 | 1 | A | ML | Sandy Silt | 14.2 | 0.61 | NA |
| MP-5 | 45 | 1 | B | SM | Silty Sand | 4.8 | 0.43 | NA |
| MP-5 | 75 | 1 | C | SM | Silty Sand | 3.6 | 0.27 | NA |
| MP-8 | 15 | 2 | A | SM | Silty Sand | 3.1 | 0.32 | NA |
| MP-8 | 45 | 2 | B | SM | Silty Sand | 5.4 | 0.41 | NA |
| MP-8 | 75 | 2 | C | SM | Silty Sand | 4.5 | 0.28 | NA |
| MP-10 | 15 | 2 | A | ML | Sandy Silt | 20.7 | 0.82 | NA |
| MP-10 | 45 | 2 | B | SM | Silty Sand | 4.1 | 0.23 | NA |
| MP-10 | 75 | 2 | C | SM | Silty Sand | 4.9 | 0.26 | NA |
| MP-11 | 20 | 3 | A | SM | Silty Sand | 4.1 | 0.24 | $1.4 \times 10^{-3}$ |
| MP-11 | 40 | 3 | B | SM | Silty Sand | 15.4 | 0.56 | $7.9 \times 10^{-4}$ |
| MP-11 | 50 | 3 | B | SM | Silty Sand | 10.6 | 0.47 | $9.3 \times 10^{-4}$ |
| MP-11 | 75 | 3 | C | SM | Silty Sand | 4.3 | 0.25 | $1.2 \times 10^{-3}$ |
| MP-11 | 100 | 3 | C | SM | Silty Sand | 4.6 | 0.28 | $9.1 \times 10^{-4}$ |
| MP-11 | 120 | 3 | C | SM | Silty Sand | 13.9 | 0.24 | $7.6 \times 10^{-4}$ |

**NOTES:**
NA - Information Not Available
Ft-bgs - Feet Below Ground Surface
FOC - Fraction of Organic Carbon (% by mass)
K - Coefficient of Permiability (cm/s)
USCS - Unified Soil Classification System

**Table IV**
**Baseline Soil Vapor Analytical Results - Areas 1, 2 and 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Location | Date | USCS | Oxygen | $CO_2$ | *$CH_4$ | TPH-g | B | T | E | m/p-X | o-X | 1,2,4-TMB | 1,3,5-TMB | PCE | TCE | t1,2-DCE | c1,2-DCE | 1,1-DCE | 1,1-DCA | 1,2-DCA | VC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Symbol | % | % | ppm(v) | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| **AREA 1** | | | | | | | | | | | | | | | | | | | | | |
| Area 1 - Zone A | | | | | | | | | | | | | | | | | | | | | |
| MP-1A | 6/20/2011 | SP | 17.40% | 9.13% | 734700 | ND | 65 | ND | 14 | 19 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-2A | 6/20/2011 | SP | 3.16% | 23.10% | 737318 | 82000 | 200 | 40 | 58 | 69 | 9.6 | 6.2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-3A | 6/20/2011 | SP | 11.90% | 16.30% | 717988 | 12000 | 98 | 82 | 23 | 61 | 13 | 9 | 5.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-4A | 6/20/2011 | SP-SM | 18.90% | 5.90% | 751981 | 19000 | 82 | 6.4 | 22 | 29 | ND | 6.6 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-5A | 6/20/2011 | SP-SM | 9.29% | 18.90% | 718081 | 19000 | 420 | 34 | 23 | 50 | 9 | 5.2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| VE-1A | 6/20/2011 | SP-SM | 20.50% | 4.98% | 745171 | 29000 | 170 | 12 | 140 | 290 | 26 | 31 | 19 | ND | ND | ND | ND | ND | ND | ND | ND |
| AI-1A | 6/20/2011 | SP-SM | 9.26% | 16.60% | 741361 | 39000 | 360 | 210 | 47 | 130 | 32 | 9.1 | 5.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| Area 1 - Zone B | | | | | | | | | | | | | | | | | | | | | |
| MP-1B | 6/20/2011 | SW | 5.10% | 24.70% | 701996.6 | 3400 | 520 | 13 | 64 | 95 | 6.4 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-2B | 6/20/2011 | SW | 9.70% | 19.60% | 706980 | 20000 | 230 | 15 | 33 | 35 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-3B | 6/20/2011 | SW | 2.55% | 26.60% | 708495.8 | 4200 | 500 | 120 | 35 | 72 | 13 | 5.8 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-4B | 6/20/2011 | SW | 1.64% | 28.90% | 694561 | 39000 | 540 | 42 | 65 | 77 | 7.6 | 8.2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-5B | 6/20/2011 | SP | 1.99% | 26.30% | 717039 | 61000 | 950 | 100 | 40 | 68 | 8 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| VE-1B | 6/20/2011 | SW | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| AI-1B | 6/20/2011 | SW | 10.60% | 18.10% | 712969 | 31000 | 330 | 210 | 43 | 100 | 26 | 8.1 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| AI-1B (Dup) | 6/20/2011 | SW | 10.40% | 18.80% | 707964 | 36000 | 360 | 230 | 43 | 97 | 25 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Area 1 - Zone C | | | | | | | | | | | | | | | | | | | | | |
| MP-1C | 6/20/2011 | SP | 1.07% | 28.90% | 700280 | 20000 | 520 | 11 | 110 | 110 | 14 | 11 | 5.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-2C | 6/20/2011 | SW | 17.30% | 11.90% | 707969 | 31000 | 120 | ND | 30 | 32 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-3C | 6/20/2011 | SW | 1.88% | 27.70% | 704194.9 | 5100 | 460 | 32 | 100 | 140 | 13 | 13 | 7 | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-4C | 6/20/2011 | SW | 1.52% | 27.30% | 711720 | 80000 | 440 | 12 | 130 | 65 | 6.8 | 9.4 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MP-5C | 6/20/2011 | | 2.00% | 28.10% | 698918 | 82000 | 670 | 28 | 140 | 460 | 37 | 17 | 12 | ND | ND | ND | ND | ND | ND | ND | ND |
| VE-1C | 6/20/2011 | SW-SM | 1.23% | 28.00% | 707604 | 96000 | 580 | 11 | 200 | 260 | 24 | 29 | 18 | ND | ND | ND | ND | ND | ND | ND | ND |
| AI-1C | 6/20/2011 | SP | 2.32% | 27.00% | 706726 | 74000 | 470 | 55 | 71 | 96 | 16 | 9.9 | 5.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| AI-1C (Dup) | 6/20/2011 | SP | 1.36% | 28.10% | 705333 | 67000 | 460 | 51 | 75 | 98 | 16 | 11 | 5.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| **AREA 2** | | | | | | | | | | | | | | | | | | | | | |
| Area 2 - Zone A | | | | | | | | | | | | | | | | | | | | | |
| MP-6A | 7/28/2011 | SW-SM | 18.40% | 0.76% | 808400 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-7A | 7/28/2011 | SW | 1.10% | 25.00% | 739000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-8A | 7/28/2011 | SP | 9.49% | 14.70% | 758100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-9A | 7/28/2011 | SP-SM | 13.60% | 8.90% | 775000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-10A | 7/28/2011 | SP-SM | 13.30% | 4.01% | 826900 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VE-2A | 7/28/2011 | | 1.72% | 25.30% | 729800 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| AI-2A | 7/28/2011 | SP | 1.50% | 15.70% | 828000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Area 2 - Zone B | | | | | | | | | | | | | | | | | | | | | |
| MP-6B | 7/28/2011 | SW-SP | 1.54% | 32.20% | 662600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-7B | 7/28/2011 | SW-SM | 1.00% | 24.10% | 749000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-8B | 7/28/2011 | SW | 1.32% | 25.00% | 736800 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-9B | 7/28/2011 | SP | 1.75% | 23.00% | 752500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-10B | 7/28/2011 | SP-SM | 1.15% | 25.20% | 736500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VE-2B | 7/28/2011 | | 0.61% | 17.50% | 818900 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| AI-2B | 7/28/2011 | SW | 1.66% | 22.00% | 763400 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Area 2 - Zone C | | | | | | | | | | | | | | | | | | | | | |
| MP-6C | 7/28/2011 | SP-SM | 1.12% | 25.70% | 731800 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-7C | 7/28/2011 | SP | 1.32% | 27.70% | 709800 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-8C | 7/28/2011 | SW | 1.26% | 24.30% | 744400 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MP-9C | 7/28/2011 | SP | 1.04% | 24.00% | 749600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table IV**
**Baseline Soil Vapor Analytical Results - Areas 1, 2 and 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Location | Date | USCS | Oxygen | $CO_2$ | *$CH_4$ | TPH-g | B | T | E | m/p-X | o-X | 1,2,4-TMB | 1,3,5-TMB | PCE | TCE | t1,2-DCE | c1,2-DCE | 1,1-DCE | 1,1-DCA | 1,2-DCA | VC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Symbol | % | % | ppm(v) | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| MP-10C | 7/28/2011 | SP | 1.09% | 25.30% | 736100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VE-2C | 7/28/2011 | | 1.14% | 25.20% | 736600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| AI-2C | 7/28/2011 | SW | 1.58% | 24.30% | 741200 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **AREA 3** | | | | | | | | | | | | | | | | | | | | | |
| Area 3 - Zone A | | | | | | | | | | | | | | | | | | | | | |
| SVE-1A | 9/13/2011 | | 0.56% | 5.59% | 938500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Area3 - Zone B | | | | | | | | | | | | | | | | | | | | | |
| SVE-1B | 9/13/2011 | | 1.29% | 12.30% | 864100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Area 3 - Zone C | | | | | | | | | | | | | | | | | | | | | |
| SVE-1C | 9/13/2011 | | 0.50% | 2.45% | 970500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

NOTES:
$CO_2$ - Carbon Dioxide
$CH_4$ - Methane
PCE - Tetrachloroethylene
TCE - Trichloroethylene
c1,2-DCE - cis-1,2-Dichloroethene
t1,2-DCE - trans-1,2-Dichloroethene
1,1-DCE - 1,1-Dichloroethene
1,2-DCA - 1,2-Dichloroethane
1,3,5-TMB - 1,3,5-Trimethylbenzene
1,2,4-TMB - 1,2,4-Trimethylbenzene
VC - Vinyl Chloride
B- Benzene
T - Toluene
E - Ethylbenzene
1,1 DCA - 1,1-Dichloroethane
NAP - Naphthalene
m/p-X - p/m-Xylenes
o-X -o-Xylene
DIPE - Diisopropyl Ether (DIPE)
MTBE - Methyl-tert-Butyl Ether (MTBE)
TBA - tert-Butyl Alcohol (TBA)
ND - Not Detected above laboratory detection limits
ug/L - Micrograms per litre
NA - Information not available
* - Calculated Value in Area 1

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| AI-1A | 6/20/11 | 12:42 | 0 | 8.3 | 10000 | 4565 | 8 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| AI-1A | 6/20/11 | 13:17 | 0 | 8.6 | 10000 | 4332 | 7 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| AI-1A | 6/20/11 | 14:45 | 0 | 7.4 | 10000 | 8998 | 8.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| | | | | | | | | | | | |
| VE-1A | 6/17/11 | 12:08 | 42.63 | 20.9 | 1025 | 236 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| VE-1A | 6/17/11 | 12:42 | 42.63 | 20.3 | 6400 | 2058 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| VE-1A | 6/17/11 | 14:08 | 42.63 | 20.2 | 7800 | 1507 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| VE-1A | 6/21/11 | 9:07 | 42.63 | 18.1 | 10000 | 701 | 0 | 10 | NA | NA | Baseline - Before AI |
| VE-1A | 6/21/11 | 9:26 | 42.63 | 19.2 | 3100 | 1455 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 9:41 | 42.63 | 20.9 | 2200 | 1405 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 9:59 | 42.63 | 20.9 | 1125 | 1061 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 10:28 | 42.63 | 20.9 | 700 | 619 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 10:45 | 42.63 | 20.9 | 2100 | 1596 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 11:02 | 42.63 | 20.9 | 670 | 357 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 11:25 | 42.63 | 20.9 | 925 | 442 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 11:47 | 42.63 | 20.9 | 1975 | 775 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 12:22 | 42.63 | 20.4 | 9725 | 1466 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 13:19 | 42.63 | 16.9 | 10000 | 942 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 13:59 | 42.63 | 13.7 | 10000 | 1911 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 14:26 | 42.63 | 10.3 | 10000 | 1416 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 14:58 | 42.63 | 8.2 | 10000 | 2741 | 0 | 10 | NA | NA | AI |
| VE-1A | 6/21/11 | 15:58 | 42.63 | 6.6 | 10000 | 1320 | 0 | 10 | NA | 202 | AI |
| VE-1A | 6/21/11 | 17:08 | 42.63 | 5.3 | 10000 | 2517 | 0 | 10 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-1A | 6/20/11 | 8:36 | 39.46 | 20.6 | 10000 | 6591 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-1A | 6/20/11 | 9:14 | 39.46 | 19.4 | 10000 | 4091 | 1 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-1A | 6/20/11 | 10:40 | 39.46 | 17.3 | 10000 | 2735 | 0.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-1A | 6/21/11 | 8:30 | 39.46 | 9.5 | 10000 | 1219 | 0 | 10 | NA | NA | Baseline - Before AI |
| MP-1A | 6/21/11 | 9:15 | 39.46 | 2.7 | 10000 | 1974 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 9:29 | 39.46 | 3.2 | 10000 | 2587 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 9:48 | 39.46 | 4 | 10000 | 2825 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 10:03 | 39.46 | 6.1 | 10000 | 2154 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 10:35 | 39.46 | 8.3 | 10000 | 1718 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 10:51 | 39.46 | 9.9 | 10000 | 1596 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 11:10 | 39.46 | 10.8 | 10000 | 2511 | 0 | 10 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-1A | 6/21/11 | 11:37 | 39.46 | 11.4 | 10000 | 2167 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 12:02 | 39.46 | 12.3 | 10000 | 1716 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 13:07 | 39.46 | 10.8 | 10000 | 779 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 13:39 | 39.46 | 10.7 | 10000 | 1857 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 14:12 | 39.46 | 8.8 | 10000 | 1194 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 14:46 | 39.46 | 8.5 | 10000 | 1732 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 15:45 | 39.46 | 8.1 | 10000 | 1326 | 0 | 10 | NA | NA | AI |
| MP-1A | 6/21/11 | 16:45 | 39.46 | 6.1 | 10000 | 1921 | 0 | 10 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-2A | 6/20/11 | 8:56 | 38.24 | 18.6 | 10000 | 1211 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-2A | 6/20/11 | 9:34 | 38.24 | 18.1 | 10000 | 2399 | 2.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-2A | 6/20/11 | 11:10 | 38.24 | 13 | 10000 | 4115 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-2A | 6/21/11 | 8:45 | 38.24 | 8.5 | 10000 | 1948 | 0 | 10 | NA | NA | Baseline - Before AI |
| MP-2A | 6/21/11 | 9:17 | 38.24 | 18.4 | 10000 | 1985 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 9:31 | 38.24 | 18.5 | 10000 | 1122 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 9:52 | 38.24 | 20.4 | 6600 | 1058 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 10:08 | 38.24 | 20.6 | 5000 | 801 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 10:38 | 38.24 | 20.6 | 4200 | 657 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 10:53 | 38.24 | 20.6 | 5100 | 652 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 11:12 | 38.24 | 20.6 | 6600 | 472 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 11:39 | 38.24 | 20.2 | 10000 | 563 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 12:07 | 38.24 | 18.5 | 10000 | 558 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 13:09 | 38.24 | 9 | 10000 | 1556 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 13:44 | 38.24 | 7 | 10000 | 2197 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 14:16 | 38.24 | 5.7 | 10000 | 1631 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 14:50 | 38.24 | 5.7 | 10000 | 1856 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 15:47 | 38.24 | 5.3 | 10000 | 2559 | 0 | 10 | NA | NA | AI |
| MP-2A | 6/21/11 | 16:49 | 38.24 | 3.2 | 10000 | 1933 | 0 | 10 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-3A | 6/20/11 | 9:10 | 39.66 | 16 | 10000 | 3157 | 3 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-3A | 6/20/11 | 9:46 | 39.66 | 14.7 | 10000 | 3604 | 3.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-3A | 6/20/11 | 11:16 | 39.66 | 11.7 | 10000 | 5776 | 4.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-3A | 6/21/11 | 9:00 | 39.66 | 8 | 10000 | 2608 | 0 | 10 | NA | NA | Baseline - Before AI |
| MP-3A | 6/21/11 | 9:19 | 39.66 | 10.6 | 10000 | 2837 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 9:33 | 39.66 | 11.9 | 10000 | 1978 | 0 | 10 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-3A | 6/21/11 | 9:53 | 39.66 | 19.5 | 10000 | 1053 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 10:13 | 39.66 | 20.4 | 6300 | 1137 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 10:40 | 39.66 | 20.2 | 6500 | 710 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 10:55 | 39.66 | 19.9 | 10000 | 692 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 11:16 | 39.66 | 19.5 | 10000 | 752 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 11:41 | 39.66 | 15.7 | 10000 | 1062 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 12:11 | 39.66 | 14.8 | 10000 | 775 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 13:10 | 39.66 | 7.6 | 10000 | 1001 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 13:46 | 39.66 | 3.8 | 10000 | 1661 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 14:18 | 39.66 | 2.2 | 10000 | 1296 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 14:52 | 39.66 | 2 | 10000 | 1726 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 15:49 | 39.66 | 1.7 | 10000 | 2158 | 0 | 10 | NA | NA | AI |
| MP-3A | 6/21/11 | 16:55 | 39.66 | 3.9 | 10000 | 2061 | 0 | 10 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-4A | 6/20/11 | 9:55 | 26.3 | 15.7 | 10000 | 4975 | 4 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-4A | 6/20/11 | 10:30 | 26.3 | 12.6 | 10000 | 4057 | 2.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-4A | 6/20/11 | 11:58 | 26.3 | 12.3 | 10000 | 3130 | 1.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-4A | 6/21/11 | 9:03 | 26.3 | 6.1 | 10000 | 2502 | 0 | 10 | NA | NA | Baseline - Before AI |
| MP-4A | 6/21/11 | 9:22 | 26.3 | 11.4 | 10000 | 2369 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 9:35 | 26.3 | 11.9 | 10000 | 2164 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 9:54 | 26.3 | 13.2 | 10000 | 1249 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 10:19 | 26.3 | 16.6 | 10000 | 483 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 10:44 | 26.3 | 17 | 10000 | 904 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 10:57 | 26.3 | 19.7 | 10000 | 833 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 11:20 | 26.3 | 13.3 | 10000 | 938 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 11:43 | 26.3 | 10.4 | 10000 | 1351 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 12:14 | 26.3 | 2.4 | 10000 | 3003 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 13:13 | 26.3 | 1.1 | 10000 | 2028 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 13:49 | 26.3 | 0.8 | 10000 | 2046 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 14:19 | 26.3 | 1.3 | 10000 | 1927 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 14:54 | 26.3 | 1.4 | 10000 | 2269 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 15:52 | 26.3 | 2 | 10000 | 2722 | 0 | 10 | NA | NA | AI |
| MP-4A | 6/21/11 | 16:58 | 26.3 | 1 | 10000 | 2170 | 0 | 10 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-5A | 6/20/11 | 10:21 | 84.63 | 14.7 | 10000 | 5601 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-5A | 6/20/11 | 11:00 | 84.63 | 13.2 | 10000 | 4804 | 4 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-5A | 6/20/11 | 12:55 | 84.63 | 11 | 10000 | 3009 | 3 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-5A | 6/21/11 | 9:05 | 84.63 | 7.3 | 10000 | 2991 | 0 | 10 | NA | NA | Baseline - Before AI |
| MP-5A | 6/21/11 | 9:24 | 84.63 | 10.4 | 10000 | 2369 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 9:39 | 84.63 | 11.9 | 10000 | 2164 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 9:57 | 84.63 | 19 | 10000 | 831 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 10:24 | 84.63 | 20.2 | 6400 | 685 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 10:42 | 84.63 | 20.1 | 7400 | 713 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 10:59 | 84.63 | 20.2 | 7700 | 638 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 11:22 | 84.63 | 19.9 | 10000 | 791 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 11:45 | 84.63 | 16.8 | 10000 | 765 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 12:19 | 84.63 | 14.2 | 10000 | 981 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 13:17 | 84.63 | 4.3 | 10000 | 1578 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 13:56 | 84.63 | 1.8 | 10000 | 2046 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 14:25 | 84.63 | 9.9 | 7750 | 958 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 14:56 | 84.63 | 1.8 | 10000 | 3326 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 15:55 | 84.63 | 2 | 10000 | 3520 | 0 | 10 | NA | NA | AI |
| MP-5A | 6/21/11 | 17:04 | 84.63 | 3 | 10000 | 3825 | 0 | 10 | NA | NA | AI |
| | | | | | | | | | | | |
| AI-1B | 6/20/11 | 12:43 | 0 | 7.4 | 10000 | 4764 | 12.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| AI-1B | 6/20/11 | 13:18 | 0 | 7.6 | 10000 | 4553 | 11 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| AI-1B | 6/20/11 | 14:46 | 0 | 7.9 | 10000 | 5853 | 10.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| | | | | | | | | | | | |
| VE-1B | 6/17/11 | 12:33 | 42.63 | 7.7 | 10000 | 10000 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| VE-1B | 6/17/11 | 13:22 | 42.63 | 10.3 | 10000 | 10000 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| VE-1B | 6/17/11 | 14:33 | 42.63 | 7.7 | 10000 | 10000 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| VE-1B | 6/22/2011 | 9:50 | 42.63 | 1.4 | 10000 | 5281 | 0 | 10 | NA | 180 | Baseline - Before AI |
| VE-1B | 6/22/2011 | 10:07 | 42.63 | 0.7 | 10000 | 9456 | 1.5 | 10 | NA | 184 | AI |
| VE-1B | 6/22/2011 | 10:30 | 42.63 | 0.6 | 10000 | 6843 | 1.5 | 10 | NA | 188 | AI |
| VE-1B | 6/22/2011 | 10:53 | 42.63 | 0.4 | 10000 | 6921 | 1 | 10 | NA | 188 | AI |
| VE-1B | 6/22/2011 | 11:15 | 42.63 | 0.9 | 10000 | 9822 | 1 | 10 | NA | 189 | AI |
| VE-1B | 6/22/2011 | 11:37 | 42.63 | 0.5 | 10000 | 9036 | 1.5 | 10 | NA | 190 | AI |
| VE-1B | 6/22/2011 | 12:02 | 42.63 | 1.3 | 10000 | 9999 | 1 | 10 | NA | 192 | AI |
| VE-1B | 6/22/2011 | 12:32 | 42.63 | 1.5 | 10000 | 9999 | 1 | 10 | NA | 196 | AI |
| VE-1B | 6/22/2011 | 13:00 | 42.63 | 0.7 | 10000 | 8327 | 2 | 10 | NA | 197 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| VE-1B | 6/22/2011 | 13:32 | 42.63 | 0.7 | 10000 | 9366 | 1 | 10 | NA | 200 | AI |
| VE-1B | 6/22/2011 | 14:08 | 42.63 | 1.8 | 10000 | 9375 | 1 | 10 | NA | 204 | AI |
| VE-1B | 6/22/2011 | 14:40 | 42.63 | 4.6 | 10000 | 9999 | 0 | 10 | NA | 203 | AI |
| VE-1B | 6/22/2011 | 15:18 | 42.63 | 1 | 10000 | 7018 | 1 | 10 | NA | 202 | AI |
| VE-1B | 6/22/2011 | 15:49 | 42.63 | 2.3 | 10000 | 8793 | 1 | 10 | NA | 201 | AI |
| VE-1B | 6/22/2011 | 16:45 | 42.63 | 1.4 | 10000 | 4981 | 1 | 10 | NA | 199 | AI |
| VE-1B | 6/23/2011 | 9:15 | 42.63 | 3.4 | 10000 | 9999 | 4 | 13 | NA | 188 | AI |
| VE-1B | 6/23/2011 | 18:55 | 42.63 | 2.4 | 10000 | 8546 | 0 | 17 | NA | 182 | AI |
| VE-1B | 6/24/2011 | 9:30 | 42.63 | 5.9 | 10000 | 4882 | 0 | 17 | NA | 184 | AI |
| VE-1B | 6/24/2011 | 16:47 | 42.63 | 16.8 | 10000 | 4293 | 0 | 21 | NA | 187 | AI |
| VE-1B | 6/25/2011 | 17:07 | 42.63 | 18.4 | 7750 | 2701 | 0 | 20 | NA | 189 | AI |
| | | | | | | | | | | | |
| MP-1B | 6/20/11 | 8:43 | 39.46 | 7.5 | 10000 | 10000 | 7 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-1B | 6/20/11 | 9:15 | 39.46 | 6.9 | 10000 | 10000 | 6.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-1B | 6/20/11 | 10:41 | 39.46 | 1.1 | 10000 | 10000 | 5.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-1B | 6/22/2011 | 9:52 | 39.46 | 0 | 10000 | 8286 | 3 | 10 | NA | 180 | Baseline - Before AI |
| MP-1B | 6/22/2011 | 10:09 | 39.46 | 0 | 10000 | 8156 | 2.5 | 10 | NA | 184 | AI |
| MP-1B | 6/22/2011 | 10:32 | 39.46 | 0 | 10000 | 7095 | 3 | 10 | NA | 188 | AI |
| MP-1B | 6/22/2011 | 10:56 | 39.46 | 0 | 10000 | 7910 | 2.5 | 10 | NA | 188 | AI |
| MP-1B | 6/22/2011 | 11:17 | 39.46 | 0.6 | 10000 | 9094 | 2 | 10 | NA | 189 | AI |
| MP-1B | 6/22/2011 | 11:39 | 39.46 | 0.8 | 10000 | 9999 | 3.5 | 10 | NA | 190 | AI |
| MP-1B | 6/22/2011 | 12:06 | 39.46 | 1.3 | 10000 | 9999 | 3 | 10 | NA | 192 | AI |
| MP-1B | 6/22/2011 | 12:34 | 39.46 | 0.4 | 10000 | 8327 | 3.5 | 10 | NA | 196 | AI |
| MP-1B | 6/22/2011 | 13:01 | 39.46 | 1 | 10000 | 9715 | 4 | 10 | NA | 197 | AI |
| MP-1B | 6/22/2011 | 13:36 | 39.46 | 0.9 | 10000 | 9957 | 3 | 10 | NA | 200 | AI |
| MP-1B | 6/22/2011 | 14:12 | 39.46 | 0.3 | 10000 | 9999 | 3 | 10 | NA | 204 | AI |
| MP-1B | 6/22/2011 | 14:43 | 39.46 | 0.3 | 10000 | 8871 | 3.5 | 10 | NA | 203 | AI |
| MP-1B | 6/22/2011 | 15:21 | 39.46 | 0.8 | 10000 | 8987 | 4.5 | 10 | NA | 202 | AI |
| MP-1B | 6/22/2011 | 15:55 | 39.46 | 1.1 | 10000 | 7833 | 4.5 | 10 | NA | 201 | AI |
| MP-1B | 6/22/2011 | 16:47 | 39.46 | 0.6 | 10000 | 7629 | 5 | 10 | NA | 199 | AI |
| MP-1B | 6/23/2011 | 9:18 | 39.46 | 3.6 | 10000 | 9224 | 6 | 13 | NA | 188 | AI |
| MP-1B | 6/23/2011 | 18:58 | 39.46 | 10.3 | 10000 | 9999 | 3.5 | 17 | NA | 182 | AI |
| MP-1B | 6/24/2011 | 9:35 | 39.46 | 10.9 | 10000 | 4882 | 2 | 17 | NA | 184 | AI |
| MP-1B | 6/24/2011 | 16:50 | 39.46 | 18.6 | 6800 | 9999 | 0.5 | 21 | NA | 187 | AI |
| MP-1B | 6/25/2011 | 17:12 | 39.46 | 18.6 | 8650 | 9999 | 0.5 | 20 | NA | 189 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| | | | | | | | | | | | |
| MP-2B | 6/20/11 | 9:01 | 38.24 | 20.5 | 7600 | 9612 | 2 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-2B | 6/20/11 | 9:37 | 38.24 | 2.9 | 10000 | 10000 | 9 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-2B | 6/20/11 | 11:12 | 38.24 | 1 | 10000 | 10000 | 5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-2B | 6/22/2011 | 9:55 | 38.24 | 0.1 | 10000 | 4845 | 4 | 10 | NA | 180 | Baseline - Before AI |
| MP-2B | 6/22/2011 | 10:11 | 38.24 | 0.2 | 10000 | 8044 | 7 | 10 | NA | 184 | AI |
| MP-2B | 6/22/2011 | 10:34 | 38.24 | 0.2 | 10000 | 9327 | 5 | 10 | NA | 188 | AI |
| MP-2B | 6/22/2011 | 10:58 | 38.24 | 1 | 10000 | 6989 | 4 | 10 | NA | 188 | AI |
| MP-2B | 6/22/2011 | 11:19 | 38.24 | 0.6 | 10000 | 6582 | 5 | 10 | NA | 189 | AI |
| MP-2B | 6/22/2011 | 11:41 | 38.24 | 0.8 | 10000 | 8783 | 5.5 | 10 | NA | 190 | AI |
| MP-2B | 6/22/2011 | 12:08 | 38.24 | 0.8 | 10000 | 6494 | 4 | 10 | NA | 192 | AI |
| MP-2B | 6/22/2011 | 12:38 | 38.24 | 1 | 10000 | 7377 | 4 | 10 | NA | 196 | AI |
| MP-2B | 6/22/2011 | 13:05 | 38.24 | 1.4 | 10000 | 7755 | 5 | 10 | NA | 197 | AI |
| MP-2B | 6/22/2011 | 13:39 | 38.24 | 0.8 | 10000 | 9948 | 9 | 10 | NA | 200 | AI |
| MP-2B | 6/22/2011 | 14:14 | 38.24 | 0.5 | 10000 | 9999 | 5.5 | 10 | NA | 204 | AI |
| MP-2B | 6/22/2011 | 14:45 | 38.24 | 0.8 | 10000 | 9378 | 6 | 10 | NA | 203 | AI |
| MP-2B | 6/22/2011 | 15:23 | 38.24 | 1.3 | 10000 | 9016 | 7 | 10 | NA | 202 | AI |
| MP-2B | 6/22/2011 | 15:58 | 38.24 | 2.3 | 10000 | 5388 | 5.5 | 10 | NA | 201 | AI |
| MP-2B | 6/22/2011 | 16:49 | 38.24 | 0.9 | 10000 | 5611 | 6 | 10 | NA | 199 | AI |
| MP-2B | 6/23/2011 | 9:20 | 38.24 | 6.5 | 10000 | 9999 | 7.5 | 13 | NA | 188 | AI |
| MP-2B | 6/23/2011 | 19:02 | 38.24 | 12.9 | 10000 | 9999 | 5 | 17 | NA | 182 | AI |
| MP-2B | 6/24/2011 | 9:38 | 38.24 | 12.5 | 10000 | 4936 | 3.5 | 17 | NA | 184 | AI |
| MP-2B | 6/24/2011 | 16:53 | 38.24 | 19.3 | 5650 | 9999 | 4 | 21 | NA | 187 | AI |
| MP-2B | 6/25/2011 | 17:17 | 38.24 | 19.2 | 7400 | 9999 | 4 | 20 | NA | 189 | AI |
| | | | | | | | | | | | |
| MP-3B | 6/20/11 | 9:20 | 39.66 | 18.1 | 10000 | 4492 | 3.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-3B | 6/20/11 | 9:49 | 39.66 | 0.8 | 10000 | 10000 | 15 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-3B | 6/20/11 | 11:18 | 39.66 | 0.4 | 10000 | 10000 | 14.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-3B | 6/22/2011 | 9:58 | 39.66 | 0 | 10000 | 7736 | 6 | 10 | NA | 180 | Baseline - Before AI |
| MP-3B | 6/22/2011 | 10:12 | 39.66 | 0.1 | 10000 | 9999 | 7.5 | 10 | NA | 184 | AI |
| MP-3B | 6/22/2011 | 10:37 | 39.66 | 0.4 | 10000 | 9999 | 7.5 | 10 | NA | 188 | AI |
| MP-3B | 6/22/2011 | 11:00 | 39.66 | 0.5 | 10000 | 8551 | 7.5 | 10 | NA | 188 | AI |
| MP-3B | 6/22/2011 | 11:21 | 39.66 | 0.5 | 10000 | 8318 | 7 | 10 | NA | 189 | AI |
| MP-3B | 6/22/2011 | 11:43 | 39.66 | 0.3 | 10000 | 9999 | 7.5 | 10 | NA | 190 | AI |
| MP-3B | 6/22/2011 | 12:10 | 39.66 | 0.5 | 10000 | 9999 | 7.5 | 10 | NA | 192 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-3B | 6/22/2011 | 12:43 | 39.66 | 0.5 | 10000 | 9999 | 7.5 | 10 | NA | 196 | AI |
| MP-3B | 6/22/2011 | 13:07 | 39.66 | 0.8 | 10000 | 9996 | 8 | 10 | NA | 197 | AI |
| MP-3B | 6/22/2011 | 13:42 | 39.66 | 1.4 | 10000 | 9996 | 8.5 | 10 | NA | 200 | AI |
| MP-3B | 6/22/2011 | 14:16 | 39.66 | 0.9 | 10000 | 9999 | 9.5 | 10 | NA | 204 | AI |
| MP-3B | 6/22/2011 | 14:47 | 39.66 | 1.3 | 10000 | 9999 | 9.5 | 10 | NA | 203 | AI |
| MP-3B | 6/22/2011 | 15:24 | 39.66 | 1 | 10000 | 9999 | 8.5 | 10 | NA | 202 | AI |
| MP-3B | 6/22/2011 | 16:01 | 39.66 | 0.9 | 10000 | 9977 | 10.5 | 10 | NA | 201 | AI |
| MP-3B | 6/22/2011 | 16:51 | 39.66 | 0.9 | 10000 | 9734 | 9.5 | 13 | NA | 199 | AI |
| MP-3B | 6/23/2011 | 9:22 | 39.66 | 2.9 | 10000 | 9999 | 8.5 | 17 | NA | 188 | AI |
| MP-3B | 6/23/2011 | 19:07 | 39.66 | 2.5 | 10000 | 6804 | 7 | 17 | NA | 182 | AI |
| MP-3B | 6/24/2011 | 9:41 | 39.66 | 1.8 | 10000 | 8541 | 5 | 21 | NA | 184 | AI |
| MP-3B | 6/24/2011 | 16:57 | 39.66 | 16.1 | 10000 | 9999 | 6 | 20 | NA | 187 | AI |
| MP-3B | 6/25/2011 | 17:21 | 39.66 | 16.4 | 10000 | 6804 | 7.5 | 20 | NA | 189 | AI |
| | | | | | | | | | | | |
| MP-4B | 6/20/11 | 9:59 | 26.3 | 0.1 | 10000 | 9880 | 4.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-4B | 6/20/11 | 10:32 | 26.3 | 0.1 | 10000 | 10000 | 6 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-4B | 6/20/11 | 11:59 | 26.3 | 0.9 | 10000 | 10000 | 6 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-4B | 6/22/2011 | 10:00 | 26.3 | 0.2 | 10000 | 8871 | 5 | 10 | NA | 180 | Baseline - Before AI |
| MP-4B | 6/22/2011 | 10:15 | 26.3 | 0 | 10000 | 7338 | 5 | 10 | NA | 184 | AI |
| MP-4B | 6/22/2011 | 10:39 | 26.3 | 0.6 | 10000 | 8657 | 5.5 | 10 | NA | 188 | AI |
| MP-4B | 6/22/2011 | 11:02 | 26.3 | 0.8 | 10000 | 8929 | 5 | 10 | NA | 188 | AI |
| MP-4B | 6/22/2011 | 11:25 | 26.3 | 0.7 | 10000 | 7765 | 7 | 10 | NA | 189 | AI |
| MP-4B | 6/22/2011 | 11:45 | 26.3 | 0.8 | 10000 | 9999 | 5.5 | 10 | NA | 190 | AI |
| MP-4B | 6/22/2011 | 12:12 | 26.3 | 0.5 | 10000 | 9618 | 7 | 10 | NA | 192 | AI |
| MP-4B | 6/22/2011 | 12:46 | 26.3 | 0.3 | 10000 | 9999 | 6 | 10 | NA | 196 | AI |
| MP-4B | 6/22/2011 | 13:09 | 26.3 | 0.4 | 10000 | 9065 | 5.5 | 10 | NA | 197 | AI |
| MP-4B | 6/22/2011 | 13:43 | 26.3 | 2.2 | 10000 | 9999 | 7.5 | 10 | NA | 200 | AI |
| MP-4B | 6/22/2011 | 14:17 | 26.3 | 2 | 10000 | 9999 | 6.5 | 10 | NA | 204 | AI |
| MP-4B | 6/22/2011 | 14:49 | 26.3 | 2.1 | 10000 | 9665 | 8.5 | 10 | NA | 203 | AI |
| MP-4B | 6/22/2011 | 15:26 | 26.3 | 2.8 | 10000 | 6659 | 6.5 | 10 | NA | 202 | AI |
| MP-4B | 6/22/2011 | 16:03 | 26.3 | 2.4 | 10000 | 8221 | 7.5 | 10 | NA | 201 | AI |
| MP-4B | 6/22/2011 | 16:53 | 26.3 | 3 | 10000 | 9414 | 8 | 10 | NA | 199 | AI |
| MP-4B | 6/23/2011 | 9:28 | 26.3 | 17.1 | 10000 | 9999 | 3 | 13 | NA | 188 | AI |
| MP-4B | 6/23/2011 | 19:12 | 26.3 | 18.1 | 10000 | 9999 | 4.5 | 17 | NA | 182 | AI |
| MP-4B | 6/24/2011 | 9:44 | 26.3 | 17.5 | 10000 | 8298 | 3.5 | 17 | NA | 184 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-4B | 6/24/2011 | 17:02 | 26.3 | 20.4 | 2900 | 3940 | 4 | 21 | NA | 187 | AI |
| MP-4B | 6/25/2011 | 17:25 | 26.3 | 20.9 | 1525 | 3049 | 4 | 20 | NA | 189 | AI |
| | | | | | | | | | | | |
| MP-5B | 6/20/11 | 10:24 | 84.63 | 0.4 | 10000 | 10000 | 10 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-5B | 6/20/11 | 11:01 | 84.63 | 0.6 | 10000 | 10000 | 6.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-5B | 6/20/11 | 12:56 | 84.63 | 0.2 | 10000 | 9492 | 10 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-5B | 6/22/2011 | 10:03 | 84.63 | 20.5 | 3550 | 3224 | 0 | 10 | NA | 180 | Baseline - Before AI |
| MP-5B | 6/22/2011 | 10:18 | 84.63 | 18.8 | 10000 | 2215 | 1 | 10 | NA | 184 | AI |
| MP-5B | 6/22/2011 | 10:41 | 84.63 | 14 | 10000 | 3616 | 4 | 10 | NA | 188 | AI |
| MP-5B | 6/22/2011 | 11:04 | 84.63 | 8.8 | 10000 | 4441 | 5 | 10 | NA | 188 | AI |
| MP-5B | 6/22/2011 | 11:27 | 84.63 | 3.1 | 10000 | 7105 | 7.5 | 10 | NA | 189 | AI |
| MP-5B | 6/22/2011 | 11:47 | 84.63 | 1.8 | 10000 | 8327 | 7 | 10 | NA | 190 | AI |
| MP-5B | 6/22/2011 | 12:14 | 84.63 | 1.4 | 10000 | 7270 | 8.5 | 10 | NA | 192 | AI |
| MP-5B | 6/22/2011 | 12:49 | 84.63 | 1.4 | 10000 | 8463 | 8 | 10 | NA | 196 | AI |
| MP-5B | 6/22/2011 | 13:11 | 84.63 | 0.8 | 10000 | 8376 | 7.5 | 10 | NA | 197 | AI |
| MP-5B | 6/22/2011 | 13:44 | 84.63 | 1.3 | 10000 | 9999 | 9.5 | 10 | NA | 200 | AI |
| MP-5B | 6/22/2011 | 14:19 | 84.63 | 1 | 10000 | 9482 | 8 | 10 | NA | 204 | AI |
| MP-5B | 6/22/2011 | 14:50 | 84.63 | 1 | 10000 | 9225 | 9 | 10 | NA | 203 | AI |
| MP-5B | 6/22/2011 | 15:27 | 84.63 | 1.3 | 10000 | 7924 | 7.5 | 10 | NA | 202 | AI |
| MP-5B | 6/22/2011 | 16:05 | 84.63 | 1.7 | 10000 | 8153 | 10 | 10 | NA | 201 | AI |
| MP-5B | 6/22/2011 | 16:55 | 84.63 | 1.3 | 10000 | 6212 | 9.5 | 10 | NA | 199 | AI |
| MP-5B | 6/23/2011 | 9:31 | 84.63 | 2.2 | 10000 | 4211 | 5.5 | 13 | NA | 188 | AI |
| MP-5B | 6/23/2011 | 19:18 | 84.63 | 2.4 | 10000 | 5097 | 5.5 | 17 | NA | 182 | AI - Flow increased to 800 FPM |
| MP-5B | 6/24/2011 | 9:47 | 84.63 | 2 | 10000 | 4655 | 4.5 | 17 | NA | 184 | AI - Flow increased to 900 FPM |
| MP-5B | 6/24/2011 | 17:07 | 84.63 | 3.9 | 10000 | 7348 | 6 | 21 | NA | 187 | AI |
| MP-5B | 6/25/2011 | 17:30 | 84.63 | 5.7 | 10000 | 4257 | 5 | 20 | NA | 189 | AI |
| | | | | | | | | | | | |
| AI-1C | 6/20/11 | 12:44 | 0 | 0.4 | 10000 | 10000 | 8.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| AI-1C | 6/20/11 | 13:20 | 0 | 0.5 | 10000 | 10000 | 7 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| AI-1C | 6/20/11 | 14:47 | 0 | 0.8 | 10000 | 9142 | 7.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| | | | | | | | | | | | |
| VE-1C | 6/17/11 | 13:24 | 42.63 | 1.9 | 10000 | 10000 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| VE-1C | 6/17/11 | 13:55 | 42.63 | 1.5 | 10000 | 10000 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| VE-1C | 6/17/11 | 15:24 | 42.63 | 1.7 | 10000 | 10000 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| VE-1C | 6/27/2011 | 9:40 | 42.63 | 2.8 | 10000 | 5261 | 0 | 0 | NA | 0 | Baseline - Before AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| VE-1C | 6/27/2011 | 10:30 | 42.63 | 20.9 | 2125 | 1840 | 0 | 14 | NA | 160 | AI |
| VE-1C | 6/27/2011 | 11:35 | 42.63 | 18.9 | 10000 | 1217 | 0 | 14 | NA | 198 | AI |
| VE-1C | 6/27/2011 | 12:07 | 42.63 | 3.7 | 10000 | 7246 | 0 | 14 | NA | 198 | AI |
| VE-1C | 6/27/2011 | 12:40 | 42.63 | 1.7 | 10000 | 9999 | 2.5 | 14 | NA | 199 | AI |
| VE-1C | 6/27/2011 | 13:11 | 42.63 | 2.5 | 10000 | 7205 | 1.5 | 17 | NA | 198 | AI |
| VE-1C | 6/27/2011 | 14:30 | 42.63 | 2 | 10000 | 6740 | 3 | 17 | NA | 198 | AI |
| VE-1C | 6/27/2011 | 15:30 | 42.63 | 1.2 | 10000 | 9999 | 1 | 17 | NA | 197 | AI |
| VE-1C | 6/27/2011 | 16:30 | 42.63 | 0.8 | 10000 | 6962 | 0 | 17 | NA | 196 | AI |
| VE-1C | 6/28/2011 | 9:00 | 42.63 | 1.4 | 10000 | 8005 | 0 | 16 | NA | 180 | AI |
| VE-1C | 6/28/2011 | 17:30 | 42.63 | 2.7 | 10000 | 8936 | 0 | 16 | NA | 190 | AI |
| VE-1C | 6/29/2011 | 9:05 | 42.63 | 13.2 | 10000 | 4615 | 0 | 16 | NA | 180 | AI |
| VE-1C | 6/29/2011 | 15:55 | 42.63 | 12.5 | 10000 | 9999 | 0 | 16 | 0.02 | 189 | AI |
| VE-1C | 6/30/2011 | 8:27 | 42.63 | 13.9 | 10000 | 9493 | 0 | 16 | 0 | 180 | AI |
| VE-1C | 6/30/2011 | 14:45 | 42.63 | 12.1 | 10000 | 9999 | 1 | 16 | 0.02 | 187 | AI |
| VE-1C | 7/1/2011 | 8:32 | 42.63 | 14.3 | 10000 | 9999 | 0 | 16 | 0.02 | 186 | AI |
| | | | | | | | | | | | |
| MP-1C | 6/20/11 | 8:50 | 39.46 | 18.5 | 10000 | 10000 | 3 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-1C | 6/20/11 | 9:16 | 39.46 | 1 | 10000 | 10000 | 4.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-1C | 6/20/11 | 10:42 | 39.46 | 0.1 | 10000 | 10000 | 5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-1C | 6/27/2011 | 9:45 | 39.46 | 7.7 | 10000 | 4577 | 0 | 0 | NA | 0 | Baseline - Before AI |
| MP-1C | 6/27/2011 | 10:35 | 39.46 | 20.9 | 1350 | 2251 | 0 | 14 | NA | 160 | AI |
| MP-1C | 6/27/2011 | 11:39 | 39.46 | 11.2 | 10000 | 2122 | 0 | 14 | NA | 198 | AI |
| MP-1C | 6/27/2011 | 12:12 | 39.46 | 3.1 | 10000 | 6148 | 0 | 14 | NA | 198 | AI |
| MP-1C | 6/27/2011 | 12:43 | 39.46 | 1.5 | 10000 | 9999 | 3 | 14 | NA | 199 | AI |
| MP-1C | 6/27/2011 | 13:14 | 39.46 | 1.5 | 10000 | 9776 | 3.5 | 17 | NA | 198 | AI |
| MP-1C | 6/27/2011 | 14:33 | 39.46 | 0.9 | 10000 | 9999 | 1 | 17 | NA | 198 | AI |
| MP-1C | 6/27/2011 | 15:33 | 39.46 | 1.7 | 10000 | 9999 | 1 | 17 | NA | 197 | AI |
| MP-1C | 6/27/2011 | 16:33 | 39.46 | 1.4 | 10000 | 6962 | 0 | 17 | NA | 196 | AI |
| MP-1C | 6/28/2011 | 9:04 | 39.46 | 1.7 | 10000 | 9999 | 0 | 16 | NA | 180 | AI |
| MP-1C | 6/28/2011 | 17:34 | 39.46 | 1 | 10000 | 6570 | 0 | 16 | NA | 190 | AI |
| MP-1C | 6/29/2011 | 9:10 | 39.46 | 2.2 | 10000 | 7671 | 0 | 16 | NA | 180 | AI |
| MP-1C | 6/29/2011 | 15:59 | 39.46 | 3.4 | 10000 | 9999 | 0 | 16 | 0.02 | 189 | AI |
| MP-1C | 6/30/2011 | 8:30 | 39.46 | 14.2 | 10000 | 9999 | 0 | 16 | 0 | 180 | AI |
| MP-1C | 6/30/2011 | 14:48 | 39.46 | 13.7 | 10000 | 9999 | 3.5 | 16 | 0.02 | 187 | AI |
| MP-1C | 7/1/2011 | 8:35 | 39.46 | 14.4 | 10000 | 9999 | 0 | 16 | 0.01 | 186 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| | | | | | | | | | | | |
| MP-2C | 6/20/11 | 9:05 | 38.24 | 0.4 | 10000 | 10000 | 3.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-2C | 6/20/11 | 9:40 | 38.24 | 0.4 | 10000 | 10000 | 6 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-2C | 6/20/11 | 11:13 | 38.24 | 0.9 | 10000 | 10000 | 5.5 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-2C | 6/27/2011 | 9:50 | 38.24 | 2.9 | 10000 | 8919 | 0 | 0 | NA | 0 | Baseline - Before AI |
| MP-2C | 6/27/2011 | 10:40 | 38.24 | 20.9 | 1725 | 1939 | 0 | 14 | NA | 160 | AI |
| MP-2C | 6/27/2011 | 11:43 | 38.24 | 4.7 | 10000 | 6184 | 0 | 14 | NA | 198 | AI |
| MP-2C | 6/27/2011 | 12:15 | 38.24 | 3.2 | 10000 | 9999 | 1 | 14 | NA | 198 | AI |
| MP-2C | 6/27/2011 | 12:46 | 38.24 | 2.2 | 10000 | 9999 | 3 | 14 | NA | 199 | AI |
| MP-2C | 6/27/2011 | 13:17 | 38.24 | 2.1 | 10000 | 9999 | 3.5 | 17 | NA | 198 | AI |
| MP-2C | 6/27/2011 | 14:36 | 38.24 | 0.7 | 10000 | 9999 | 3 | 17 | NA | 198 | AI |
| MP-2C | 6/27/2011 | 15:37 | 38.24 | 1.7 | 10000 | 9999 | 2.5 | 17 | NA | 197 | AI |
| MP-2C | 6/27/2011 | 16:36 | 38.24 | 0.7 | 10000 | 9999 | 2.5 | 17 | NA | 196 | AI |
| MP-2C | 6/28/2011 | 9:08 | 38.24 | 0.1 | 10000 | 9999 | 0 | 16 | NA | 180 | AI |
| MP-2C | 6/28/2011 | 17:38 | 38.24 | 2.8 | 10000 | 9999 | 0 | 16 | NA | 190 | AI |
| MP-2C | 6/29/2011 | 9:15 | 38.24 | 3.2 | 10000 | 7023 | 0 | 16 | NA | 180 | AI |
| MP-2C | 6/29/2011 | 16:03 | 38.24 | 3.3 | 10000 | 8400 | 0 | 16 | 0.015 | 189 | AI |
| MP-2C | 6/30/2011 | 8:34 | 38.24 | 16.7 | 10000 | 9999 | 0 | 16 | 0 | 180 | AI |
| MP-2C | 6/30/2011 | 14:51 | 38.24 | 16.8 | 10000 | 9999 | 3.5 | 16 | 0.02 | 187 | AI |
| MP-2C | 7/1/2011 | 8:38 | 38.24 | 17.3 | 10000 | 9999 | 0 | 16 | 0.01 | 186 | AI |
| | | | | | | | | | | | |
| MP-3C | 6/20/11 | 9:22 | 39.66 | 0.5 | 10000 | 10000 | 5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-3C | 6/20/11 | 9:50 | 39.66 | 0.4 | 10000 | 10000 | 10 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-3C | 6/20/11 | 11:20 | 39.66 | 1.5 | 10000 | 10000 | 8 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-3C | 6/27/2011 | 9:54 | 39.66 | 0.5 | 10000 | 7056 | 2 | 0 | NA | 0 | Baseline - Before AI |
| MP-3C | 6/27/2011 | 10:47 | 39.66 | 20.9 | 2775 | 1709 | 0 | 14 | NA | 160 | AI |
| MP-3C | 6/27/2011 | 11:47 | 39.66 | 4.1 | 10000 | 4870 | 0 | 14 | NA | 198 | AI |
| MP-3C | 6/27/2011 | 12:18 | 39.66 | 1.8 | 10000 | 9432 | 3.5 | 14 | NA | 198 | AI |
| MP-3C | 6/27/2011 | 12:49 | 39.66 | 1.5 | 10000 | 8653 | 3 | 14 | NA | 199 | AI |
| MP-3C | 6/27/2011 | 13:20 | 39.66 | 1.1 | 10000 | 9999 | 5 | 17 | NA | 198 | AI |
| MP-3C | 6/27/2011 | 14:39 | 39.66 | 0.6 | 10000 | 9999 | 3 | 17 | NA | 198 | AI |
| MP-3C | 6/27/2011 | 15:40 | 39.66 | 1.7 | 10000 | 9999 | 3.5 | 17 | NA | 197 | AI |
| MP-3C | 6/27/2011 | 16:39 | 39.66 | 1.4 | 10000 | 9999 | 3.5 | 17 | NA | 196 | AI |
| MP-3C | 6/28/2011 | 9:12 | 39.66 | 3.2 | 10000 | 7995 | 0 | 16 | NA | 180 | AI |
| MP-3C | 6/28/2011 | 17:42 | 39.66 | 3.3 | 10000 | 8956 | 0 | 16 | NA | 190 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-3C | 6/29/2011 | 9:21 | 39.66 | 3.6 | 10000 | 6829 | 0 | 16 | NA | 180 | AI |
| MP-3C | 6/29/2011 | 16:07 | 39.66 | 3.1 | 10000 | 9139 | 4 | 16 | 0.015 | 189 | AI |
| MP-3C | 6/30/2011 | 8:39 | 39.66 | 7.3 | 10000 | 9999 | 0 | 16 | 0 | 180 | AI |
| MP-3C | 6/30/2011 | 14:54 | 39.66 | 10.2 | 10000 | 9898 | 4 | 16 | 0.01 | 187 | AI |
| MP-3C | 7/1/2011 | 8:41 | 39.66 | 13.9 | 10000 | 9999 | 0 | 16 | 0.01 | 186 | AI |
| | | | | | | | | | | | |
| MP-4C | 6/20/11 | 10:03 | 26.3 | 0.4 | 10000 | 10000 | 3.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-4C | 6/20/11 | 10:34 | 26.3 | 0.5 | 10000 | 10000 | 4.5 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-4C | 6/20/11 | 12:00 | 26.3 | 0.4 | 10000 | 10000 | 4 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-4C | 6/27/2011 | 10:02 | 26.3 | 9.4 | 10000 | 5538 | 0 | 0 | NA | 0 | Baseline - Before AI |
| MP-4C | 6/27/2011 | 10:49 | 26.3 | 20.9 | 1000 | 2982 | 0 | 14 | NA | 160 | AI |
| MP-4C | 6/27/2011 | 11:50 | 26.3 | 1.1 | 10000 | 8318 | 0 | 14 | NA | 198 | AI |
| MP-4C | 6/27/2011 | 12:21 | 26.3 | 3 | 10000 | 9523 | 2.5 | 14 | NA | 198 | AI |
| MP-4C | 6/27/2011 | 12:52 | 26.3 | 4.2 | 10000 | 9716 | 3 | 14 | NA | 199 | AI |
| MP-4C | 6/27/2011 | 13:23 | 26.3 | 6.4 | 10000 | 6841 | 3.5 | 17 | NA | 198 | AI |
| MP-4C | 6/27/2011 | 14:44 | 26.3 | 4.5 | 10000 | 9999 | 3 | 17 | NA | 198 | AI |
| MP-4C | 6/27/2011 | 15:46 | 26.3 | 6.6 | 10000 | 9058 | 1.5 | 17 | NA | 197 | AI |
| MP-4C | 6/27/2011 | 16:44 | 26.3 | 6.1 | 10000 | 9999 | 2.5 | 17 | NA | 196 | AI |
| MP-4C | 6/28/2011 | 9:16 | 26.3 | 6.2 | 10000 | 4571 | 0 | 16 | NA | 180 | AI |
| MP-4C | 6/28/2011 | 17:46 | 26.3 | 5 | 10000 | 6972 | 0 | 16 | NA | 190 | AI |
| MP-4C | 6/29/2011 | 9:26 | 26.3 | 6.2 | 10000 | 4255 | 0 | 16 | NA | 180 | AI |
| MP-4C | 6/29/2011 | 16:11 | 26.3 | 14.9 | 10000 | 4418 | 1 | 16 | 0.015 | 189 | AI |
| MP-4C | 6/30/2011 | 8:44 | 26.3 | 19.9 | 6775 | 6584 | 0 | 16 | 0 | 180 | AI |
| MP-4C | 6/30/2011 | 14:57 | 26.3 | 20.2 | 3250 | 7904 | 0 | 16 | 0.025 | 187 | AI |
| MP-4C | 7/1/2011 | 8:46 | 26.3 | 20.1 | 2900 | 4791 | 0 | 16 | 0.02 | 186 | AI |
| MP-4C | 7/1/2011 | 10:12 | 26.3 | 20.4 | 2400 | 3296 | 0 | 16 | NA | 192 | AI |
| | | | | | | | | | | | |
| MP-5C | 6/20/11 | 10:27 | 84.63 | 0.9 | 10000 | 10000 | 4.5 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-5C | 6/20/11 | 11:02 | 84.63 | 0.1 | 10000 | 10000 | 4 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-5C | 6/20/11 | 12:57 | 84.63 | 0.4 | 10000 | 9996 | 6 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-5C | 6/27/2011 | 10:08 | 84.63 | 8 | 10000 | 5105 | 0 | 0 | NA | 0 | Baseline - Before AI |
| MP-5C | 6/27/2011 | 10:55 | 84.63 | 20.9 | 0 | 1714 | 0 | 14 | NA | 160 | AI |
| MP-5C | 6/27/2011 | 11:53 | 84.63 | 9.6 | 10000 | 3810 | 0 | 14 | NA | 198 | AI |
| MP-5C | 6/27/2011 | 12:24 | 84.63 | 5.7 | 10000 | 9979 | 0 | 14 | NA | 198 | AI |
| MP-5C | 6/27/2011 | 12:55 | 84.63 | 2.8 | 10000 | 9999 | 3 | 14 | NA | 199 | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-5C | 6/27/2011 | 13:26 | 84.63 | 2.5 | 10000 | 8531 | 3 | 17 | NA | 198 | AI |
| MP-5C | 6/27/2011 | 14:47 | 84.63 | 5.3 | 10000 | 9999 | 1 | 17 | NA | 198 | AI |
| MP-5C | 6/27/2011 | 15:46 | 84.63 | 3.6 | 10000 | 9999 | 1.5 | 17 | NA | 197 | AI |
| MP-5C | 6/27/2011 | 16:48 | 84.63 | 4.5 | 10000 | 9999 | 1 | 17 | NA | 196 | AI |
| MP-5C | 6/28/2011 | 9:20 | 84.63 | 3.2 | 10000 | 9098 | 0 | 16 | NA | 180 | AI |
| MP-5C | 6/28/2011 | 17:50 | 84.63 | 6.2 | 10000 | 9999 | 0 | 16 | NA | 190 | AI |
| MP-5C | 6/29/2011 | 9:31 | 84.63 | 3.9 | 10000 | 7630 | 0 | 16 | NA | 180 | AI |
| MP-5C | 6/29/2011 | 16:15 | 84.63 | 12.4 | 10000 | 9999 | 0 | 16 | 0.02 | 189 | AI |
| MP-5C | 6/30/2011 | 8:48 | 84.63 | 4.3 | 10000 | 3839 | 0 | 16 | 0 | 180 | AI |
| MP-5C | 6/30/2011 | 15:00 | 84.63 | 4.8 | 10000 | 7155 | 1 | 16 | 0.02 | 187 | AI |
| MP-5C | 7/1/2011 | 8:50 | 84.63 | 7.8 | 10000 | 6854 | 0 | 16 | 0.02 | 186 | AI |
| | | | | | | | | | | | |
| AI-2A | 7/27/11 | 9:18 | 0 | 1.0 | 10000 | 1820 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| AI-2A | 7/27/11 | 10:14 | 0 | 17.6 | 10000 | 880 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| AI-2A | 7/27/11 | 11:20 | 0 | 7.1 | 10000 | 1557 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| | | | | | | | | | | | |
| VE-2A | 7/27/11 | 8:41 | 50.86 | 20.9 | 4975 | 684 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| VE-2A | 7/27/11 | 10:00 | 50.86 | 20.4 | 9350 | 821 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| VE-2A | 7/27/11 | 10:50 | 50.86 | 13.7 | 10000 | 1016 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| VE-2A | 8/1/11 | 9:21 | 50.86 | 0 | 10000 | 1919 | 0 | 0 | NA | NA | Baseline - Before AI |
| VE-2A | 8/1/11 | 9:44 | 50.86 | 0.5 | 10000 | 1475 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 10:02 | 50.86 | 0.5 | 10000 | 1268 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 10:25 | 50.86 | 0.4 | 10000 | 1610 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 10:46 | 50.86 | 0.9 | 10000 | 1505 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 11:07 | 50.86 | 1.1 | 10000 | 1684 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 11:25 | 50.86 | 0.7 | 10000 | 1819 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 11:47 | 50.86 | 1.1 | 10000 | 1612 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 12:09 | 50.86 | 0.9 | 10000 | 1573 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 12:30 | 50.86 | 0.9 | 10000 | 1461 | 0 | 11 | NA | NA | AI |
| VE-2A | 8/1/11 | 14:06 | 50.86 | 1.1 | 10000 | 1559 | 0 | 22 | NA | NA | AI increased 11->22CFM |
| VE-2A | 8/1/11 | 14:30 | 50.86 | 1.1 | 10000 | 1227 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/1/11 | 15:02 | 50.86 | 1 | 10000 | 1312 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/1/11 | 15:47 | 50.86 | 1 | 10000 | 1809 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/2/11 | 9:29 | 50.86 | 3.1 | 10000 | 1798 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/2/11 | 16:10 | 50.86 | 6.6 | 10000 | 1724 | 0 | 22 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| VE-2A | 8/3/11 | 13:40 | 50.86 | 13.1 | 10000 | 1761 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/3/11 | 18:45 | 50.86 | 13.9 | 10000 | 1852 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/4/11 | 10:40 | 50.86 | 15.4 | 10000 | 2316 | 0 | 22 | NA | NA | AI |
| VE-2A | 8/16/11 | 8:32 | 50.86 | 6.3 | 10000 | 2207 | 0 | 0 | NA | NA | Baseline before VE |
| | | | | | | | | | | | |
| MP-6A | 7/27/11 | 13:52 | 37.32 | 1.2 | 10000 | 1763 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-6A | 7/27/11 | 14:30 | 37.32 | 0.4 | 10000 | 1897 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-6A | 7/27/11 | 15:58 | 37.32 | 0.7 | 10000 | 1888 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-6A | 8/1/11 | 9:08 | 37.32 | 0.7 | 10000 | 1914 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-6A | 8/1/11 | 9:36 | 37.32 | 0.6 | 10000 | 1834 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 9:52 | 37.32 | 0.4 | 10000 | 1519 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 10:14 | 37.32 | 0.7 | 10000 | 1991 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 10:36 | 37.32 | 0.5 | 10000 | 1176 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 10:57 | 37.32 | 0.8 | 10000 | 2016 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 11:17 | 37.32 | 0.3 | 10000 | 1553 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 11:38 | 37.32 | 0.5 | 10000 | 1752 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 11:58 | 37.32 | 1.1 | 10000 | 1676 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 12:19 | 37.32 | 0.6 | 10000 | 1768 | 0 | 11 | NA | NA | AI |
| MP-6A | 8/1/11 | 13:50 | 37.32 | 0.4 | 10000 | 1599 | 0 | 22 | NA | NA | AI increased 11->22CFM |
| MP-6A | 8/1/11 | 14:21 | 37.32 | 0.5 | 10000 | 1706 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/1/11 | 14:52 | 37.32 | 0.5 | 10000 | 1527 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/1/11 | 15:40 | 37.32 | 0.6 | 10000 | 2036 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/2/11 | 9:15 | 37.32 | 8.6 | 10000 | 2219 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/2/11 | 15:42 | 37.32 | 12.1 | 10000 | 1397 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/3/11 | 13:11 | 37.32 | 14.7 | 10000 | 2639 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/3/11 | 18:13 | 37.32 | 16 | 10000 | 2655 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/4/11 | 10:18 | 37.32 | 16.4 | 10000 | 3538 | 0 | 22 | NA | NA | AI |
| MP-6A | 8/16/11 | 8:36 | 37.32 | 7.5 | 10000 | 2419 | 0 | 0 | NA | NA | Baseline before VE |
| | | | | | | | | | | | |
| MP-7A | 7/27/11 | 14:03 | 31.49 | 0 | 10000 | 4318 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-7A | 7/27/11 | 14:38 | 31.49 | 0.3 | 10000 | 4311 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-7A | 7/27/11 | 16:07 | 31.49 | 0.7 | 10000 | 3614 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-7A | 8/1/11 | 9:10 | 31.49 | 0.5 | 10000 | 4416 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-7A | 8/1/11 | 9:37 | 31.49 | 0.4 | 10000 | 3659 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 9:54 | 31.49 | 0.5 | 10000 | 3170 | 0 | 11 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-7A | 8/1/11 | 10:16 | 31.49 | 1.1 | 10000 | 3689 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 10:38 | 31.49 | 1.1 | 10000 | 3529 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 10:59 | 31.49 | 1 | 10000 | 2919 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 11:19 | 31.49 | 1.2 | 10000 | 4181 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 11:40 | 31.49 | 1.1 | 10000 | 4187 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 12:00 | 31.49 | 1.5 | 10000 | 4051 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 12:22 | 31.49 | 1.7 | 10000 | 4236 | 0 | 11 | NA | NA | AI |
| MP-7A | 8/1/11 | 13:53 | 31.49 | 1.4 | 10000 | 4174 | 0 | 22 | NA | NA | AI increased 11->22CFM |
| MP-7A | 8/1/11 | 14:22 | 31.49 | 1.8 | 10000 | 3268 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/1/11 | 14:54 | 31.49 | 1.6 | 10000 | 4028 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/1/11 | 15:41 | 31.49 | 1.2 | 10000 | 3258 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/2/11 | 9:17 | 31.49 | 1.4 | 10000 | 4158 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/2/11 | 15:45 | 31.49 | 2.4 | 10000 | 3790 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/3/11 | 13:14 | 31.49 | 2.1 | 10000 | 4139 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/3/11 | 18:17 | 31.49 | 2.8 | 10000 | 4002 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/4/11 | 10:22 | 31.49 | 3.9 | 10000 | 3389 | 0 | 22 | NA | NA | AI |
| MP-7A | 8/16/11 | 8:39 | 31.49 | 15.1 | 10000 | 4412 | 0 | 0 | NA | NA | Baseline before VE |
| | | | | | | | | | | | |
| MP-8A | 7/27/11 | 14:18 | 28.51 | 0 | 10000 | 1973 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-8A | 7/27/11 | 14:50 | 28.51 | 0 | 10000 | 2509 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-8A | 7/27/11 | 16:17 | 28.51 | 0 | 10000 | 2124 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-8A | 8/1/11 | 9:12 | 28.51 | 0.6 | 10000 | 2913 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-8A | 8/1/11 | 9:38 | 28.51 | 0.3 | 10000 | 2437 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 9:56 | 28.51 | 0.1 | 10000 | 1794 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 10:18 | 28.51 | 0.7 | 10000 | 2219 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 10:40 | 28.51 | 0.6 | 10000 | 2502 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 11:01 | 28.51 | 0.5 | 10000 | 2587 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 11:21 | 28.51 | 0.8 | 10000 | 2339 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 11:41 | 28.51 | 1.1 | 10000 | 2479 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 12:02 | 28.51 | 0.7 | 10000 | 2740 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 12:25 | 28.51 | 0.9 | 10000 | 2713 | 0 | 11 | NA | NA | AI |
| MP-8A | 8/1/11 | 13:56 | 28.51 | 0.8 | 10000 | 2378 | 0 | 22 | NA | NA | AI increased 11->22CFM |
| MP-8A | 8/1/11 | 14:24 | 28.51 | 1 | 10000 | 2714 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/1/11 | 14:56 | 28.51 | 0.6 | 10000 | 2906 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/1/11 | 15:42 | 28.51 | 0.9 | 10000 | 2721 | 0 | 22 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-8A | 8/2/11 | 9:20 | 28.51 | 12.1 | 10000 | 2809 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/2/11 | 15:49 | 28.51 | 14.8 | 10000 | 1801 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/3/11 | 13:18 | 28.51 | 17.9 | 10000 | 2839 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/3/11 | 18:21 | 28.51 | 18.5 | 10000 | 2323 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/4/11 | 10:25 | 28.51 | 18.8 | 10000 | 2290 | 0 | 22 | NA | NA | AI |
| MP-8A | 8/16/11 | 8:43 | 28.51 | 11.2 | 10000 | 1388 | 0 | 0 | NA | NA | Baseline before VE |
| | | | | | | | | | | | |
| MP-9A | 7/27/11 | 15:13 | 34.9 | 5.5 | 10000 | 1820 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-9A | 7/27/11 | 15:48 | 34.9 | 2.2 | 10000 | 2010 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-9A | 7/27/11 | 17:40 | 34.9 | 0 | 10000 | 1485 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-9A | 8/1/11 | 9:14 | 34.9 | 0.9 | 10000 | 1266 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-9A | 8/1/11 | 9:40 | 34.9 | 1.2 | 10000 | 1533 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 9:58 | 34.9 | 0.8 | 10000 | 1584 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 10:20 | 34.9 | 7.5 | 10000 | 1084 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 10:42 | 34.9 | 0.8 | 10000 | 1141 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 11:03 | 34.9 | 0.5 | 10000 | 1603 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 11:22 | 34.9 | 1.2 | 10000 | 1270 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 11:43 | 34.9 | 1 | 10000 | 1156 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 12:05 | 34.9 | 1.2 | 10000 | 1914 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 12:27 | 34.9 | 1 | 10000 | 1656 | 0 | 11 | NA | NA | AI |
| MP-9A | 8/1/11 | 13:58 | 34.9 | 1.3 | 10000 | 1607 | 0 | 22 | NA | NA | AI increased 11->22CFM |
| MP-9A | 8/1/11 | 14:26 | 34.9 | 1.1 | 10000 | 1557 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/1/11 | 14:58 | 34.9 | 1.1 | 10000 | 1616 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/1/11 | 15:44 | 34.9 | 0.8 | 10000 | 1941 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/2/11 | 9:22 | 34.9 | 8.9 | 10000 | 1708 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/2/11 | 15:54 | 34.9 | 4 | 10000 | 1555 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/3/11 | 13:22 | 34.9 | 9.6 | 10000 | 2571 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/3/11 | 18:25 | 34.9 | 11.6 | 10000 | 2029 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/4/11 | 10:29 | 34.9 | 13.5 | 10000 | 1804 | 0 | 22 | NA | NA | AI |
| MP-9A | 8/16/11 | 8:47 | 34.9 | 8.2 | 10000 | 2631 | 0 | 0 | NA | NA | Baseline before VE |
| | | | | | | | | | | | |
| MP-10A | 7/27/11 | 18:06 | 100.8 | 19.3 | 10000 | 1384 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-10A | 7/27/11 | 18:36 | 100.8 | 19.2 | 10000 | 1139 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-10A | 7/27/11 | 19:25 | 100.8 | 3.8 | 10000 | 1634 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-10A | 8/1/11 | 9:17 | 100.8 | 0.5 | 10000 | 999 | 0 | 0 | NA | NA | Baseline - Before AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-10A | 8/1/11 | 9:42 | 100.8 | 0.4 | 10000 | 906 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 10:00 | 100.8 | 0.5 | 10000 | 956 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 10:22 | 100.8 | 0.8 | 10000 | 872 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 10:44 | 100.8 | 1.2 | 10000 | 1399 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 11:05 | 100.8 | 1.4 | 10000 | 1209 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 11:23 | 100.8 | 6.9 | 10000 | 717 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 11:45 | 100.8 | 1.5 | 10000 | 1489 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 12:07 | 100.8 | 1.7 | 10000 | 1522 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 12:29 | 100.8 | 1.2 | 10000 | 1310 | 0 | 11 | NA | NA | AI |
| MP-10A | 8/1/11 | 14:02 | 100.8 | 2.3 | 10000 | 1047 | 0 | 22 | NA | NA | AI increased 11->22CFM |
| MP-10A | 8/1/11 | 14:28 | 100.8 | 1.9 | 10000 | 1301 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/1/11 | 15:06 | 100.8 | 0.8 | 10000 | 1634 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/1/11 | 15:45 | 100.8 | 1.9 | 10000 | 1268 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/2/11 | 9:26 | 100.8 | 1.2 | 10000 | 1408 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/2/11 | 16:02 | 100.8 | 1.7 | 10000 | 1395 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/3/11 | 13:30 | 100.8 | 1.9 | 10000 | 1529 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/3/11 | 18:29 | 100.8 | 1.4 | 10000 | 1754 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/4/11 | 10:33 | 100.8 | 1.9 | 10000 | 1395 | 0 | 22 | NA | NA | AI |
| MP-10A | 8/16/11 | 8:51 | 100.8 | 5.4 | 10000 | 1028 | 0 | 0 | NA | NA | Baseline before VE |
| | | | | | | | | | | | |
| AI-2B | 7/28/11 | 9:32 | 0 | 0.3 | 10000 | 3819 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| AI-2B | 7/28/11 | 10:17 | 0 | 13.1 | 10000 | 2535 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| AI-2B | 7/28/11 | 11:24 | 0 | 14.6 | 10000 | 1075 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| | | | | | | | | | | | |
| VE-2B | 7/28/11 | 8:54 | 50.86 | 5.4 | 10000 | 2580 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| VE-2B | 7/28/11 | 10:03 | 50.86 | 2.1 | 10000 | 1553 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| VE-2B | 7/28/11 | 10:58 | 50.86 | 18.1 | 10000 | 1028 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| VE-2B | 8/4/11 | 11:15 | 50.86 | 2.5 | 10000 | 2722 | 0 | 11 | NA | NA | Baseline - Before AI |
| VE-2B | 8/4/11 | 12:15 | 50.86 | 0.9 | 10000 | 3627 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/4/11 | 12:46 | 50.86 | 2.7 | 10000 | 3496 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/4/11 | 14:00 | 50.86 | 3.2 | 10000 | 3552 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/4/11 | 14:33 | 50.86 | 0.3 | 10000 | 3322 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/4/11 | 15:14 | 50.86 | 0.3 | 10000 | 3653 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/4/11 | 16:00 | 50.86 | 1.2 | 10000 | 2515 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/4/11 | 16:46 | 50.86 | 0.1 | 10000 | 3421 | 0 | 11 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| VE-2B | 8/4/11 | 17:44 | 50.86 | 0.6 | 10000 | 3060 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/5/11 | 9:45 | 50.86 | 2.8 | 10000 | 2558 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/5/11 | 15:05 | 50.86 | 0.4 | 10000 | 2952 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/6/11 | 10:00 | 50.86 | 3.2 | 10000 | 3105 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/8/11 | 10:05 | 50.86 | 3.5 | 10000 | 2727 | 0 | 11 | NA | NA | AI |
| VE-2B | 8/8/11 | 16:55 | 50.86 | 1.5 | 10000 | 2545 | 0 | 11 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-6B | 7/27/11 | 13:52 | 37.32 | 0 | 10000 | 1763 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-6B | 7/27/11 | 14:33 | 37.32 | 0 | 10000 | 3562 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-6B | 7/27/11 | 16:01 | 37.32 | 0.4 | 10000 | 3943 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-6B | 8/4/11 | 11:18 | 37.32 | 0.3 | 10000 | 4161 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-6B | 8/4/11 | 12:19 | 37.32 | 0.5 | 10000 | 3790 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 12:50 | 37.32 | 0.5 | 10000 | 3372 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 14:03 | 37.32 | 0.4 | 10000 | 3731 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 14:37 | 37.32 | 0.8 | 10000 | 3793 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 15:18 | 37.32 | 0.5 | 10000 | 3943 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 16:05 | 37.32 | 1 | 10000 | 2978 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 16:50 | 37.32 | 1 | 10000 | 2959 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/4/11 | 17:48 | 37.32 | 0.8 | 10000 | 2815 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/5/11 | 9:49 | 37.32 | 2.2 | 10000 | 2698 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/5/11 | 15:09 | 37.32 | 1.1 | 10000 | 3271 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/6/11 | 10:05 | 37.32 | 3.4 | 10000 | 3262 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/8/11 | 10:09 | 37.32 | 10.3 | 10000 | 4096 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/8/11 | 16:59 | 37.32 | 11.5 | 10000 | 4513 | 0 | 11 | NA | NA | AI |
| MP-6B | 8/30/11 | 11:33 | 37.32 | 13.3 | 10000 | 4086 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| | | | | | | | | | | | |
| MP-7B | 7/27/11 | 14:07 | 31.49 | 0 | 10000 | 4787 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-7B | 7/27/11 | 14:42 | 31.49 | 0 | 10000 | 3855 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-7B | 7/27/11 | 16:09 | 31.49 | 0 | 10000 | 4862 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-7B | 8/4/11 | 11:22 | 31.49 | 7.2 | 10000 | 4432 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-7B | 8/4/11 | 12:23 | 31.49 | 0.1 | 10000 | 4533 | 0 | 11 | NA | NA | |
| MP-7B | 8/4/11 | 12:56 | 31.49 | 0.5 | 10000 | 4641 | 0 | 11 | NA | NA | |
| MP-7B | 8/4/11 | 14:07 | 31.49 | 0.1 | 10000 | 4350 | 0 | 11 | NA | NA | |
| MP-7B | 8/4/11 | 14:41 | 31.49 | 1 | 10000 | 4601 | 0 | 11 | NA | NA | |
| MP-7B | 8/4/11 | 15:22 | 31.49 | 1.9 | 10000 | 4197 | 0 | 11 | NA | NA | |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-7B | 8/4/11 | 16:11 | 31.49 | 1.7 | 10000 | 4142 | 0 | 11 | NA | NA | |
| MP-7B | 8/4/11 | 16:55 | 31.49 | 1.3 | 10000 | 4152 | 0 | 11 | NA | NA | |
| MP-7B | 8/4/11 | 17:52 | 31.49 | 0.8 | 10000 | 4070 | 0 | 11 | NA | NA | |
| MP-7B | 8/5/11 | 9:54 | 31.49 | 0.4 | 10000 | 3562 | 0 | 11 | NA | NA | |
| MP-7B | 8/5/11 | 15:13 | 31.49 | 0.3 | 10000 | 4122 | 0 | 11 | NA | NA | |
| MP-7B | 8/6/11 | 10:10 | 31.49 | 2.7 | 10000 | 4038 | 0 | 11 | NA | NA | |
| MP-7B | 8/8/11 | 10:13 | 31.49 | 11.2 | 10000 | 2150 | 0 | 11 | NA | NA | |
| MP-7B | 8/8/11 | 17:03 | 31.49 | 12.4 | 10000 | 2333 | 0 | 11 | NA | NA | |
| MP-7B | 8/30/11 | 11:37 | 31.49 | 18.6 | 10000 | 1301 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| | | | | | | | | | | | |
| MP-8B | 7/27/11 | 14:23 | 28.51 | 1.3 | 10000 | 4243 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-8B | 7/27/11 | 14:53 | 28.51 | 0 | 10000 | 4060 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-8B | 7/27/11 | 16:20 | 28.51 | 0.8 | 10000 | 4302 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-8B | 8/4/11 | 11:25 | 28.51 | 2.8 | 10000 | 4422 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-8B | 8/4/11 | 12:27 | 28.51 | 2.3 | 10000 | 4113 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 13:06 | 28.51 | 2.5 | 10000 | 4031 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 14:11 | 28.51 | 2.5 | 10000 | 3567 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 14:46 | 28.51 | 1.9 | 10000 | 4249 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 15:28 | 28.51 | 3.5 | 10000 | 4073 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 16:17 | 28.51 | 0.3 | 10000 | 4885 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 16:59 | 28.51 | 0.5 | 10000 | 4171 | 0 | 11 | NA | NA | |
| MP-8B | 8/4/11 | 17:56 | 28.51 | 0.7 | 10000 | 3565 | 0 | 11 | NA | NA | |
| MP-8B | 8/5/11 | 9:58 | 28.51 | 2.6 | 10000 | 3806 | 0 | 11 | NA | NA | |
| MP-8B | 8/5/11 | 15:18 | 28.51 | 3.3 | 10000 | 3474 | 0 | 11 | NA | NA | |
| MP-8B | 8/6/11 | 10:14 | 28.51 | 10.5 | 10000 | 4158 | 0 | 11 | NA | NA | |
| MP-8B | 8/8/11 | 10:17 | 28.51 | 10.8 | 10000 | 4556 | 0 | 11 | NA | NA | |
| MP-8B | 8/8/11 | 17:07 | 28.51 | 18.8 | 10000 | 3252 | 0 | 11 | NA | NA | |
| MP-8B | 8/30/11 | 11:41 | 28.51 | 14.4 | 10000 | 1535 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| | | | | | | | | | | | |
| MP-9B | 7/27/11 | 15:18 | 34.9 | 0 | 10000 | 3588 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-9B | 7/27/11 | 15:50 | 34.9 | 0.7 | 10000 | 2981 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-9B | 7/27/11 | 17:44 | 34.9 | 0.5 | 10000 | 3610 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-9B | 8/4/11 | 11:29 | 34.9 | 1 | 10000 | 2740 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-9B | 8/4/11 | 12:31 | 34.9 | 1.7 | 10000 | 3151 | 0 | 11 | NA | NA | |
| MP-9B | 8/4/11 | 13:12 | 34.9 | 0.9 | 10000 | 3672 | 0 | 11 | NA | NA | |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-9B | 8/4/11 | 14:15 | 34.9 | 1.7 | 10000 | 3610 | 0 | 11 | NA | NA | |
| MP-9B | 8/4/11 | 14:51 | 34.9 | 1.3 | 10000 | 3082 | 0 | 11 | NA | NA | |
| MP-9B | 8/4/11 | 15:34 | 34.9 | 1.1 | 10000 | 3744 | 0 | 11 | NA | NA | |
| MP-9B | 8/4/11 | 16:21 | 34.9 | 1.4 | 10000 | 2694 | 0 | 11 | NA | NA | |
| MP-9B | 8/4/11 | 17:05 | 34.9 | 1.1 | 10000 | 3434 | 0 | 11 | NA | NA | |
| MP-9B | 8/4/11 | 18:02 | 34.9 | 1.4 | 10000 | 2991 | 0 | 11 | NA | NA | |
| MP-9B | 8/5/11 | 10:02 | 34.9 | 1.2 | 10000 | 2871 | 0 | 11 | NA | NA | |
| MP-9B | 8/5/11 | 15:23 | 34.9 | 1.3 | 10000 | 3262 | 0 | 11 | NA | NA | |
| MP-9B | 8/6/11 | 10:18 | 34.9 | 2.3 | 10000 | 3454 | 0 | 11 | NA | NA | |
| MP-9B | 8/8/11 | 10:21 | 34.9 | 4.8 | 10000 | 2724 | 0 | 11 | NA | NA | |
| MP-9B | 8/8/11 | 17:11 | 34.9 | 7.2 | 10000 | 2274 | 0 | 11 | NA | NA | |
| MP-9B | 8/30/11 | 11:45 | 34.9 | 10.1 | 10000 | 3429 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| | | | | | | | | | | | |
| MP-10B | 7/27/11 | 18:08 | 100.8 | 0.1 | 10000 | 2972 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-10B | 7/27/11 | 18:40 | 100.8 | 1.2 | 10000 | 3369 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-10B | 7/27/11 | 19:28 | 100.8 | 0.7 | 10000 | 3389 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-10B | 8/4/11 | 11:34 | 100.8 | 0.6 | 10000 | 3532 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-10B | 8/4/11 | 12:35 | 100.8 | 0.9 | 10000 | 2835 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 13:20 | 100.8 | 0.7 | 10000 | 2463 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 14:19 | 100.8 | 1 | 10000 | 2369 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 14:56 | 100.8 | 1.1 | 10000 | 3405 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 15:39 | 100.8 | 0.7 | 10000 | 2352 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 16:26 | 100.8 | 0.7 | 10000 | 3327 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 17:11 | 100.8 | 1 | 10000 | 3135 | 0 | 11 | NA | NA | |
| MP-10B | 8/4/11 | 18:08 | 100.8 | 0.9 | 10000 | 2590 | 0 | 11 | NA | NA | |
| MP-10B | 8/5/11 | 10:07 | 100.8 | 1.2 | 10000 | 2355 | 0 | 11 | NA | NA | |
| MP-10B | 8/5/11 | 15:30 | 100.8 | 1.4 | 10000 | 2597 | 0 | 11 | NA | NA | |
| MP-10B | 8/6/11 | 10:22 | 100.8 | 1.4 | 10000 | 2991 | 0 | 11 | NA | NA | |
| MP-10B | 8/8/11 | 10:26 | 100.8 | 1.5 | 10000 | 3425 | 0 | 11 | NA | NA | |
| MP-10B | 8/8/11 | 17:15 | 100.8 | 1.7 | 10000 | 2844 | 0 | 11 | NA | NA | |
| MP-10B | 8/30/11 | 11:49 | 100.8 | 0.8 | 10000 | 3668 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| | | | | | | | | | | | |
| AI-2C | 7/28/11 | 9:46 | 0 | 5.1 | 10000 | 4043 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| AI-2C | 7/28/11 | 10:22 | 0 | 18.7 | 10000 | 1334 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| AI-2C | 7/28/11 | 11:27 | 0 | 14.3 | 10000 | 2326 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| | | | | | | | | | | | |
| VE-2C | 7/28/11 | 9:06 | 50.86 | 6.0 | 10000 | 2851 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| VE-2C | 7/28/11 | 10:07 | 50.86 | 4.3 | 10000 | 510 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| VE-2C | 7/28/11 | 11:02 | 50.86 | 7.9 | 10000 | 3438 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| VE-2C | 8/9/2011 | 9:55 | 50.86 | 3.7 | 10000 | 3715 | 0 | 0 | NA | NA | Baseline - Before AI |
| VE-2C | 8/9/2011 | 11:25 | 50.86 | 4 | 10000 | 3265 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 11:56 | 50.86 | 7.5 | 10000 | 3252 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 12:28 | 50.86 | 4.3 | 10000 | 3503 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 13:37 | 50.86 | 3.3 | 10000 | 4142 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 14:08 | 50.86 | 3.5 | 10000 | 3718 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 14:49 | 50.86 | 2.7 | 10000 | 3418 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 15:31 | 50.86 | 2.8 | 10000 | 3464 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/9/2011 | 16:29 | 50.86 | 2.8 | 10000 | 3568 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/10/2011 | 10:36 | 50.86 | 9.9 | 10000 | 3206 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/10/2011 | 17:51 | 50.86 | 1.1 | 10000 | 3867 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/11/2011 | 9:56 | 50.86 | 3.5 | 10000 | 4158 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/11/2011 | 15:40 | 50.86 | 1.8 | 10000 | 4041 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/12/2011 | 10:31 | 50.86 | 2.3 | 10000 | 4074 | 0 | 11 | NA | NA | AI |
| VE-2C | 8/12/2011 | 17:04 | 50.86 | 2.9 | 10000 | 4372 | 0 | 11 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-6C | 7/27/11 | 13:59 | 37.32 | 0.0 | 10000 | 4527 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-6C | 7/27/11 | 14:36 | 37.32 | 0.0 | 10000 | 4041 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-6C | 7/27/11 | 16:04 | 37.32 | 0.4 | 10000 | 4641 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-6C | 8/9/2011 | 9:45 | 37.32 | 5.8 | 10000 | 2235 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-6C | 8/9/2011 | 11:02 | 37.32 | 9.4 | 10000 | 2026 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 11:35 | 37.32 | 8.3 | 10000 | 1779 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 12:07 | 37.32 | 8 | 10000 | 2215 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 13:15 | 37.32 | 8.3 | 10000 | 2942 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 13:47 | 37.32 | 8.4 | 10000 | 2616 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 14:29 | 37.32 | 8.5 | 10000 | 1998 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 15:08 | 37.32 | 8 | 10000 | 3122 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/9/2011 | 16:07 | 37.32 | 7.5 | 10000 | 3177 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/10/2011 | 10:40 | 37.32 | 8.7 | 10000 | 2590 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/10/2011 | 17:55 | 37.32 | 9 | 10000 | 2039 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/11/2011 | 9:59 | 37.32 | 10.9 | 10000 | 1931 | 0 | 11 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-6C | 8/11/2011 | 15:44 | 37.32 | 10.8 | 10000 | 2295 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/12/2011 | 10:35 | 37.32 | 12.9 | 10000 | 1452 | 0 | 11 | NA | NA | AI |
| MP-6C | 8/12/2011 | 17:09 | 37.32 | 14.2 | 10000 | 1533 | 0 | 11 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-7C | 7/27/11 | 14:13 | 31.49 | 0.0 | 10000 | 2370 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-7C | 7/27/11 | 14:44 | 31.49 | 0.0 | 10000 | 2434 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-7C | 7/27/11 | 16:12 | 31.49 | 0.4 | 1000 | 2564 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-7C | 8/9/2011 | 9:59 | 31.49 | 12.9 | 10000 | 2460 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-7C | 8/9/2011 | 11:07 | 31.49 | 13 | 10000 | 2818 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 11:39 | 31.49 | 12.3 | 10000 | 2822 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 12:11 | 31.49 | 12.6 | 10000 | 2799 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 13:19 | 31.49 | 12.4 | 10000 | 2985 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 13:51 | 31.49 | 11.8 | 10000 | 2655 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 14:33 | 31.49 | 11.7 | 10000 | 2636 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 15:12 | 31.49 | 11.7 | 10000 | 2626 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/9/2011 | 16:11 | 31.49 | 11.6 | 10000 | 2690 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/10/2011 | 10:45 | 31.49 | 11.2 | 10000 | 2362 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/10/2011 | 17:59 | 31.49 | 11 | 10000 | 3237 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/11/2011 | 10:04 | 31.49 | 10.6 | 10000 | 3342 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/11/2011 | 15:48 | 31.49 | 10.4 | 10000 | 2479 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/12/2011 | 10:41 | 31.49 | 10.1 | 10000 | 3402 | 0 | 11 | NA | NA | AI |
| MP-7C | 8/12/2011 | 17:13 | 31.49 | 10.1 | 10000 | 2271 | 0 | 11 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-8C | 7/27/11 | 14:26 | 28.51 | 0.0 | 10000 | 5532 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-8C | 7/27/11 | 14:56 | 28.51 | 0.4 | 10000 | 4895 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-8C | 7/27/11 | 16:24 | 28.51 | 0.4 | 10000 | 5993 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-8C | 8/9/2011 | 10:03 | 28.51 | 9.1 | 10000 | 2290 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-8C | 8/9/2011 | 11:12 | 28.51 | 11.5 | 10000 | 2026 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 11:43 | 28.51 | 10.6 | 10000 | 1445 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 12:15 | 28.51 | 10.5 | 10000 | 2773 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 13:23 | 28.51 | 10.7 | 10000 | 1533 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 13:55 | 28.51 | 10.6 | 10000 | 2642 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 14:37 | 28.51 | 10.8 | 10000 | 1514 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 15:17 | 28.51 | 10.5 | 10000 | 1553 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/9/2011 | 16:15 | 28.51 | 10.6 | 10000 | 2037 | 0 | 11 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-8C | 8/10/2011 | 10:49 | 28.51 | 10.9 | 10000 | 1430 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/10/2011 | 18:03 | 28.51 | 11.8 | 10000 | 1485 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/11/2011 | 10:08 | 28.51 | 14.9 | 10000 | 1911 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/11/2011 | 15:52 | 28.51 | 15.6 | 10000 | 2059 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/12/2011 | 14:46 | 28.51 | 17.2 | 10000 | 2106 | 0 | 11 | NA | NA | AI |
| MP-8C | 8/12/2011 | 17:17 | 28.51 | 17.7 | 10000 | 2271 | 0 | 11 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-9C | 7/27/11 | 15:23 | 34.9 | 0.0 | 10000 | 4406 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-9C | 7/27/11 | 15:53 | 34.9 | 0.1 | 10000 | 4474 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-9C | 7/27/11 | 17:48 | 34.9 | 0.8 | 10000 | 4083 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-9C | 8/9/2011 | 10:07 | 34.9 | 5.2 | 10000 | 3923 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-9C | 8/9/2011 | 11:16 | 34.9 | 8.3 | 10000 | 2434 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 11:47 | 34.9 | 7.1 | 10000 | 2382 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 12:19 | 34.9 | 7 | 10000 | 3780 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 13:28 | 34.9 | 7.7 | 10000 | 3790 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 13:59 | 34.9 | 7.5 | 10000 | 3787 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 14:41 | 34.9 | 7.5 | 10000 | 2430 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 15:22 | 34.9 | 7.3 | 10000 | 2936 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/9/2011 | 16:20 | 34.9 | 6.9 | 10000 | 2929 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/10/2011 | 10:53 | 34.9 | 8.4 | 10000 | 2923 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/10/2011 | 18:07 | 34.9 | 9.1 | 10000 | 3143 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/11/2011 | 10:12 | 34.9 | 11.1 | 10000 | 2874 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/11/2011 | 15:57 | 34.9 | 11.4 | 10000 | 2110 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/12/2011 | 10:50 | 34.9 | 14.4 | 10000 | 1662 | 0 | 11 | NA | NA | AI |
| MP-9C | 8/12/2011 | 17:21 | 34.9 | 15 | 10000 | 1840 | 0 | 11 | NA | NA | AI |
| | | | | | | | | | | | |
| MP-10C | 7/27/11 | 18:10 | 100.8 | 0.0 | 10000 | 4279 | 0 | 0 | NA | NA | Baseline Gas Monitoring - First Purge |
| MP-10C | 7/27/11 | 18:45 | 100.8 | 0.0 | 10000 | 3907 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 30 Min after First Purge |
| MP-10C | 7/27/11 | 19:31 | 100.8 | 0.2 | 10000 | 4474 | 0 | 0 | NA | NA | Baseline Gas Monitoring - 2 Hrs After First Purge |
| MP-10C | 8/9/2011 | 10:11 | 100.8 | 0.3 | 10000 | 4011 | 0 | 0 | NA | NA | Baseline - Before AI |
| MP-10C | 8/9/2011 | 11:20 | 100.8 | 4 | 10000 | 3584 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/9/2011 | 11:51 | 100.8 | 7.5 | 10000 | 3620 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/9/2011 | 12:23 | 100.8 | 1.5 | 10000 | 3956 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/9/2011 | 13:32 | 100.8 | 1.9 | 10000 | 2925 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/9/2011 | 14:04 | 100.8 | 2.8 | 10000 | 4005 | 0 | 11 | NA | NA | AI |

**Table V**
**Bioventing Field Readings – Air Injection Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to AI-1 (Area 1) / AI-2 (Area 2) (Feet) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-10C | 8/9/2011 | 14:45 | 100.8 | 2.8 | 10000 | 3676 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/9/2011 | 15:26 | 100.8 | 2.8 | 10000 | 3467 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/9/2011 | 16:25 | 100.8 | 2 | 10000 | 3855 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/10/2011 | 10:57 | 100.8 | 1.9 | 10000 | 3731 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/10/2011 | 18:11 | 100.8 | 1.7 | 10000 | 4564 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/11/2011 | 10:17 | 100.8 | 1.9 | 10000 | 4439 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/11/2011 | 16:01 | 100.8 | 1.6 | 10000 | 3948 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/12/2011 | 10:54 | 100.8 | 2.2 | 10000 | 4311 | 0 | 11 | NA | NA | AI |
| MP-10C | 8/12/2011 | 17:26 | 100.8 | 2.1 | 10000 | 4053 | 0 | 11 | NA | NA | AI |

NOTES:

| | |
|---|---|
| | Baseline Gas Monitoring Test |
| | Air Injection Test |
| | Baseline Reading Before Air Injection Test |

CFM - cubic feet per minute
in $H_2O$ - inches of water
ppm - parts per million
NA - Information not available

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-1A | 7/5/11 | 9:46 | 8650 | 20.7 | 10000 | 1947 | 0 | 11 | NA | NA | Baseline - Before AI/VE |
| MP-1A | 7/5/11 | 10:27 | 22250 | 19.5 | 10000 | 627 | 0 | 11 | NA | NA | AI/VE Start - Steady State |
| MP-1A | 7/5/11 | 11:06 | 50250 | 17.9 | 10000 | 562 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 11:37 | 50250 | 17.3 | 10000 | 506 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 12:23 | 50250 | 16.6 | 10000 | 528 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 12:50 | 50250 | 16.3 | 10000 | 569 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 14:08 | 50250 | 13.1 | 10000 | 1063 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 14:40 | 50250 | 11.2 | 10000 | 1468 | 1 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 15:09 | 50250 | 10.8 | 10000 | 1818 | 2 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/5/11 | 15:40 | 50250 | 11.3 | 10000 | 1432 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/6/11 | 9:37 | 50250 | 10.3 | 10000 | 1584 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/6/11 | 14:13 | 14250 | 17.5 | 10000 | 1539 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/7/11 | 10:15 | 14750 | 17.5 | 10000 | 1083 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/7/11 | 17:50 | 50250 | 16.2 | 10000 | 669 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/8/11 | 11:54 | 50250 | 12.3 | 10000 | 753 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/8/11 | 17:30 | 50250 | 12.9 | 10000 | 1034 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/11/11 | 9:49 | 50250 | 13 | 10000 | 1150 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/11/11 | 11:10 | 50250 | 13.7 | 10000 | 1202 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-1A | 7/11/11 | 11:13 | 4800 | 20.5 | 7350 | 345 | 0 | 11 | NA | NA | AI/VE - Retest after 1min purge |
| MP-1A | 7/11/11 | 11:45 | 3200 | 20.9 | 725 | 422 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-2A | 7/5/11 | 9:50 | 20000 | 19.1 | 10000 | 1352 | 0 | 11 | NA | NA | Baseline - Before AI/VE |
| MP-2A | 7/5/11 | 10:30 | 3650 | 20.9 | 2550 | 933 | 0 | 11 | NA | NA | AI/VE Start |
| MP-2A | 7/5/11 | 11:08 | 16000 | 20.2 | 10000 | 564 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 11:40 | 10250 | 20.9 | 7225 | 436 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 12:25 | 50250 | 17.9 | 10000 | 276 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 12:53 | 50250 | 16.8 | 10000 | 406 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 14:06 | 50250 | 5.1 | 10000 | 2284 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 14:43 | 50250 | 4.3 | 10000 | 2471 | 2.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 15:10 | 50250 | 4 | 10000 | 2228 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/5/11 | 15:42 | 50250 | 4.2 | 10000 | 2168 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/6/11 | 9:40 | 50250 | 6.4 | 10000 | 1652 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/6/11 | 14:15 | 41500 | 17.4 | 10000 | 663 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/7/11 | 10:18 | 40500 | 17.9 | 10000 | 530 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/7/11 | 17:53 | 50250 | 15.3 | 10000 | 1237 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/8/11 | 11:57 | 50250 | 9.9 | 10000 | 2166 | 0 | 11 | NA | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-2A | 7/8/11 | 17:34 | 50250 | 14.4 | 10000 | 1158 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/11/11 | 9:53 | 50250 | 14.5 | 10000 | 1432 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/11/11 | 11:16 | 50250 | 14.9 | 10000 | 1455 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-2A | 7/11/11 | 11:19 | 11000 | 20.4 | 6500 | 285 | 0 | 11 | NA | NA | AI/VE - Retest after 1min purge |
| MP-2A | 7/11/11 | 11:47 | 13250 | 20.2 | 8225 | 361 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-3A | 7/5/11 | 9:52 | 50250 | 17.4 | 10000 | 916 | 0 | 11 | NA | NA | Baseline - Before AI/VE |
| MP-3A | 7/5/11 | 10:32 | 32000 | 19.5 | 10000 | 834 | 0 | 11 | NA | NA | AI/VE Start |
| MP-3A | 7/5/11 | 11:10 | 25000 | 19.8 | 10000 | 674 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 11:43 | 50250 | 16.7 | 10000 | 1131 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 12:27 | 50250 | 16.3 | 10000 | 1158 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 12:55 | 50250 | 14.2 | 10000 | 1189 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 14:04 | 50250 | 5 | 10000 | 1370 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 14:47 | 50250 | 5.8 | 10000 | 1335 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 15:12 | 50250 | 6.8 | 10000 | 1634 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/5/11 | 15:45 | 50250 | 1.9 | 10000 | 1658 | 4.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/6/11 | 9:43 | 50250 | 4.5 | 10000 | 2153 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/6/11 | 14:19 | 50250 | 13.9 | 10000 | 863 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/7/11 | 10:21 | 50250 | 13.4 | 10000 | 1478 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/7/11 | 17:56 | 50250 | 11 | 10000 | 1730 | 2.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/8/11 | 12:01 | 50250 | 6.9 | 10000 | 2007 | 2.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/8/11 | 17:38 | 50250 | 7.5 | 10000 | 2509 | 2.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/11/11 | 9:56 | 50250 | 11.1 | 10000 | 1906 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/11/11 | 11:24 | 50250 | 16.6 | 10000 | 1435 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-3A | 7/11/11 | 11:28 | 50250 | 17.8 | 10000 | 390 | 0 | 11 | NA | NA | AI/VE - Retest after 1min purge |
| MP-3A | 7/11/11 | 11:42 | 50250 | 15 | 10000 | 1040 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-4A | 7/5/11 | 9:56 | 4250 | 20.9 | 1400 | 3295 | 0 | 11 | NA | NA | Baseline - Before AI/VE |
| MP-4A | 7/5/11 | 10:33 | 50250 | 15.5 | 10000 | 1939 | 0 | 11 | NA | NA | AI/VE Start |
| MP-4A | 7/5/11 | 11:12 | 50250 | 17.5 | 10000 | 832 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/5/11 | 11:54 | 50250 | 14.9 | 10000 | 1551 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/5/11 | 12:30 | 50250 | 3.5 | 10000 | 3183 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/5/11 | 12:56 | 50250 | 2.8 | 10000 | 2801 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/5/11 | 14:00 | 50250 | 2.4 | 10000 | 2434 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/5/11 | 14:50 | 50250 | 1.3 | 10000 | 3734 | 5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/5/11 | 15:15 | 50250 | 1.6 | 10000 | 2322 | 5.5 | 11 | NA | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-4A | 7/5/11 | 15:50 | 50250 | 3.3 | 10000 | 1977 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/6/11 | 9:47 | 18250 | 20.7 | 5875 | 1116 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/6/11 | 14:21 | 4600 | 20.9 | 1700 | 1117 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/7/11 | 10:24 | 50250 | 12.1 | 10000 | 1539 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/7/11 | 17:59 | 50250 | 0.9 | 10000 | 5108 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/8/11 | 12:05 | 50250 | 1.3 | 10000 | 3285 | 4.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/8/11 | 17:41 | 50250 | 1.7 | 10000 | 3529 | 2.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/11/11 | 9:59 | 50250 | 1.9 | 10000 | 3099 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/11/11 | 11:32 | 50250 | 2.3 | 10000 | 3820 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4A | 7/11/11 | 11:36 | 50250 | 14.6 | 10000 | 2463 | 0 | 11 | NA | NA | AI/VE - Retest after 1min purge |
| MP-4A | 7/11/11 | 11:55 | 50250 | 2.1 | 10000 | 3705 | 3 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-5A | 7/5/11 | 9:59 | 50250 | 10.7 | 10000 | 3700 | 0 | 11 | NA | NA | Baseline - Before AI/VE |
| MP-5A | 7/5/11 | 10:34 | 26750 | 19.8 | 10000 | 2921 | 0 | 11 | NA | NA | AI/VE Start |
| MP-5A | 7/5/11 | 11:13 | 50250 | 15.6 | 10000 | 2007 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 11:57 | 50250 | 14.2 | 10000 | 1466 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 12:33 | 50250 | 12.8 | 10000 | 1043 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 12:57 | 50250 | 10 | 10000 | 1932 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 14:02 | 50250 | 7 | 10000 | 1627 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 14:52 | 50250 | 5.8 | 10000 | 3674 | 5.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 15:17 | 50250 | 2.3 | 10000 | 4243 | 6.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/5/11 | 15:55 | 50250 | 0.9 | 10000 | 2910 | 4.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/6/11 | 9:50 | 50250 | 14.1 | 10000 | 2138 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/6/11 | 14:25 | 50250 | 13 | 10000 | 556 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/7/11 | 10:27 | 50250 | 15.4 | 10000 | 1106 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/7/11 | 18:03 | 50250 | 5.6 | 10000 | 4513 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/8/11 | 12:09 | 50250 | 6.8 | 10000 | 2694 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/8/11 | 17:45 | 50250 | 6.1 | 10000 | 3943 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/11/11 | 10:03 | 50250 | 12.6 | 10000 | 3340 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/11/11 | 11:40 | 50250 | 16.1 | 10000 | 2339 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-5A | 7/11/11 | 11:42 | 50250 | 15 | 10000 | 1040 | 0 | 11 | NA | NA | AI/VE - Retest after 1min purge |
| MP-5A | 7/11/11 | 11:59 | 50250 | 15 | 10000 | 1581 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-1B | 7/11/2011 | 13:58 | 50250 | 0.8 | 10000 | 9999 | 5 | 11 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/11/2011 | 15:01 | 50250 | 1 | 10000 | 9999 | 5 | 11 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/11/2011 | 16:22 | 50250 | 0.9 | 10000 | 8914 | 5 | 11 | NA | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-1B | 7/11/2011 | 17:00 | 50250 | 1.2 | 10000 | 8066 | 5 | 11 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/12/2011 | 10:11 | 50250 | 1.2 | 10000 | 8652 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/12/2011 | 15:59 | 50250 | 5.2 | 10000 | 5532 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/13/2011 | 8:40 | 50250 | 5.9 | 10000 | 3897 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/13/2011 | 18:16 | 50250 | 6.8 | 10000 | 5616 | 3 | 12 | NA | NA | AI/VE - Steady State |
| MP-1B | 7/14/2011 | 8:47 | 50250 | 6.2 | 10000 | 4839 | 0 | 12 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-2B | 7/11/2011 | 14:02 | 50250 | 2.1 | 10000 | 6464 | 9 | 11 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/11/2011 | 15:05 | 50250 | 3.7 | 10000 | 9999 | 7.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/11/2011 | 16:24 | 50250 | 8.7 | 10000 | 4807 | 5 | 11 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/11/2011 | 17:06 | 50250 | 8.3 | 10000 | 7113 | 5 | 11 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/12/2011 | 10:16 | 50250 | 9.9 | 10000 | 3816 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/12/2011 | 16:05 | 44250 | 12.2 | 10000 | 8737 | 7.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/13/2011 | 8:44 | 10750 | 19 | 10000 | 9999 | 2 | 12 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/13/2011 | 18:19 | 9050 | 19.5 | 10000 | 9999 | 3 | 12 | NA | NA | AI/VE - Steady State |
| MP-2B | 7/14/2011 | 8:50 | 8000 | 19.7 | 9700 | 10000 | 0 | 12 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-3B | 7/11/2011 | 14:06 | 50250 | 1.1 | 10000 | 9999 | 24 | 11 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/11/2011 | 15:10 | 50250 | 2.1 | 10000 | 9999 | 21 | 11 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/11/2011 | 16:26 | 50250 | 2.9 | 10000 | 9999 | 16.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/11/2011 | 17:10 | 50250 | 1.3 | 10000 | 9999 | 17 | 11 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/12/2011 | 10:19 | 50250 | 3.3 | 10000 | 9490 | 8 | 11 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/12/2011 | 16:08 | 50250 | 5.5 | 10000 | 7459 | 9 | 11 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/13/2011 | 8:47 | 25750 | 17.2 | 10000 | 9999 | 8 | 12 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/13/2011 | 18:22 | 23000 | 17.6 | 10000 | 9999 | 11 | 12 | NA | NA | AI/VE - Steady State |
| MP-3B | 7/14/2011 | 8:53 | 12750 | 19.1 | 10000 | 9999 | 5 | 12 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-4B | 7/11/2011 | 14:10 | 50250 | 5.9 | 10000 | 3408 | 6.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/11/2011 | 15:13 | 50250 | 6.6 | 10000 | 3249 | 7.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/11/2011 | 16:32 | 50250 | 5.3 | 10000 | 2597 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/11/2011 | 17:18 | 50250 | 10.3 | 10000 | 4041 | 3.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/12/2011 | 10:23 | 50250 | 16.2 | 10000 | 4458 | 3 | 11 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/12/2011 | 16:18 | 3600 | 19.7 | 10000 | 6457 | 2.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/13/2011 | 8:50 | 2300 | 20.5 | 6550 | 2411 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/13/2011 | 18:30 | 2600 | 20.8 | 5225 | 2841 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4B | 7/14/2011 | 9:02 | 1200 | 20.9 | 3250 | 1380 | 0 | 12 | NA | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| | | | | | | | | | | | |
| MP-5B | 7/11/2011 | 14:14 | 50250 | 1.5 | 10000 | 9999 | 17 | 11 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/11/2011 | 15:17 | 50250 | 2.8 | 10000 | 9999 | 12.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/11/2011 | 16:37 | 50250 | 5.1 | 10000 | 9999 | 9.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/11/2011 | 17:22 | 50250 | 2.7 | 10000 | 9999 | 10 | 11 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/12/2011 | 10:27 | 50250 | 7.1 | 10000 | 9417 | 5.5 | 11 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/12/2011 | 16:22 | 50250 | 2 | 10000 | 6778 | 4 | 11 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/13/2011 | 8:55 | 50250 | 0.5 | 10000 | 6904 | 6 | 12 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/13/2011 | 18:34 | 50250 | 4.4 | 10000 | 8626 | 5.5 | 12 | NA | NA | AI/VE - Steady State |
| MP-5B | 7/14/2011 | 9:05 | 50250 | 0.8 | 10000 | 7184 | 5 | 12 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-1C | 7/14/2011 | 9:13 | 50250 | 0.9 | 10000 | 7225 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-1C | 7/14/2011 | 10:15 | 50250 | 1 | 10000 | 8422 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-1C | 7/14/2011 | 15:59 | 50250 | 1.4 | 10000 | 8205 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-1C | 7/15/2011 | 8:24 | 50250 | 4.1 | 10000 | 9999 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-1C | 7/15/2011 | 17:00 | 30000 | 17.9 | 10000 | 9999 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-1C | 7/18/2011 | 12:37 | 4900 | 20.9 | 2500 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| MP-1C | 7/19/2011 | 10:15 | 3250 | 20.9 | 1950 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| MP-1C | 7/20/2011 | 10:05 | 3200 | 20.9 | 1650 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| | | | | | | | | | | | |
| MP-2C | 7/14/2011 | 9:16 | 50250 | 1.4 | 10000 | 9961 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-2C | 7/14/2011 | 10:17 | 50250 | 1.7 | 10000 | 6747 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-2C | 7/14/2011 | 16:02 | 50250 | 2.4 | 10000 | 9218 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-2C | 7/15/2011 | 8:28 | 50250 | 3.4 | 10000 | 9999 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-2C | 7/15/2011 | 17:03 | 29500 | 18.7 | 10000 | 9999 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-2C | 7/18/2011 | 12:44 | 9750 | 20.9 | 1500 | 9999 | 1.5 | 33 | NA | NA | AI/VE 33CFM |
| MP-2C | 7/19/2011 | 10:19 | 7250 | 20.9 | 1150 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| MP-2C | 7/20/2011 | 10:08 | 6200 | 20.9 | 925 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| | | | | | | | | | | | |
| MP-3C | 7/14/2011 | 9:19 | 50250 | 1.2 | 10000 | 9999 | 2.5 | 12 | NA | NA | AI/VE - Steady State |
| MP-3C | 7/14/2011 | 10:20 | 50250 | 3.9 | 10000 | 8370 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-3C | 7/14/2011 | 16:05 | 50250 | 0 | 10000 | 2312 | 3 | 12 | NA | NA | AI/VE - Steady State |
| MP-3C | 7/15/2011 | 8:32 | 50250 | 0 | 10000 | 8694 | 3 | 12 | NA | NA | AI/VE - Steady State |
| MP-3C | 7/15/2011 | 17:05 | 50250 | 10.6 | 10000 | 9999 | 3 | 12 | NA | NA | AI/VE - Steady State |
| MP-3C | 7/18/2011 | 12:47 | 31500 | 20.4 | 5400 | 9999 | 6 | 33 | NA | NA | AI/VE 33CFM |
| MP-3C | 7/19/2011 | 10:24 | 27500 | 20 | 4200 | 9999 | 4 | 33 | NA | NA | AI/VE 33CFM |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-3C | 7/20/2011 | 10:13 | 23750 | 20.4 | 3300 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| | | | | | | | | | | | |
| MP-4C | 7/14/2011 | 9:22 | 50250 | 4.5 | 10000 | 5061 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4C | 7/14/2011 | 10:28 | 50250 | 8.6 | 10000 | 3285 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4C | 7/14/2011 | 16:10 | 50250 | 7.1 | 10000 | 3408 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4C | 7/15/2011 | 8:38 | 7000 | 20.4 | 6975 | 4170 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4C | 7/15/2011 | 17:08 | 4550 | 20.9 | 2875 | 5229 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-4C | 7/18/2011 | 12:51 | 1550 | 20.9 | 50 | 2525 | 0 | 33 | NA | NA | AI/VE 33CFM |
| MP-4C | 7/19/2011 | 10:30 | 1300 | 20.9 | 100 | 2062 | 0 | 33 | NA | NA | AI/VE 33CFM |
| MP-4C | 7/20/2011 | 10:18 | 960 | 20.9 | 100 | 1868 | 0 | 33 | NA | NA | AI/VE 33CFM |
| | | | | | | | | | | | |
| MP-5C | 7/14/2011 | 9:26 | 50250 | 0.9 | 10000 | 8003 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-5C | 7/14/2011 | 10:32 | 50250 | 0 | 10000 | 8474 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-5C | 7/14/2011 | 16:15 | 50250 | 0.3 | 10000 | 7427 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-5C | 7/15/2011 | 8:41 | 50250 | 1.4 | 10000 | 8045 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-5C | 7/15/2011 | 17:11 | 50250 | 1 | 10000 | 9678 | 0 | 12 | NA | NA | AI/VE - Steady State |
| MP-5C | 7/18/2011 | 12:56 | 50250 | 0.7 | 10000 | 7825 | 1 | 33 | NA | NA | AI/VE 33CFM |
| MP-5C | 7/19/2011 | 10:37 | 50250 | 0 | 10000 | 9999 | 0 | 33 | NA | NA | AI/VE 33CFM |
| MP-5C | 7/20/2011 | 10:23 | 50250 | 0 | 10000 | 8799 | 0 | 33 | NA | NA | AI/VE 33CFM |
| | | | | | | | | | | | |
| MP-6A | 8/16/11 | 8:36 | 50250 | 7.5 | 10000 | 2419 | 0 | 0 | NA | NA | Baseline before VE |
| MP-6A | 8/16/11 | 11:00 | 50250 | 7.7 | 10000 | 2207 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6A | 8/16/11 | 11:32 | 50250 | 8.1 | 10000 | 1976 | 0 | 11 | -0.12 | NA | AI/VE - Steady State |
| MP-6A | 8/16/11 | 12:03 | 50250 | 8.3 | 10000 | 1829 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6A | 8/16/11 | 13:35 | 48000 | 9.8 | 10000 | 3493 | 0 | 11 | -0.4 | NA | AI/VE - Steady State |
| MP-6A | 8/16/11 | 14:14 | 49250 | 10 | 10000 | 3372 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6A | 8/16/11 | 14:46 | 47750 | 10.2 | 10000 | 2270 | 0 | 11 | -0.4 | NA | AI/VE - Steady State |
| MP-6A | 8/16/11 | 15:30 | 46250 | 10.9 | 10000 | 3012 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6A | 8/17/11 | 9:52 | 25750 | 16.2 | 10000 | 3854 | 0 | 11 | -0.18 | NA | AI/VE - Steady State |
| MP-6A | 8/17/11 | 16:59 | 22000 | 17.6 | 10000 | 4469 | 0 | 11 | 0.24 | NA | AI/VE - Steady State |
| MP-6A | 8/18/11 | 10:39 | 19250 | 18.3 | 10000 | 5038 | 0 | 11 | 0.1 | NA | AI/VE - Steady State |
| MP-6A | 8/18/11 | 16:34 | 18000 | 19.2 | 10000 | 6412 | 0 | 11 | 0.38 | NA | AI/VE - Steady State |
| MP-6A | 8/19/11 | 8:47 | 14750 | 19.1 | 10000 | 5482 | 0 | 11 | -0.22 | NA | AI/VE - Steady State |
| MP-6A | 8/19/11 | 15:56 | 14750 | 19.3 | 10000 | 7718 | 0 | 11 | 0.1 | NA | AI/VE - Steady State |
| MP-6A | 8/22/11 | 9:42 | 10250 | 20.1 | 10000 | 7645 | 0 | 11 | -0.28 | NA | AI/VE - Steady State |
| MP-6A | 8/22/11 | 18:11 | 9450 | 20.6 | 10000 | 8942 | 0 | 11 | -0.06 | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-6A | 8/23/11 | 10:32 | 9150 | 20.2 | 8500 | 7580 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-7A | 8/16/11 | 8:39 | 50250 | 15.1 | 10000 | 4412 | 0 | 0 | NA | NA | Baseline before VE |
| MP-7A | 8/16/11 | 11:04 | 50250 | 15.1 | 10000 | 4557 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7A | 8/16/11 | 11:36 | 50250 | 15.2 | 10000 | 4729 | 0 | 11 | -0.32 | NA | AI/VE - Steady State |
| MP-7A | 8/16/11 | 12:07 | 50250 | 15.2 | 10000 | 4251 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7A | 8/16/11 | 13:39 | 50250 | 15.3 | 10000 | 4917 | 0 | 11 | 0.2 | NA | AI/VE - Steady State |
| MP-7A | 8/16/11 | 14:18 | 50250 | 15.5 | 10000 | 3352 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7A | 8/16/11 | 14:50 | 50250 | 16 | 10000 | 5093 | 0 | 11 | 0.3 | NA | AI/VE - Steady State |
| MP-7A | 8/16/11 | 15:34 | 50250 | 16 | 10000 | 4847 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7A | 8/17/11 | 9:56 | 50250 | 15.6 | 10000 | 4177 | 0 | 11 | -0.26 | NA | AI/VE - Steady State |
| MP-7A | 8/17/11 | 17:04 | 50250 | 15.3 | 10000 | 4523 | 0 | 11 | 0.78 | NA | AI/VE - Steady State |
| MP-7A | 8/18/11 | 10:43 | 44250 | 17.5 | 10000 | 1628 | 0 | 11 | 0.04 | NA | AI/VE - Steady State |
| MP-7A | 8/18/11 | 16:38 | 50250 | 16.7 | 10000 | 3136 | 0 | 11 | 0.84 | NA | AI/VE - Steady State |
| MP-7A | 8/19/11 | 8:51 | 50250 | 15.6 | 10000 | 3709 | 0 | 11 | -0.28 | NA | AI/VE - Steady State |
| MP-7A | 8/19/11 | 16:00 | 50250 | 15.3 | 10000 | 2695 | 0 | 11 | 0.66 | NA | AI/VE - Steady State |
| MP-7A | 8/22/11 | 9:46 | 50250 | 14.8 | 10000 | 3884 | 0 | 11 | -0.14 | NA | AI/VE - Steady State |
| MP-7A | 8/22/11 | 18:16 | 50250 | 15 | 10000 | 2786 | 0 | 11 | 0.54 | NA | AI/VE - Steady State |
| MP-7A | 8/23/11 | 10:37 | 50250 | 14.7 | 10000 | 3453 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-8A | 8/16/11 | 8:43 | 35500 | 11.2 | 10000 | 1388 | 0 | 0 | NA | NA | Baseline before VE |
| MP-8A | 8/16/11 | 11:09 | 34500 | 10.8 | 10000 | 1302 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8A | 8/16/11 | 11:40 | 36000 | 11.1 | 10000 | 1343 | 0 | 11 | 0 | NA | AI/VE - Steady State |
| MP-8A | 8/16/11 | 12:11 | 35250 | 11.2 | 10000 | 1440 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8A | 8/16/11 | 13:44 | 32500 | 11.4 | 10000 | 1413 | 0 | 11 | 0.12 | NA | AI/VE - Steady State |
| MP-8A | 8/16/11 | 14:22 | 33750 | 11.2 | 10000 | 1442 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8A | 8/16/11 | 14:54 | 34250 | 11.1 | 10000 | 1352 | 0 | 11 | 0.16 | NA | AI/VE - Steady State |
| MP-8A | 8/16/11 | 15:39 | 34750 | 11 | 10000 | 1619 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8A | 8/17/11 | 10:00 | 18250 | 13.7 | 10000 | 1578 | 0 | 11 | 0.12 | NA | AI/VE - Steady State |
| MP-8A | 8/17/11 | 17:08 | 13500 | 15.7 | 10000 | 1933 | 0 | 11 | 0.52 | NA | AI/VE - Steady State |
| MP-8A | 8/18/11 | 10:48 | 5000 | 18.4 | 10000 | 1313 | 0 | 11 | 0.02 | NA | AI/VE - Steady State |
| MP-8A | 8/18/11 | 16:42 | 4450 | 19.3 | 10000 | 1520 | 0 | 11 | 0.6 | NA | AI/VE - Steady State |
| MP-8A | 8/19/11 | 8:55 | 3400 | 19.9 | 10000 | 1374 | 0 | 11 | 0.03 | NA | AI/VE - Steady State |
| MP-8A | 8/19/11 | 16:04 | 3200 | 20.2 | 10000 | 1467 | 0 | 11 | 0.44 | NA | AI/VE - Steady State |
| MP-8A | 8/22/11 | 9:50 | 3150 | 20.6 | 10000 | 1114 | 0 | 11 | 0.06 | NA | AI/VE - Steady State |
| MP-8A | 8/22/11 | 18:20 | 2750 | 20.9 | 9950 | 1123 | 0 | 11 | 0.34 | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-8A | 8/23/11 | 10:41 | 2850 | 20.2 | 10000 | 1128 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-9A | 8/16/11 | 8:47 | 50250 | 8.2 | 10000 | 2631 | 0 | 0 | NA | NA | Baseline before VE |
| MP-9A | 8/16/11 | 11:14 | 44750 | 9.8 | 10000 | 1791 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9A | 8/16/11 | 11:44 | 48500 | 9.6 | 10000 | 1827 | 0 | 11 | -0.52 | NA | AI/VE - Steady State |
| MP-9A | 8/16/11 | 12:15 | 50250 | 9.6 | 10000 | 1619 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9A | 8/16/11 | 13:48 | 36250 | 10.8 | 10000 | 1840 | 0 | 11 | -0.2 | NA | AI/VE - Steady State |
| MP-9A | 8/16/11 | 14:26 | 45250 | 10 | 10000 | 2503 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9A | 8/16/11 | 14:58 | 42750 | 10.8 | 10000 | 2298 | 0 | 11 | -0.2 | NA | AI/VE - Steady State |
| MP-9A | 8/16/11 | 15:43 | 46000 | 9.8 | 10000 | 1997 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9A | 8/17/11 | 10:05 | 25250 | 11.1 | 10000 | 1825 | 0 | 11 | -0.08 | NA | AI/VE - Steady State |
| MP-9A | 8/17/11 | 17:12 | 45750 | 10.4 | 10000 | 2261 | 0 | 11 | 0.26 | NA | AI/VE - Steady State |
| MP-9A | 8/18/11 | 10:52 | 30250 | 12.3 | 10000 | 2759 | 0 | 11 | 0.02 | NA | AI/VE - Steady State |
| MP-9A | 8/18/11 | 16:48 | 33500 | 13.1 | 10000 | 2810 | 0 | 11 | 0.34 | NA | AI/VE - Steady State |
| MP-9A | 8/19/11 | 8:59 | 28000 | 12 | 10000 | 2860 | 0 | 11 | -0.14 | NA | AI/VE - Steady State |
| MP-9A | 8/19/11 | 16:08 | 27500 | 13.7 | 10000 | 3379 | 0 | 11 | 0.16 | NA | AI/VE - Steady State |
| MP-9A | 8/22/11 | 9:55 | 15250 | 16.2 | 10000 | 3364 | 0 | 11 | -0.16 | NA | AI/VE - Steady State |
| MP-9A | 8/22/11 | 18:24 | 21500 | 16.8 | 10000 | 3949 | 0 | 11 | 0.04 | NA | AI/VE - Steady State |
| MP-9A | 8/23/11 | 10:45 | 10000 | 16 | 10000 | 3480 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-10A | 8/16/11 | 8:51 | 50250 | 5.4 | 10000 | 1028 | 0 | 0 | NA | NA | Baseline before VE |
| MP-10A | 8/16/11 | 11:19 | 50250 | 9.1 | 10000 | 652 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10A | 8/16/11 | 11:49 | 50250 | 8.4 | 10000 | 1397 | 0 | 11 | 0 | NA | AI/VE - Steady State |
| MP-10A | 8/16/11 | 12:21 | 50250 | 8.6 | 10000 | 1354 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10A | 8/16/11 | 13:52 | 50250 | 8.5 | 10000 | 1382 | 0 | 11 | -0.08 | NA | AI/VE - Steady State |
| MP-10A | 8/16/11 | 14:31 | 50250 | 8 | 10000 | 1367 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10A | 8/16/11 | 15:04 | 50250 | 7.2 | 10000 | 1372 | 0 | 11 | -0.1 | NA | AI/VE - Steady State |
| MP-10A | 8/16/11 | 15:48 | 50250 | 6.9 | 10000 | 1433 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10A | 8/17/11 | 10:09 | 11750 | 13.7 | 10000 | 638 | 0 | 11 | -0.1 | NA | AI/VE - Steady State |
| MP-10A | 8/17/11 | 17:16 | 50250 | 15.7 | 10000 | 1157 | 0 | 11 | 0.14 | NA | AI/VE - Steady State |
| MP-10A | 8/18/11 | 10:56 | 19250 | 18.4 | 10000 | 982 | 0 | 11 | 0.04 | NA | AI/VE - Steady State |
| MP-10A | 8/18/11 | 16:53 | 18000 | 19.3 | 10000 | 1655 | 0 | 11 | 0.18 | NA | AI/VE - Steady State |
| MP-10A | 8/19/11 | 9:04 | 14750 | 19.9 | 10000 | 1517 | 0 | 11 | -0.14 | NA | AI/VE - Steady State |
| MP-10A | 8/19/11 | 16:14 | 14750 | 20.2 | 10000 | 1406 | 0 | 11 | 0.1 | NA | AI/VE - Steady State |
| MP-10A | 8/22/11 | 9:59 | 10250 | 10 | 10000 | 540 | 0 | 11 | -0.1 | NA | AI/VE - Steady State |
| MP-10A | 8/22/11 | 18:28 | 9450 | 2.4 | 10000 | 1064 | 0 | 11 | 0.04 | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-10A | 8/23/11 | 10:50 | 18250 | 13.3 | 10000 | 748 | 0 | 11 | NA | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-6B | 8/30/11 | 11:33 | 50250 | 13.3 | 10000 | 4086 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| MP-6B | 8/30/11 | 14:15 | 50250 | 13.8 | 10000 | 4392 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6B | 8/30/11 | 14:55 | 50250 | 13.9 | 10000 | 4301 | 0 | 11 | 0.62 | NA | AI/VE - Steady State |
| MP-6B | 8/30/11 | 15:34 | 50250 | 13.8 | 10000 | 4288 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6B | 8/30/11 | 16:13 | 50250 | 14 | 10000 | 4332 | 0 | 11 | 0.71 | NA | AI/VE - Steady State |
| MP-6B | 8/30/11 | 16:55 | 50250 | 14.3 | 10000 | 4209 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6B | 8/30/11 | 17:35 | 50250 | 14.7 | 10000 | 4242 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6B | 8/30/11 | 18:05 | 50250 | 15.2 | 10000 | 4089 | 0 | 11 | 0.46 | NA | AI/VE - Steady State |
| MP-6B | 8/31/11 | 11:02 | 50250 | 15.9 | 10000 | 2975 | 0 | 11 | -0.14 | NA | AI/VE - Steady State |
| MP-6B | 8/31/11 | 17:08 | 50250 | 16.5 | 10000 | 3753 | 0 | 11 | 0.44 | NA | AI/VE - Steady State |
| MP-6B | 9/1/11 | 8:40 | 43000 | 17.5 | 10000 | 3109 | 0 | 11 | -0.32 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-7B | 8/30/11 | 11:37 | 6050 | 18.6 | 10000 | 1301 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| MP-7B | 8/30/11 | 14:20 | 5550 | 18.8 | 10000 | 1311 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7B | 8/30/11 | 14:59 | 5400 | 18.8 | 10000 | 1282 | 0 | 11 | 0.78 | NA | AI/VE - Steady State |
| MP-7B | 8/30/11 | 15:38 | 4650 | 19 | 10000 | 1099 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7B | 8/30/11 | 16:18 | 3250 | 19.1 | 10000 | 938 | 0 | 11 | 0.86 | NA | AI/VE - Steady State |
| MP-7B | 8/30/11 | 17:00 | 4250 | 19 | 10000 | 1121 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7B | 8/30/11 | 17:39 | 4650 | 18.9 | 10000 | 1132 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7B | 8/30/11 | 18:09 | 4700 | 19.1 | 10000 | 1109 | 0 | 11 | 0.62 | NA | AI/VE - Steady State |
| MP-7B | 8/31/11 | 11:06 | 4050 | 19.1 | 10000 | 1404 | 0 | 11 | -0.04 | NA | AI/VE - Steady State |
| MP-7B | 8/31/11 | 17:12 | 3650 | 19.4 | 10000 | 1266 | 0 | 11 | 0.58 | NA | AI/VE - Steady State |
| MP-7B | 9/1/11 | 8:44 | 3000 | 19.3 | 10000 | 1100 | 0 | 11 | -0.2 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-8B | 8/30/11 | 11:41 | 50250 | 14.4 | 10000 | 1535 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| MP-8B | 8/30/11 | 14:24 | 50250 | 14.8 | 10000 | 1829 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8B | 8/30/11 | 15:03 | 50250 | 14.7 | 10000 | 1745 | 0 | 11 | 0.88 | NA | AI/VE - Steady State |
| MP-8B | 8/30/11 | 15:42 | 50250 | 14.9 | 10000 | 1723 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8B | 8/30/11 | 16:22 | 50250 | 14.9 | 10000 | 1691 | 0 | 11 | 0.96 | NA | AI/VE - Steady State |
| MP-8B | 8/30/11 | 17:04 | 50250 | 14.8 | 10000 | 1605 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8B | 8/30/11 | 17:43 | 50250 | 15 | 10000 | 1596 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8B | 8/30/11 | 18:13 | 50250 | 15.1 | 10000 | 1533 | 0 | 11 | 0.72 | NA | AI/VE - Steady State |
| MP-8B | 8/31/11 | 11:10 | 38000 | 16.2 | 10000 | 1272 | 0 | 11 | 0.06 | NA | AI/VE - Steady State |
| MP-8B | 8/31/11 | 17:16 | 32250 | 16.9 | 10000 | 1392 | 0 | 11 | 0.68 | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-8B | 9/1/11 | 8:48 | 20250 | 18.1 | 10000 | 3059 | 0 | 11 | -0.14 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-9B | 8/30/11 | 11:45 | 50250 | 10.1 | 10000 | 3429 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| MP-9B | 8/30/11 | 14:29 | 50250 | 10.9 | 10000 | 4517 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9B | 8/30/11 | 15:07 | 50250 | 11 | 10000 | 4411 | 0 | 11 | 0.7 | NA | AI/VE - Steady State |
| MP-9B | 8/30/11 | 15:46 | 50250 | 11.1 | 10000 | 4614 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9B | 8/30/11 | 16:26 | 50250 | 11.3 | 10000 | 4762 | 0 | 11 | 0.82 | NA | AI/VE - Steady State |
| MP-9B | 8/30/11 | 17:08 | 50250 | 11.5 | 10000 | 4692 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9B | 8/30/11 | 17:47 | 50250 | 11.5 | 10000 | 4748 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9B | 8/30/11 | 18:17 | 50250 | 11.7 | 10000 | 4759 | 0 | 11 | 0.58 | NA | AI/VE - Steady State |
| MP-9B | 8/31/11 | 11:14 | 50250 | 13.1 | 10000 | 2517 | 0 | 11 | -0.06 | NA | AI/VE - Steady State |
| MP-9B | 8/31/11 | 17:20 | 50250 | 13.4 | 10000 | 2471 | 0 | 11 | 0.52 | NA | AI/VE - Steady State |
| MP-9B | 9/1/11 | 8:52 | 50250 | 13.4 | 10000 | 3059 | 0 | 11 | -0.24 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-10B | 8/30/11 | 11:49 | 50250 | 0.8 | 10000 | 3668 | 0 | 0 | NA | NA | Baseline - Before AI/VE |
| MP-10B | 8/30/11 | 14:34 | 50250 | 1.1 | 10000 | 3416 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10B | 8/30/11 | 15:11 | 50250 | 1.2 | 10000 | 3572 | 0 | 11 | 0.44 | NA | AI/VE - Steady State |
| MP-10B | 8/30/11 | 15:51 | 50250 | 1.2 | 10000 | 3705 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10B | 8/30/11 | 16:32 | 50250 | 1.5 | 10000 | 3911 | 0 | 11 | 0.58 | NA | AI/VE - Steady State |
| MP-10B | 8/30/11 | 17:13 | 50250 | 1.2 | 10000 | 3875 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10B | 8/30/11 | 17:51 | 50250 | 1.2 | 10000 | 3904 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10B | 8/30/11 | 18:21 | 50250 | 1.1 | 10000 | 3894 | 0 | 11 | 0.4 | NA | AI/VE - Steady State |
| MP-10B | 8/31/11 | 11:19 | 50250 | 2 | 10000 | 2315 | 0 | 11 | 0.12 | NA | AI/VE - Steady State |
| MP-10B | 8/31/11 | 17:24 | 50250 | 1.8 | 10000 | 2365 | 0 | 11 | 0.38 | NA | AI/VE - Steady State |
| MP-10B | 9/1/11 | 8:57 | 50250 | 1.7 | 10000 | 2426 | 0 | 11 | -0.32 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-6C | 8/25/2011 | 10:56 | 50250 | 4.6 | 10000 | 3258 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 11:36 | 50250 | 4.3 | 10000 | 3237 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 12:30 | 50250 | 4.7 | 10000 | 1999 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 14:22 | 50250 | 5 | 10000 | 2941 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 15:24 | 50250 | 5.5 | 10000 | 2541 | 0 | 11 | 0.76 | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 16:25 | 50250 | 5.4 | 10000 | 2793 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 17:10 | 50250 | 5.6 | 10000 | 2466 | 0 | 11 | 0.82 | NA | AI/VE - Steady State |
| MP-6C | 8/25/2011 | 18:07 | 50250 | 5.6 | 10000 | 2644 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-6C | 8/26/2011 | 10:38 | 50250 | 8 | 10000 | 1680 | 0 | 11 | -0.12 | NA | AI/VE - Steady State |
| MP-6C | 8/26/2011 | 16:19 | 50250 | 7.8 | 10000 | 1345 | 0 | 11 | 0.66 | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-6C | 8/29/2011 | 11:36 | 7550 | 18.8 | 10000 | 1105 | 0 | 11 | 0.18 | NA | AI/VE - Steady State |
| MP-6C | 8/29/2011 | 19:15 | 7700 | 19.1 | 10000 | 1032 | 0 | 11 | 0.28 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-7C | 8/25/2011 | 11:01 | 8200 | 18.3 | 10000 | 4194 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 11:40 | 8100 | 18.4 | 10000 | 4305 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 12:35 | 8200 | 18.4 | 10000 | 4369 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 14:30 | 5600 | 19 | 10000 | 4305 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 15:29 | 7750 | 18.5 | 10000 | 4180 | 0 | 11 | 0.26 | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 16:30 | 8100 | 18.5 | 10000 | 4271 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 17:14 | 7800 | 18.6 | 10000 | 4156 | 0 | 11 | 0.32 | NA | AI/VE - Steady State |
| MP-7C | 8/25/2011 | 18:10 | 7790 | 18.7 | 10000 | 4199 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-7C | 8/26/2011 | 10:41 | 7450 | 17.8 | 10000 | 4082 | 0 | 11 | -0.24 | NA | AI/VE - Steady State |
| MP-7C | 8/26/2011 | 16:24 | 8200 | 17.6 | 10000 | 4239 | 0 | 11 | 0.28 | NA | AI/VE - Steady State |
| MP-7C | 8/29/2011 | 11:40 | 10000 | 16.7 | 10000 | 3975 | 0 | 11 | 0.12 | NA | AI/VE - Steady State |
| MP-7C | 8/29/2011 | 19:19 | 9150 | 17 | 10000 | 3753 | 0 | 11 | 0.8 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-8C | 8/25/2011 | 11:05 | 50250 | 5.4 | 10000 | 1291 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 11:45 | 50250 | 5.6 | 10000 | 1757 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 12:40 | 50250 | 4.6 | 10000 | 1711 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 14:34 | 50250 | 6 | 10000 | 1277 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 15:34 | 50250 | 5.4 | 10000 | 1598 | 0 | 11 | 0.82 | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 16:35 | 50250 | 5.8 | 10000 | 1521 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 17:18 | 50250 | 5.8 | 10000 | 1673 | 0 | 11 | 0.82 | NA | AI/VE - Steady State |
| MP-8C | 8/25/2011 | 18:13 | 50250 | 5.7 | 10000 | 1627 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-8C | 8/26/2011 | 10:46 | 50250 | 7.5 | 10000 | 970 | 0 | 11 | -0.2 | NA | AI/VE - Steady State |
| MP-8C | 8/26/2011 | 16:29 | 50250 | 8.8 | 10000 | 859 | 0 | 11 | 0.72 | NA | AI/VE - Steady State |
| MP-8C | 8/29/2011 | 11:44 | 2800 | 19.6 | 10000 | 903 | 0 | 11 | 0.24 | NA | AI/VE - Steady State |
| MP-8C | 8/29/2011 | 19:23 | 2600 | 19.9 | 10000 | 793 | 0 | 11 | 0.32 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-9C | 8/25/2011 | 11:10 | 50250 | 3.8 | 10000 | 3968 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9C | 8/25/2011 | 11:50 | 50250 | 3.9 | 10000 | 3887 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9C | 8/25/2011 | 12:45 | 50250 | 3.8 | 10000 | 3598 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9C | 8/25/2011 | 14:39 | 50250 | 5.4 | 10000 | 3274 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9C | 8/25/2011 | 15:39 | 50250 | 4.6 | 10000 | 3436 | 0 | 11 | 0.78 | NA | AI/VE - Steady State |
| MP-9C | 8/25/2011 | 16:40 | 50250 | 5 | 10000 | 2308 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9C | 8/25/2011 | 17:23 | 50250 | 5 | 10000 | 3066 | 0 | 11 | 0.86 | NA | AI/VE - Steady State |

**Table VI**
**Bioventing Field Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (CFM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
| MP-9C | 8/25/2011 | 18:17 | 50250 | 4.8 | 10000 | 2712 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-9C | 8/26/2011 | 10:50 | 50250 | 6.4 | 10000 | 1773 | 0 | 11 | -0.22 | NA | AI/VE - Steady State |
| MP-9C | 8/26/2011 | 16:35 | 50250 | 7.4 | 10000 | 1689 | 0 | 11 | 0.68 | NA | AI/VE - Steady State |
| MP-9C | 8/29/2011 | 11:48 | 4050 | 19.1 | 10000 | 1173 | 0 | 11 | 0.2 | NA | AI/VE - Steady State |
| MP-9C | 8/29/2011 | 19:27 | 3400 | 19.4 | 10000 | 1098 | 0 | 11 | 0.3 | NA | AI/VE - Steady State |
| | | | | | | | | | | | |
| MP-10C | 8/25/2011 | 11:15 | 50250 | 1.2 | 10000 | 4426 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 11:55 | 50250 | 3 | 10000 | 4564 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 12:50 | 50250 | 0 | 10000 | 4032 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 14:45 | 50250 | 0.3 | 10000 | 4897 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 15:45 | 50250 | 0.8 | 10000 | 4335 | 0 | 11 | 0.6 | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 16:45 | 50250 | 0.3 | 10000 | 5017 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 17:27 | 50250 | 0.6 | 10000 | 4554 | 0 | 11 | 0.7 | NA | AI/VE - Steady State |
| MP-10C | 8/25/2011 | 18:22 | 50250 | 0.7 | 10000 | 4418 | 0 | 11 | NA | NA | AI/VE - Steady State |
| MP-10C | 8/26/2011 | 10:54 | 50250 | 0.9 | 10000 | 4422 | 0 | 11 | -0.3 | NA | AI/VE - Steady State |
| MP-10C | 8/26/2011 | 16:41 | 50250 | 1.3 | 10000 | 4513 | 0 | 11 | 0.56 | NA | AI/VE - Steady State |
| MP-10C | 8/29/2011 | 11:52 | 50250 | 1 | 10000 | 4348 | 0 | 11 | 0.14 | NA | AI/VE - Steady State |
| MP-10C | 8/29/2011 | 19:31 | 50250 | 1.1 | 10000 | 4247 | 0 | 11 | 0.24 | NA | AI/VE - Steady State |

NOTES:

Baseline Reading

Air Injection/Vapor Extraction Test (Push-Pull)

CFM - cubic feet per minute
in $H_2O$ - inches of water
ppm - parts per million
NA - Information not available

**Table VII**
**Bioventing System Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| System Pilot-Test Monitoring Data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Area | Zone | Date | Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | Comments |
| 1 | A | 7/5/2011 | 10:10 | - | 785 | 999 | 3 | 183 | 11 | |
| 1 | A | 7/6/2011 | 9:40 | 11.6 | 662 | 840 | 2 | 198 | 12 | |
| 1 | A | 7/6/2011 | 14:00 | 16.3 | 650 | 805 | 2 | 204 | 11 | |
| 1 | A | 7/7/2011 | 9:45 | 35.8 | 671 | 748 | 2 | 200 | 11.5 | |
| 1 | A | 7/7/2011 | 17:30 | 43.7 | 690 | 760 | 2 | 200 | 11.5 | |
| 1 | A | 7/8/2011 | 11:32 | 61.5 | 683 | 731 | 2 | 201 | 11.1 | |
| 1 | A | 7/8/2011 | 17:47 | 67.7 | 644 | 749 | 2 | 200 | 11.5 | |
| 1 | A | 7/11/2011 | 9:32 | 131.6 | 640 | 710 | 0 | 188 | 12.5 | |
| 1 | B | 7/11/2011 | 12:09 | 134.2 | 640 | 713 | 0.5 | OFF | OFF | |
| 1 | B | 7/12/2011 | 10:59 | 141.3 | 661 | 935 | 0 | 192 | 9 | |
| 1 | B | 7/12/2011 | 15:42 | 146 | 645 | 872 | 0 | 200 | 11 | |
| 1 | B | 7/13/2011 | 8:23 | 162.6 | 660 | 775 | 0 | 188 | 12.5 | |
| 1 | B | 7/13/2011 | 17:49 | 172.1 | 638 | 852 | 0 | 192 | 12.1 | |
| 1 | B | 7/14/2011 | 8:28 | 186.8 | 650 | 791 | 0 | 187 | 12.4 | |
| 1 | C | 7/14/2011 | 10:41 | 189.1 | 649 | 988 | 0 | 188 | 11.8 | |
| 1 | C | 7/14/2011 | 15:38 | 192.9 | 658 | 989 | 0 | 194 | 11.5 | |
| 1 | C | 7/15/2011 | 8:24 | 210 | 681 | 895 | 0 | 182 | 12 | |
| 1 | C | 7/15/2011 | 9:29 | 2108 | 605 | 756 | 0 | 170 | 33 | |
| 1 | C | 7/15/2011 | 16:35 | 217.9 | 597 | 900 | 0 | 180 | 33 | |
| 1 | C | 7/18/2011 | 12:15 | 285.5 | 621 | 779 | 0 | 190 | 33 | |
| 1 | C | 7/19/2011 | 9:45 | 307 | 612 | 756 | 0 | 186 | 33 | |
| 1 | C | 7/20/2011 | 9:34 | 330.9 | 611 | 773 | 0 | 180 | 33 | |
| 2 | A | 8/16/11 | 11:20 | 333.9 | 686 | 975 | 0 | 196 | 11 | |
| 2 | A | 8/16/11 | 15:50 | 338.5 | 645 | 1018 | 0 | 200 | 10.5 | |
| 2 | A | 8/16/11 | 16:22 | 339 | 652 | 933 | 0 | 200 | 10.5 | |
| 2 | A | 8/17/11 | 9:30 | 356.3 | 686 | 828 | 0 | 190 | 11 | |
| 2 | A | 8/17/11 | 4:15 | 363 | 680 | 858 | 0 | 208 | 11 | |
| 2 | A | 8/18/11 | 10:35 | 381.3 | 670 | 843 | 0 | 196 | 11 | |
| 2 | A | 8/18/11 | 16:20 | 387.2 | 658 | 889 | 0 | 203 | 11 | |
| 2 | A | 8/19/11 | 8:21 | 403.2 | 647 | 743 | 0 | 184 | 11 | |
| 2 | A | 8/19/11 | 15:38 | 410.3 | 647 | 892 | 0 | 200 | 11 | |
| 2 | A | 8/22/11 | 9:28 | 476.2 | 695 | 803 | 0 | 190 | 11 | |
| 2 | A | 8/22/11 | 10:09 | 476.8 | 680 | 899 | 0 | 192 | 11 | |
| 2 | A | 8/23/11 | 10:15 | 501 | 675 | 897 | 0 | 198 | 11 | |
| 2 | C | 8/25/11 | 12:04 | 502.9 | 657 | 868 | 0 | 208 | 11 | |
| 2 | C | 8/25/11 | 16:55 | 507.9 | 696 | 892 | 0 | 200 | 10.7 | |
| 2 | C | 8/26/11 | 10:20 | 525.3 | 695 | 821 | 0 | 200 | 11 | |
| 2 | C | 8/26/11 | 15:38 | 530.5 | 656 | 916 | 0 | 210 | 11 | |

**Table VII**
**Bioventing System Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| System Pilot-Test Monitoring Data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Area | Zone | Date | Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | Comments |
| 2 | C | 8/29/11 | 10:10 | 597.1 | 652 | 836 | 0 | 200 | 11 | |
| 2 | C | 8/29/11 | 18:50 | 605.7 | 681 | 806 | 0 | 198 | 11 | |
| 2 | C | 8/30/11 | 13:30 | 607.6 | 663 | 878 | 0 | 200 | 11 | |
| 2 | C | 8/30/11 | 18:25 | 612.5 | 649 | 874 | 0 | 200 | 11 | |
| 2 | B | 8/31/11 | 10:40 | 628.8 | 678 | 812 | 0 | 191 | 11 | |
| 2 | B | 8/31/11 | 16:58 | 635.1 | 641 | 843 | 0 | 200 | 11 | |
| 2 | B | 9/1/11 | 8:20 | 650.4 | 690 | 780 | 0 | 180 | 11 | |

| Catalytic Oxidizer Pilot-Test Monitoring Data (Influent) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Area | Zone | Date | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
| 1 | A | 7/5/2011 | 10:16 | 922 | 50250 | 18.4 | 10000 | 0 | 11 | |
| 1 | A | 7/6/2011 | 9:55 | 1468 | 50250 | 17 | 10000 | 0 | 10.5 | |
| 1 | A | 7/6/2011 | 14:09 | 769 | 50250 | 16.9 | 10000 | 0 | 11.6 | |
| 1 | A | 7/7/2011 | 10:03 | 1509 | 50250 | 17.9 | 10000 | 0 | 15.5 | |
| 1 | A | 7/7/2011 | 17:41 | 1040 | 50250 | 18.5 | 10000 | 0 | 16.3 | |
| 1 | A | 7/8/2011 | 11:37 | 878 | 50250 | 18.7 | 10000 | 0 | 15.4 | |
| 1 | A | 7/8/2011 | 17:27 | 854 | 50250 | 18.9 | 10000 | 0 | 21 | |
| 1 | A | 7/11/2011 | 9:44 | 903 | 36750 | 19.3 | 10000 | 0 | 22.5 | |
| 1 | A | 7/11/2011 | 12:06 | 845 | 40250 | 19.2 | 10000 | 0 | 20.5 | |
| 1 | B | 7/11/2011 | 17:36 | 5197 | 50250 | 2.2 | 10000 | 3 | NA | Adjusting for higher concentrations |
| 1 | B | 7/12/2011 | 10:50 | 9999 | 50250 | 5.5 | 10000 | 0 | 11 | |
| 1 | B | 7/13/2011 | 8:37 | 3684 | 50250 | 8.6 | 10000 | 0 | 6.6 | |
| 1 | B | 7/13/2011 | 18:10 | 3923 | 50250 | 8.5 | 10000 | 0 | 9.3 | |
| 1 | B | 7/14/2011 | 8:42 | 3141 | 50250 | 9.4 | 10000 | 0 | 6.75 | |
| 1 | C | 7/14/2011 | 10:40 | 7532 | 50250 | 2.5 | 10000 | 0 | 8 | |
| 1 | C | 7/14/2011 | 15:56 | 7427 | 50250 | 2.7 | 10000 | 0 | 4.5 | |
| 1 | C | 7/15/2011 | 8:17 | 4918 | 50250 | 6.8 | 10000 | 0 | 3.6 | |
| 1 | C | 7/15/2011 | 16:40 | 5721 | 50250 | 11.2 | 10000 | 0 | 4.75 | |
| 1 | C | 7/18/2011 | 12:27 | 9999 | 30250 | 18.4 | 10000 | 0 | 4.5 | |
| 1 | C | 7/19/2011 | 9:56 | 9999 | 24250 | 18.4 | 10000 | 0 | 4.5 | Flow increased to 6.5 before depart |
| 1 | C | 7/20/2011 | 9:57 | 10000 | 21500 | 18.6 | 10000 | 0 | 8 | |
| | | | | | | | | | | |
| 2 | A | 8/16/11 | 11:25 | 1902 | 50250 | 4.3 | 10000 | 0 | 11 | |
| 2 | A | 8/16/11 | 15:59 | 2211 | 50250 | 4.7 | 10000 | 0 | 13 | |
| 2 | A | 8/17/11 | 9:49 | 1775 | 50250 | 8.4 | 10000 | 0 | 5.6 | |
| 2 | A | 8/17/11 | 4:43 | 1680 | 50250 | 9.2 | 10000 | 0 | 6.1 | |
| 2 | A | 8/18/11 | 10:33 | 1723 | 50250 | 10.5 | 10000 | 0 | 5.5 | |

**Table VII**
**Bioventing System Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Catalytic Oxidizer Pilot-Test Monitoring Data (Influent) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Area | Zone | Date | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
| 2 | A | 8/18/11 | 16:28 | 1492 | 50250 | 10.5 | 10000 | 0 | 6 (10.3) | Flow reduced from 10.3 to 6 CFM |
| 2 | A | 8/19/11 | 10:42 | 2046 | 50250 | 11 | 10000 | 0 | 5.6 (2.4 | Flow increased from 2.4 to 5.6 CFM |
| 2 | A | 8/19/11 | 15:52 | 1763 | 50250 | 10.7 | 10000 | 0 | 8.4 | |
| 2 | A | 8/22/11 | 9:40 | 1494 | 50250 | 11 | 10000 | 0 | 6.5 | |
| 2 | A | 8/22/11 | 17:54 | 1175 | 50250 | 11.1 | 10000 | 0 | 7 | |
| 2 | A | 8/23/11 | 10:25 | 1453 | 50250 | 11.1 | 10000 | 0 | 6.6 | |
| 2 | C | 8/25/11 | 12:18 | 4581 | 50250 | 2.8 | 10000 | 0 | 3.5 | |
| 2 | C | 8/25/11 | 17:11 | 4295 | 50250 | 4 | 10000 | 0 | 4.25 | |
| 2 | C | 8/26/11 | 10:28 | 4325 | 50250 | 3 | 10000 | 0 | 3 | |
| 2 | C | 8/26/11 | 15:43 | 4564 | 50250 | 3.3 | 10000 | 0 | 5.25 | |
| 2 | C | 8/29/11 | 10:35 | 1544 | 50250 | 4.6 | 10000 | 0 | 3.5 | |
| 2 | C | 8/29/11 | 18:49 | 1583 | 50250 | 4.7 | 10000 | 0 | 4.5 | |
| 2 | C | 8/30/11 | 13:48 | 3561 | 50250 | 9.3 | 10000 | 0 | 4.5 | |
| 2 | C | 8/30/11 | 18:31 | 3678 | 50250 | 8.7 | 10000 | 0 | 6 | |
| 2 | B | 8/31/11 | 10:51 | 1838 | 50250 | 8.7 | 10000 | 0 | 3.3 | |
| 2 | B | 8/31/11 | 17:04 | 1911 | 50250 | 9.3 | 10000 | 0 | 3.5 | |
| 2 | B | 9/1/11 | 8:35 | 1195 | 50250 | 9.9 | 10000 | 0 | 3 | |

| Catalytic Oxidizer Pilot-Test Monitoring Data (Effluent) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Area | Zone | Date | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
| 1 | A | 7/5/2011 | 10:13 | 100 | 950 | 20.9 | 200 | 0 | NA | |
| 1 | A | 7/6/2011 | 9:53 | 7 | 9800 | 20.1 | 8500 | 0 | NA | |
| 1 | A | 7/6/2011 | 14:05 | 0 | 8300 | 19.7 | 9500 | 0 | NA | |
| 1 | A | 7/7/2011 | 9:57 | 0 | 8350 | 20.1 | 7650 | 0 | 115 | |
| 1 | A | 7/7/2011 | 17:37 | 0 | 7850 | 20.9 | 6475 | 0 | 107 | |
| 1 | A | 7/8/2011 | 11:44 | 36.6 | 8050 | 20.2 | 6850 | 0 | 109 | |
| 1 | A | 7/8/2011 | 17:24 | 24.2 | 7800 | 20.6 | 6650 | 0 | 105 | |
| 1 | A | 7/11/2011 | 9:40 | 37.9 | 6800 | 20.5 | 5450 | 0 | 96 | |
| 1 | B | 7/12/2011 | 10:41 | 53.7 | 10250 | 18.1 | 10000 | 0 | NA | |
| 1 | B | 7/12/2011 | 15:49 | 66.5 | 13500 | 18.8 | 10000 | 0 | NA | |
| 1 | B | 7/13/2011 | 8:32 | 51.5 | 8600 | 19.7 | 8450 | 0 | NA | |
| 1 | B | 7/13/2011 | 18:05 | 38.3 | 13500 | 19.2 | 10000 | 0 | 137 | |
| 1 | B | 7/14/2011 | 8:36 | 58.4 | 7700 | 20.4 | 7800 | 0 | NA | |
| 1 | C | 7/14/2011 | 10:37 | 297 | 18000 | 18 | 10000 | 0 | NA | |
| 1 | C | 7/14/2011 | 15:45 | 165 | 14000 | 18.4 | 10000 | 0 | NA | |
| 1 | C | 7/15/2011 | 8:14 | 110 | 9450 | 19.4 | 10000 | 0 | 125 | |
| 1 | C | 7/15/2011 | 16:33 | 298 | 8000 | 19.1 | 10000 | 0 | 131 | |
| 1 | C | 7/18/2011 | 12:20 | 338 | 1100 | 20.9 | 2900 | 0 | 140 | |

**Table VII**
**Bioventing System Readings – Air Injection & Vapor Extraction Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Catalytic Oxidizer Pilot-Test Monitoring Data (Effluent) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Area | Zone | Date | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
| 1 | C | 7/19/2011 | 9:51 | 190 | 1150 | 20 | 7025 | 0 | 134 | |
| 1 | C | 7/20/2011 | 9:47 | 268 | 690 | 20.2 | 7350 | 0 | 132 | |
| | | | | | | | | | | |
| 2 | A | 8/16/11 | 11:22 | 62.5 | 7800 | 17.5 | 10000 | 0 | 180 | |
| 2 | A | 8/16/11 | 15:56 | 108 | 9600 | 17.7 | 10000 | 0 | 185 | |
| 2 | A | 8/16/11 | 16:21 | 22.4 | 6050 | 18.6 | 10000 | 0 | 125 | system adjusted for VOC levels |
| 2 | A | 8/17/11 | 9:45 | 30.1 | 5000 | 19.1 | 10000 | 0 | 122 | |
| 2 | A | 8/17/11 | 4:33 | 19.3 | 4550 | 19.1 | 10000 | 0 | 116 | |
| 2 | A | 8/18/11 | 10:29 | 31.8 | 5050 | 19.2 | 10000 | 0 | 112 | |
| 2 | A | 8/18/11 | 16:24 | 70 | 6350 | 19.3 | 10000 | 0 | 112 | |
| 2 | A | 8/19/11 | 10:37 | 71.9 | 5600 | 19.1 | 10000 | 0 | 93 | |
| 2 | A | 8/19/11 | 15:48 | 94.2 | 6200 | 18.9 | 10000 | 0 | 99 | |
| 2 | A | 8/22/11 | 9:36 | 104 | 5600 | 19.3 | 10000 | 0 | 98 | system adjusted for VOC levels |
| 2 | A | 8/22/11 | 10:08 | 24.4 | 8100 | 18.4 | 10000 | 0 | 90 | |
| 2 | A | 8/22/11 | 17:44 | 13.5 | 8600 | 18.5 | 10000 | 0 | 88 | |
| 2 | A | 8/23/11 | 10:20 | 25 | 9050 | 18.3 | 10000 | 0 | 98 | |
| 2 | C | 8/25/11 | 12:14 | 17.3 | 10000 | 18.5 | 10000 | 0 | 109 | |
| 2 | C | 8/25/11 | 17:05 | 24.4 | 11250 | 18.6 | 10000 | 0 | 101 | |
| 2 | C | 8/26/11 | 10:24 | 23.4 | 9850 | 18.7 | 10000 | 0 | 104 | |
| 2 | C | 8/26/11 | 15:39 | 21.3 | 11250 | 18.4 | 10000 | 0 | 99 | |
| 2 | C | 8/29/11 | 10:30 | 38.5 | 8150 | 18.6 | 10000 | 0 | 101 | |
| 2 | C | 8/29/11 | 18:45 | 56.4 | 6800 | 18.8 | 10000 | 0 | 86 | |
| 2 | C | 8/30/11 | 13:42 | 33.3 | 7000 | 19.1 | 10000 | 0 | 83 | |
| 2 | C | 8/30/11 | 18:27 | 45.7 | 7650 | 19.1 | 10000 | 0 | 55 | |
| 2 | B | 8/31/11 | 10:46 | 78 | 6650 | 19.6 | 10000 | 0 | 77 | |
| 2 | B | 8/31/11 | 17:00 | 40.4 | 6750 | 19.6 | 10000 | 0 | 52 | |
| 2 | B | 9/1/11 | 8:30 | 64 | 5800 | 19.9 | 10000 | 0 | 34 | |

NOTES:
CFM - cubic feet per minute
in Hg - inches of Mercury
ppm - parts per million
NA - Information not available

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| VE-1C | 7/1/2011 | 12:22 | 0 | 42500 | 13.4 | 10000 | 9999 | 0 | Respiration test |
| VE-1C | 7/1/2011 | 16:10 | 0 | 39250 | 14.5 | 10000 | 9999 | 0 | Respiration test |
| VE-1C | 7/5/2011 | 8:50 | 0 | 50250 | 5.6 | 10000 | 9999 | 0 | Respiration test |
| | | | | | | | | | |
| MP-1C | 7/1/2011 | 12:26 | 9.80 | 26500 | 16.3 | 10000 | 9999 | 2.5 | Respiration test |
| MP-1C | 7/1/2011 | 16:13 | 9.80 | 24250 | 16.7 | 10000 | 9999 | 3 | Respiration test |
| MP-1C | 7/5/2011 | 8:55 | 9.80 | 50250 | 12.1 | 10000 | 5108 | 0 | Respiration test |
| | | | | | | | | | |
| MP-2C | 7/1/2011 | 12:29 | 18.99 | 25000 | 18 | 10000 | 9999 | 3 | Respiration test |
| MP-2C | 7/1/2011 | 16:16 | 18.99 | 22250 | 18.5 | 10000 | 9999 | 3 | Respiration test |
| MP-2C | 7/5/2011 | 9:00 | 18.99 | 50250 | 7.6 | 10000 | 9999 | 0 | Respiration test |
| | | | | | | | | | |
| MP-3C | 7/1/2011 | 12:32 | 39.46 | 50250 | 14.9 | 10000 | 9999 | 3 | Respiration test |
| MP-3C | 7/1/2011 | 16:19 | 39.46 | 50250 | 15.1 | 10000 | 9999 | 4.5 | Respiration test |
| MP-3C | 7/5/2011 | 9:05 | 39.46 | 50250 | 5.7 | 10000 | 9999 | 2.5 | Respiration test |
| | | | | | | | | | |
| MP-4C | 7/1/2011 | 10:15 | 21.47 | 1500 | 20.6 | 1400 | 2667 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:20 | 21.47 | 1350 | 20.6 | 1300 | 2528 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:25 | 21.47 | 1200 | 20.6 | 1025 | 2160 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:30 | 21.47 | 1350 | 20.4 | 1200 | 1055 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:35 | 21.47 | 1400 | 20.4 | 1425 | 2166 | 0 | Respiration test - new tedlar |
| MP-4C | 7/1/2011 | 10:40 | 21.47 | 1350 | 20.4 | 1425 | 1921 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:45 | 21.47 | 1350 | 20.4 | 1450 | 1910 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:50 | 21.47 | 1325 | 20.4 | 1400 | 1855 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 10:55 | 21.47 | 1250 | 20.4 | 1350 | 1834 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 11:00 | 21.47 | 1250 | 20.4 | 1450 | 1779 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 11:05 | 21.47 | 1150 | 20.6 | 1375 | 1726 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 11:10 | 21.47 | 1200 | 20.4 | 1425 | 1709 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 11:15 | 21.47 | 1200 | 20.6 | 1450 | 1717 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 11:20 | 21.47 | 1100 | 20.6 | 1350 | 1673 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 11:30 | 21.47 | 2050 | 20.4 | 1750 | 3953 | 0 | Respiration test - 1.5 minute purge |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| MP-4C | 7/1/2011 | 11:40 | 21.47 | 1550 | 20.6 | 1325 | 3619 | 0 | Respiration test - possible tedlar leak |
| MP-4C | 7/1/2011 | 11:45 | 21.47 | 2100 | 20.4 | 1800 | 4095 | 0 | Respiration test - new tedlar |
| MP-4C | 7/1/2011 | 11:55 | 21.47 | 2050 | 20.6 | 1725 | 4054 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 12:05 | 21.47 | 1600 | 20.6 | 1425 | 2900 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 12:10 | 21.47 | 1650 | 20.6 | 1550 | 3036 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 12:35 | 21.47 | 3650 | 20.6 | 1800 | 8178 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 13:37 | 21.47 | 2350 | 20.9 | 1650 | 3839 | 0 | Respiration test |
| MP-4C | 7/1/2011 | 16:22 | 21.47 | 2700 | 20.9 | 2000 | 9999 | 0 | Respiration test |
| MP-4C | 7/5/2011 | 9:10 | 21.47 | 36500 | 13.7 | 8600 | 9295 | 0 | OFF - Last reading |
| | | | | | | | | | |
| MP-5C | 7/1/2011 | 12:45 | 42.01 | 50250 | 0.1 | 10000 | 9999 | 0 | Respiration test - new tedlar |
| MP-5C | 7/1/2011 | 16:26 | 42.01 | 50250 | 1.3 | 10000 | 9999 | 1 | Respiration test |
| MP-5C | 7/5/2011 | 9:15 | 42.01 | 50250 | 2.4 | 10000 | 9999 | 0 | Respiration test |
| | | | | | | | | | |
| After Push Pull | | | | | | | | | |
| MP-6A | 8/23/11 | 11:01 | 15.74 | 7800 | 20.2 | 9500 | 8996 | 0 | Respiration test |
| MP-6A | 8/23/11 | 11:35 | 15.74 | 8750 | 20.2 | 9350 | 8769 | 0 | Respiration test |
| MP-6A | 8/23/11 | 12:10 | 15.74 | 9450 | 20.2 | 9600 | 8470 | 0 | Respiration test |
| MP-6A | 8/23/11 | 13:50 | 15.74 | 8050 | 20.6 | 8500 | 8477 | 0 | Respiration test |
| MP-6A | 8/23/11 | 14:50 | 15.74 | 9150 | 20.2 | 9025 | 7558 | 0 | Respiration test |
| MP-6A | 8/23/11 | 15:50 | 15.74 | 10000 | 20.1 | 10000 | 6920 | 0 | Respiration test |
| MP-6A | 8/23/11 | 16:46 | 15.74 | 9850 | 20.1 | 10000 | 7223 | 0 | Respiration test |
| MP-6A | 8/24/11 | 9:10 | 15.74 | 2450 | 20.9 | 3200 | 2062 | 0 | Respiration test |
| MP-6A | 8/24/11 | 9:40 | 15.74 | 10750 | 18.9 | 10000 | 4820 | 0 | Respiration test |
| MP-6A | 8/24/11 | 10:10 | 15.74 | 10250 | 18.9 | 10000 | 5105 | 0 | Respiration test |
| MP-6A | 8/24/11 | 10:50 | 15.74 | 9600 | 19.2 | 10000 | 5065 | 0 | Respiration test |
| MP-6A | 8/24/11 | 12:15 | 15.74 | 8600 | 19.3 | 10000 | 4995 | 0 | Respiration test |
| MP-6A | 8/24/11 | 13:18 | 15.74 | 9850 | 19.1 | 10000 | 5579 | 0 | Respiration test |
| MP-6A | 8/24/11 | 14:17 | 15.74 | 9750 | 19.1 | 10000 | 5644 | 0 | Respiration test |
| MP-6A | 8/24/11 | 16:34 | 15.74 | 9050 | 19 | 10000 | 5979 | 0 | Respiration test |
| MP-6A | 8/25/11 | 11:17 | 15.74 | 15250 | 18.1 | 10000 | 4116 | 0 | Respiration test |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| MP-6A | 8/25/11 | 17:45 | 15.74 | 15500 | 17.8 | 10000 | 4261 | 0 | Respiration test |
| MP-6A | 8/26/11 | 10:22 | 15.74 | 12500 | 17.3 | 10000 | 4082 | 0 | Respiration test |
| MP-6A | 8/26/11 | 15:55 | 15.74 | 18750 | 16.8 | 10000 | 3652 | 0 | Respiration test |
| MP-6A | 8/29/11 | 11:08 | 15.74 | 27500 | 14.8 | 10000 | 2362 | 0 | Respiration test |
| MP-6A | 8/29/11 | 18:55 | 15.74 | 23000 | 15.1 | 10000 | 2419 | 0 | Respiration test |
| MP-6A | 8/30/11 | 11:03 | 15.74 | 34500 | 13.9 | 10000 | 1983 | 0 | Respiration test |
| MP-6A | 9/1/11 | 14:59 | 15.74 | 33750 | 14.4 | 10000 | 1849 | 0 | Respiration test |
| MP-6A | 9/1/11 | 17:15 | 15.74 | 36750 | 13.3 | 10000 | 1809 | 0 | Respiration test |
| MP-6A | 9/2/11 | 10:50 | 15.74 | 28500 | 14.4 | 10000 | 1693 | 0 | Respiration test |
| MP-6A | 9/6/11 | 8:19 | 15.74 | 19500 | 10.1 | 10000 | 2254 | 0 | Respiration test |
| | | | | | | | | | |
| MP-6B | 9/1/11 | 14:32 | 15.74 | 40250 | 17.7 | 10000 | 6239 | 0 | Respiration test |
| MP-6B | 9/1/11 | 16:34 | 15.74 | 34250 | 18.3 | 10000 | 3842 | 0 | Respiration test |
| MP-6B | 9/2/11 | 12:26 | 15.74 | 43000 | 17.2 | 10000 | 4941 | 0 | Respiration test |
| MP-6B | 9/6/11 | 7:51 | 15.74 | 50250 | 16.2 | 10000 | 2827 | 0 | Respiration test |
| | | | | | | | | | |
| MP-6C | 8/30/2011 | 10:34 | 15.74 | 4550 | 18.7 | 10000 | 893 | 0 | Respiration test |
| MP-6C | 9/1/11 | 15:28 | 15.74 | 6700 | 18.4 | 10000 | 942 | 0 | Respiration test |
| MP-6C | 9/1/11 | 17:42 | 15.74 | 6519 | 18.2 | 10000 | 1042 | 0 | Respiration test |
| MP-6C | 9/2/11 | 11:35 | 15.74 | 4900 | 17.9 | 10000 | 863 | 0 | Respiration test |
| MP-6C | 9/6/11 | 8:45 | 15.74 | 16500 | 14.3 | 10000 | 728 | 0 | Respiration test |
| | | | | | | | | | |
| MP-7A | 8/23/11 | 11:05 | 24.61 | 50250 | 14.6 | 10000 | 3891 | 0 | Respiration test |
| MP-7A | 8/23/11 | 11:39 | 24.61 | 50250 | 14.8 | 10000 | 4008 | 0 | Respiration test |
| MP-7A | 8/23/11 | 12:15 | 24.61 | 50250 | 14.3 | 10000 | 4692 | 0 | Respiration test |
| MP-7A | 8/23/11 | 13:54 | 24.61 | 50250 | 14.6 | 10000 | 3285 | 0 | Respiration test |
| MP-7A | 8/23/11 | 14:55 | 24.61 | 50250 | 14.5 | 10000 | 4358 | 0 | Respiration test |
| MP-7A | 8/23/11 | 15:54 | 24.61 | 50250 | 14.6 | 10000 | 4621 | 0 | Respiration test |
| MP-7A | 8/23/11 | 16:50 | 24.61 | 50250 | 14.5 | 10000 | 4342 | 0 | Respiration test |
| MP-7A | 8/24/11 | 9:14 | 24.61 | 50250 | 14.4 | 10000 | 4197 | 0 | Respiration test |
| MP-7A | 8/24/11 | 9:44 | 24.61 | 50250 | 14.7 | 10000 | 3084 | 0 | Respiration test |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| MP-7A | 8/24/11 | 10:15 | 24.61 | 50250 | 14 | 10000 | 4093 | 0 | Respiration test |
| MP-7A | 8/24/11 | 10:54 | 24.61 | 50250 | 14.3 | 10000 | 3577 | 0 | Respiration test |
| MP-7A | 8/24/11 | 12:20 | 24.61 | 50250 | 14.6 | 10000 | 4308 | 0 | Respiration test |
| MP-7A | 8/24/11 | 13:22 | 24.61 | 50250 | 14.4 | 10000 | 4729 | 0 | Respiration test |
| MP-7A | 8/24/11 | 14:22 | 24.61 | 50250 | 14.4 | 10000 | 3739 | 0 | Respiration test |
| MP-7A | 8/24/11 | 16:38 | 24.61 | 50250 | 14.6 | 10000 | 3810 | 0 | Respiration test |
| MP-7A | 8/25/11 | 11:21 | 24.61 | 50250 | 14 | 10000 | 4715 | 0 | Respiration test |
| MP-7A | 8/25/11 | 17:49 | 24.61 | 50250 | 14.4 | 10000 | 4604 | 0 | Respiration test |
| MP-7A | 8/26/11 | 10:26 | 24.61 | 50250 | 14.2 | 10000 | 3598 | 0 | Respiration test |
| MP-7A | 8/26/11 | 15:59 | 24.61 | 50250 | 14.2 | 10000 | 2705 | 0 | Respiration test |
| MP-7A | 8/29/11 | 11:12 | 24.61 | 50250 | 14.7 | 10000 | 3022 | 0 | Respiration test |
| MP-7A | 8/29/11 | 18:59 | 24.61 | 50250 | 15 | 10000 | 2541 | 0 | Respiration test |
| MP-7A | 8/30/11 | 11:07 | 24.61 | 50250 | 14.8 | 10000 | 3584 | 0 | Respiration test |
| MP-7A | 9/1/11 | 15:03 | 24.61 | 27500 | 14.4 | 10000 | 4416 | 0 | Respiration test |
| MP-7A | 9/1/11 | 17:19 | 24.61 | 26000 | 13.3 | 10000 | 4584 | 0 | Respiration test |
| MP-7A | 9/2/11 | 10:55 | 24.61 | 28250 | 14.4 | 10000 | 4216 | 0 | Respiration test |
| MP-7A | 9/6/11 | 8:22 | 24.61 | 33750 | 10.1 | 10000 | 3648 | 0 | Respiration test |
| | | | | | | | | | |
| MP-7B | 9/1/11 | 14:40 | 24.61 | 3050 | 19.3 | 10000 | 1187 | 0 | Respiration test |
| MP-7B | 9/1/11 | 16:38 | 24.61 | 3500 | 19.2 | 10000 | 1157 | 0 | Respiration test |
| MP-7B | 9/2/11 | 12:31 | 24.61 | 4150 | 18.2 | 10000 | 945 | 0 | Respiration test |
| MP-7B | 9/6/11 | 7:55 | 24.61 | 9800 | 15.1 | 10000 | 575 | 0 | Respiration test |
| | | | | | | | | | |
| MP-7C | 8/30/2011 | 10:39 | 24.61 | 10750 | 16.1 | 10000 | 3840 | 0 | Respiration test |
| MP-7C | 9/1/11 | 15:32 | 24.61 | 13250 | 15.3 | 10000 | 3685 | 0 | Respiration test |
| MP-7C | 9/1/11 | 17:46 | 24.61 | 14000 | 15 | 10000 | 3714 | 0 | Respiration test |
| MP-7C | 9/2/11 | 11:40 | 24.61 | 15250 | 14.8 | 10000 | 3540 | 0 | Respiration test |
| MP-7C | 9/6/11 | 8:47 | 24.61 | 15000 | 14.9 | 10000 | 2763 | 0 | Respiration test |
| | | | | | | | | | |
| MP-8A | 8/23/11 | 11:09 | 50.63 | 2750 | 20.4 | 8625 | 1051 | 0 | Respiration test |
| MP-8A | 8/23/11 | 11:43 | 50.63 | 2800 | 20.6 | 8250 | 1158 | 0 | Respiration test |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| MP-8A | 8/23/11 | 12:19 | 50.63 | 3000 | 20.7 | 7775 | 1143 | 0 | Respiration test |
| MP-8A | 8/23/11 | 13:58 | 50.63 | 1950 | 20.9 | 7800 | 1094 | 0 | Respiration test |
| MP-8A | 8/23/11 | 15:00 | 50.63 | 2650 | 20.7 | 7900 | 1109 | 0 | Respiration test |
| MP-8A | 8/23/11 | 15:59 | 50.63 | 2300 | 20.7 | 8050 | 1195 | 0 | Respiration test |
| MP-8A | 8/23/11 | 16:55 | 50.63 | 2450 | 20.7 | 8150 | 1248 | 0 | Respiration test |
| MP-8A | 8/24/11 | 9:18 | 50.63 | 2950 | 20.6 | 8550 | 993 | 0 | Respiration test |
| MP-8A | 8/24/11 | 9:48 | 50.63 | 2750 | 20.4 | 9475 | 1034 | 0 | Respiration test |
| MP-8A | 8/24/11 | 10:20 | 50.63 | 2750 | 20.2 | 9475 | 1051 | 0 | Respiration test |
| MP-8A | 8/24/11 | 10:58 | 50.63 | 2850 | 20.4 | 9325 | 1182 | 0 | Respiration test |
| MP-8A | 8/24/11 | 12:25 | 50.63 | 2850 | 20.6 | 9525 | 1180 | 0 | Respiration test |
| MP-8A | 8/24/11 | 13:26 | 50.63 | 2800 | 20.6 | 9300 | 1234 | 0 | Respiration test |
| MP-8A | 8/24/11 | 14:27 | 50.63 | 2550 | 20.6 | 9750 | 1200 | 0 | Respiration test |
| MP-8A | 8/24/11 | 16:42 | 50.63 | 2550 | 20.6 | 9250 | 1216 | 0 | Respiration test |
| MP-8A | 8/25/11 | 11:25 | 50.63 | 3250 | 19.7 | 10000 | 1281 | 0 | Respiration test |
| MP-8A | 8/25/11 | 17:54 | 50.63 | 3350 | 20.1 | 10000 | 1244 | 0 | Respiration test |
| MP-8A | 8/26/11 | 10:30 | 50.63 | 3350 | 19.2 | 10000 | 1412 | 0 | Respiration test |
| MP-8A | 8/26/11 | 16:04 | 50.63 | 3800 | 19.1 | 10000 | 1390 | 0 | Respiration test |
| MP-8A | 8/29/11 | 11:16 | 50.63 | 4750 | 18.2 | 10000 | 1367 | 0 | Respiration test |
| MP-8A | 8/29/11 | 19:03 | 50.63 | 4900 | 18 | 10000 | 1381 | 0 | Respiration test |
| MP-8A | 8/30/11 | 11:11 | 50.63 | 5700 | 17.4 | 10000 | 1456 | 0 | Respiration test |
| MP-8A | 9/1/11 | 15:07 | 50.63 | 6500 | 17.2 | 10000 | 1641 | 0 | Respiration test |
| MP-8A | 9/1/11 | 17:23 | 50.63 | 6550 | 17.2 | 10000 | 1571 | 0 | Respiration test |
| MP-8A | 9/2/11 | 10:54 | 50.63 | 5300 | 17.6 | 10000 | 1312 | 0 | Respiration test |
| MP-8A | 9/6/11 | 8:25 | 50.63 | 11750 | 14.1 | 10000 | 1635 | 0 | Respiration test |
| | | | | | | | | | |
| MP-8B | 9/1/11 | 14:44 | 50.63 | 17500 | 18.4 | 10000 | 1650 | 0 | Respiration test |
| MP-8B | 9/1/11 | 16:43 | 50.63 | 19500 | 18.3 | 10000 | 1569 | 0 | Respiration test |
| MP-8B | 9/2/11 | 12:36 | 50.63 | 23250 | 17.9 | 10000 | 1357 | 0 | Respiration test |
| MP-8B | 9/6/11 | 8:00 | 50.63 | 29500 | 17.1 | 10000 | 1119 | 0 | Respiration test |
| | | | | | | | | | |
| MP-8C | 8/30/2011 | 10:44 | 50.63 | 3650 | 19 | 10000 | 754 | 0 | Respiration test |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| MP-8C | 9/1/11 | 15:36 | 50.63 | 3350 | 19.4 | 10000 | 681 | 0 | Respiration test |
| MP-8C | 9/1/11 | 17:50 | 50.63 | 3300 | 19.2 | 10000 | 832 | 0 | Respiration test |
| MP-8C | 9/2/11 | 11:45 | 50.63 | 4800 | 18.8 | 10000 | 563 | 0 | Respiration test |
| MP-8C | 9/6/11 | 8:51 | 50.63 | 15000 | 15.1 | 10000 | 458 | 0 | Respiration test |
| | | | | | | | | | |
| MP-9A | 8/23/11 | 11:13 | 22.71 | 15500 | 17 | 10000 | 3452 | 0 | Respiration test |
| MP-9A | 8/23/11 | 11:48 | 22.71 | 18000 | 17.2 | 10000 | 4116 | 0 | Respiration test |
| MP-9A | 8/23/11 | 12:23 | 22.71 | 20750 | 17.3 | 10000 | 4207 | 0 | Respiration test |
| MP-9A | 8/23/11 | 14:03 | 22.71 | 20500 | 17.4 | 10000 | 4241 | 0 | Respiration test |
| MP-9A | 8/23/11 | 15:04 | 22.71 | 22500 | 17.5 | 10000 | 4170 | 0 | Respiration test |
| MP-9A | 8/23/11 | 16:05 | 22.71 | 22750 | 17.6 | 10000 | 4277 | 0 | Respiration test |
| MP-9A | 8/23/11 | 17:00 | 22.71 | 22250 | 17.6 | 10000 | 4241 | 0 | Respiration test |
| MP-9A | 8/24/11 | 9:22 | 22.71 | 17500 | 14.5 | 10000 | 3903 | 0 | Respiration test |
| MP-9A | 8/24/11 | 9:52 | 22.71 | 19000 | 16 | 10000 | 3753 | 0 | Respiration test |
| MP-9A | 8/24/11 | 10:25 | 22.71 | 20500 | 16.3 | 10000 | 3894 | 0 | Respiration test |
| MP-9A | 8/24/11 | 11:02 | 22.71 | 20750 | 16.7 | 10000 | 3958 | 0 | Respiration test |
| MP-9A | 8/24/11 | 12:29 | 22.71 | 21750 | 16.7 | 10000 | 4015 | 0 | Respiration test |
| MP-9A | 8/24/11 | 13:30 | 22.71 | 22250 | 16.8 | 10000 | 4245 | 0 | Respiration test |
| MP-9A | 8/24/11 | 14:32 | 22.71 | 23250 | 16.7 | 10000 | 4312 | 0 | Respiration test |
| MP-9A | 8/24/11 | 16:46 | 22.71 | 23500 | 16.8 | 10000 | 4288 | 0 | Respiration test |
| MP-9A | 8/25/11 | 11:29 | 22.71 | 22000 | 14.3 | 10000 | 4133 | 0 | Respiration test |
| MP-9A | 8/25/11 | 17:59 | 22.71 | 24250 | 16 | 10000 | 4059 | 0 | Respiration test |
| MP-9A | 8/26/11 | 10:34 | 22.71 | 21250 | 13.3 | 10000 | 3816 | 0 | Respiration test |
| MP-9A | 8/26/11 | 16:11 | 22.71 | 24750 | 14.8 | 10000 | 3968 | 0 | Respiration test |
| MP-9A | 8/29/11 | 11:20 | 22.71 | 29000 | 12.7 | 10000 | 3167 | 0 | Respiration test |
| MP-9A | 8/29/11 | 19:07 | 22.71 | 32750 | 13.4 | 10000 | 3749 | 0 | Respiration test |
| MP-9A | 8/30/11 | 11:15 | 22.71 | 30750 | 13 | 10000 | 2958 | 0 | Respiration test |
| MP-9A | 9/1/11 | 15:10 | 22.71 | 30500 | 13.4 | 10000 | 2786 | 0 | Respiration test |
| MP-9A | 9/1/11 | 17:27 | 22.71 | 33750 | 13.1 | 10000 | 2982 | 0 | Respiration test |
| MP-9A | 9/2/11 | 11:03 | 22.71 | 30500 | 14 | 10000 | 2724 | 0 | Respiration test |
| MP-9A | 9/6/11 | 8:33 | 22.71 | 44000 | 10.4 | 10000 | 3375 | 0 | Respiration test |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| | | | | | | | | | |
| MP-9B | 9/1/11 | 14:48 | 22.71 | 50250 | 14.8 | 10000 | 3012 | 0 | Respiration test |
| MP-9B | 9/1/11 | 16:47 | 22.71 | 50250 | 15 | 10000 | 3635 | 0 | Respiration test |
| MP-9B | 9/2/11 | 12:41 | 22.71 | 50250 | 14.3 | 10000 | 4264 | 0 | Respiration test |
| MP-9B | 9/6/11 | 8:05 | 22.71 | 50250 | 13.7 | 10000 | 2971 | 0 | Respiration test |
| | | | | | | | | | |
| MP-9C | 8/30/2011 | 10:49 | 22.71 | 5650 | 18.2 | 10000 | 1012 | 0 | Respiration test |
| MP-9C | 9/1/11 | 15:40 | 22.71 | 4450 | 18.8 | 10000 | 3113 | 0 | Respiration test |
| MP-9C | 9/1/11 | 17:54 | 22.71 | 4550 | 18.6 | 10000 | 3077 | 0 | Respiration test |
| MP-9C | 9/2/11 | 11:50 | 22.71 | 7250 | 17.4 | 10000 | 3254 | 0 | Respiration test |
| MP-9C | 9/6/11 | 8:55 | 22.71 | 43500 | 11.2 | 10000 | 3154 | 0 | Respiration test |
| | | | | | | | | | |
| MP-10A | 8/23/11 | 11:16 | 50.02 | 50250 | 6.1 | 10000 | 594 | 0 | Respiration test |
| MP-10A | 8/23/11 | 11:53 | 50.02 | 50250 | 5.4 | 10000 | 978 | 0 | Respiration test |
| MP-10A | 8/23/11 | 12:29 | 50.02 | 50250 | 4.7 | 10000 | 1184 | 0 | Respiration test |
| MP-10A | 8/23/11 | 14:08 | 50.02 | 50250 | 3 | 10000 | 1696 | 0 | Respiration test |
| MP-10A | 8/23/11 | 15:10 | 50.02 | 50250 | 1.3 | 10000 | 1245 | 0 | Respiration test |
| MP-10A | 8/23/11 | 16:10 | 50.02 | 50250 | 1.4 | 10000 | 1358 | 0 | Respiration test |
| MP-10A | 8/23/11 | 17:04 | 50.02 | 50250 | 1.4 | 10000 | 1899 | 0 | Respiration test |
| MP-10A | 8/24/11 | 9:27 | 50.02 | 50250 | 2.6 | 10000 | 1295 | 0 | Respiration test |
| MP-10A | 8/24/11 | 9:56 | 50.02 | 50250 | 4.6 | 10000 | 1138 | 0 | Respiration test |
| MP-10A | 8/24/11 | 10:30 | 50.02 | 50250 | 5.7 | 10000 | 1033 | 0 | Respiration test |
| MP-10A | 8/24/11 | 11:06 | 50.02 | 50250 | 5.5 | 10000 | 1666 | 0 | Respiration test |
| MP-10A | 8/24/11 | 12:33 | 50.02 | 50250 | 4.5 | 10000 | 1730 | 0 | Respiration test |
| MP-10A | 8/24/11 | 13:34 | 50.02 | 50250 | 3.8 | 10000 | 1596 | 0 | Respiration test |
| MP-10A | 8/24/11 | 14:37 | 50.02 | 50250 | 2.9 | 10000 | 1227 | 0 | Respiration test |
| MP-10A | 8/24/11 | 16:50 | 50.02 | 50250 | 2.4 | 10000 | 1752 | 0 | Respiration test |
| MP-10A | 8/25/11 | 11:32 | 50.02 | 50250 | 1.9 | 10000 | 1736 | 0 | Respiration test |
| MP-10A | 8/25/11 | 18:05 | 50.02 | 50250 | 1.8 | 10000 | 2123 | 0 | Respiration test |
| MP-10A | 8/26/11 | 10:38 | 50.02 | 50250 | 1.5 | 10000 | 1159 | 0 | Respiration test |
| MP-10A | 8/26/11 | 16:16 | 50.02 | 50250 | 1.4 | 10000 | 1503 | 0 | Respiration test |

**Table VIII**
**Bioventing Field Readings – In-Situ Respiration Test, Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Bioventing Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Monitoring Location | Date | Time | Distance to VE-1 (Area 1) / VE-2 (Area 2) (Feet) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Comments |
| After Air Injection | | | | | | | | | |
| MP-10A | 8/29/11 | 11:24 | 50.02 | 50250 | 2 | 10000 | 1784 | 0 | Respiration test |
| MP-10A | 8/29/11 | 19:11 | 50.02 | 50250 | 1.9 | 10000 | 1668 | 0 | Respiration test |
| MP-10A | 8/30/11 | 11:19 | 50.02 | 50250 | 2.2 | 10000 | 1202 | 0 | Respiration test |
| MP-10A | 9/1/11 | 15:13 | 50.02 | 33750 | 9.1 | 10000 | 1268 | 0 | Respiration test |
| MP-10A | 9/1/11 | 17:31 | 50.02 | 36750 | 13.9 | 10000 | 823 | 0 | Respiration test |
| MP-10A | 9/2/11 | 11:08 | 50.02 | 28500 | 5.8 | 10000 | 1291 | 0 | Respiration test |
| MP-10A | 9/6/11 | 8:39 | 50.02 | 19500 | 5.7 | 10000 | 417 | 0 | Respiration test |
| | | | | | | | | | |
| MP-10B | 9/1/11 | 14:52 | 50.02 | 50250 | 1.6 | 10000 | 2480 | 0 | Respiration test |
| MP-10B | 9/1/11 | 16:52 | 50.02 | 50250 | 1.4 | 10000 | 2167 | 0 | Respiration test |
| MP-10B | 9/2/11 | 12:46 | 50.02 | 50250 | 1.6 | 10000 | 2638 | 0 | Respiration test |
| MP-10B | 9/6/11 | 8:10 | 50.02 | 50250 | 2.7 | 10000 | 2648 | 0 | Respiration test |
| | | | | | | | | | |
| MP-10C | 8/30/2011 | 10:53 | 50.02 | 50250 | 1.2 | 10000 | 3800 | 0 | Respiration test |
| MP-10C | 9/1/11 | 15:45 | 50.02 | 50250 | 1.2 | 10000 | 3113 | 0 | Respiration test |
| MP-10C | 9/1/11 | 17:59 | 50.02 | 50250 | 1.4 | 10000 | 3077 | 0 | Respiration test |
| MP-10C | 9/2/11 | 11:55 | 50.02 | 50250 | 1.1 | 10000 | 3254 | 0 | Respiration test |
| MP-10C | 9/6/11 | 9:00 | 50.02 | 50250 | 1.7 | 10000 | 3154 | 0 | Respiration test |

NOTES:

Respiration test Test

CFM - cubic feet per minute

in $H_2O$ - inches of water

ppm - parts per million

NA - Information not available

**Table IX**
**Step Test Field Data - Areas 1 & 2**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Area 1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Date | Time | Extraction Flow (CFM) | MP-1 ($inH_2O$) | MP-2 ($inH_2O$) | MP-3 ($inH_2O$) | MP-4 ($inH_2O$) | MP-5 ($inH_2O$) | Source Vacuum ($inH_2O$) | Total Blower Flow (CFM) | Influent VOCs (ppm) |
| Distance to VE-1 (feet) | | | | 9.80 | 18.99 | 39.46 | 21.47 | 42.01 | 0.00001 | | |
| A | 9/6/2011 | 9:48 | 22 | 0 | 0.04 | 0.1 | 0.3 | 0.12 | 10 | (424) 410 | 880 |
| A | 9/6/2011 | 9:56 | 50.5 | 0 | 0.18 | 0.17 | 0.58 | 0.19 | 32 | 424 | 891 |
| A | 9/6/2011 | 10:06 | 147 | 0.04 | 0.26 | 0.52 | 1.8 | 0.5 | 89 | 260 | 861 |
| A | 9/6/2011 | 10:15 | 190 | 0.04 | 0.4 (0.26) | 0.8 (0.62) | 3.0 (2.0) | 0.6 (0.6) | 88 | 309 | - |
| | | | | | | | | | | | |
| B | 9/6/2011 | 12:35 | 36 | 1.8 | 1.6 | 1 | 1.9 | 0.8 | 9 | 480 | 10,000+ |
| B | 9/6/2011 | 12:39 | 81 | 3.8 | 3.1 | 1.9 | 3.2 | 1.5 | 25 | 448 | 8,077 |
| B | 9/6/2011 | 12:44 | 130 | 5.3 | 3.3 | 2 | 4.6 | 2 | 42 | 405 | 2,867 |
| B | 9/6/2011 | 12:53 | NM | 9.1 (9.2) | 7.2 (6.8) | 3.9 (2.8) | 0.6 (5.6) | 1.7 | 88 | 482 | - |
| | | | | | | | | | | | |
| C | 9/6/2011 | 1:20 | 68 | 1.5 | 1 | 0.5 | 0.9 | 0.5 | 12 | 330 | 4,513 |
| C | 9/6/2011 | 1:30 | 121 | 2.4 | 1.7 | 1 | 1.5 (1.7) | 1 | 20 | 341 | 6,639 (10,000+) |
| C | 9/6/2011 | 1:40 | 144 | 3 | 2.2 | 1.3 | 2 | 1.2 | 26 | 430 | 10,000+ |

| Area 2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Date | Time | Extraction Flow (CFM) | MP-6 ($inH_2O$) | MP-7 ($inH_2O$) | MP-8 ($inH_2O$) | MP-9 ($inH_2O$) | MP-10 ($inH_2O$) | Source Vacuum ($inH_2O$) | Total Blower Flow (CFM) | Influent VOCs (ppm) |
| Distance to VE-2 (feet) | | | | 15.74 | 24.61 | 50.63 | 22.71 | 50.02 | 0.00001 | | |
| A | 9/7/2011 | 10:04 | 32 | 1.2 | 0.5 | 0.43 | 0.86 | 0.34 | 6.5 | NM | NM |
| A | 9/7/2011 | 10:09 | NM | 1.4 | 0.45 | 0.59 | 0.99 | 0.41 | 6.5 | NM | NM |
| A | 9/7/2011 | 10:15 | 72 | - | - | - | 0 | - | 16 | 484 | NM |
| A | 9/7/2011 | 10:24 | 88 | 3.3 | 0.43 | 1.5 | 2.6 | 1.1 | 25 | 478 | NM |
| A | 9/7/2011 | 10:37 | 176 | 4.9 | 0.48 | 2 | 3.8 | 1.5 | 50 | 456 | NM |
| A | 9/7/2011 | 10:42 | 279 | 6.1 | 0.5 | 2.4 | 4.6 | 1.8 | 82 | 426 | NM |
| | | | | | | | | | | | |
| B | 9/7/2011 | 12:11 | 63 | 1.5 | 0.41 | 0.35 | 0.87 | 0.59 | 14 | 434 | NM |
| B | 9/7/2011 | 12:17 | 149 | 2.5 | 0.64 | 0.5 | 1.5 | 0.92 | 33 | 468 | NM |
| B | 9/7/2011 | 12:21 | 191 | 3.6 | 0.93 | 0.74 | 2.1 | 1.5 | 53 | 448 | NM |
| | | | | | | | | | | | |
| C | 9/7/2011 | 12:56 | 56 | 0.48 | 0.08 (+P) | 0.13 | 0.37 | 0.22 | 10 | 402 | NM |
| C | 9/7/2011 | 13:03 | 110 | 0.6 | 0.1 (+P) | 0.15 | 0.46 | 0.25 | 15 | 386 | NM |
| C | 9/7/2011 | 13:06 | 144 | 0.77 | 0.11 (+P) | 0.2 | 0.59 | 0.31 | 25 | 353 | NM |
| C | 9/7/2011 | 13:11 | 156 | 0.74 | 0.11 (+P) | 0.2 | 0.63 | 0.34 | 30 | 332 | NM |
| C | 9/7/2011 | 13:16 | 172 | 0.95 | 0.11 (+P) | 0.25 | 0.74 | 0.41 | 35 | 457 | NM |

NOTES:
CFM - cubic feet per minute
in $H_2O$ - inches of water
ppm - parts per million
NA - Information not available

**Table X**
**Groundwater Elevation & Analytical Results – Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Location | Date | Depth to GW | TPH-g | B | T | E | m/p-X | o-X | MTBE | TBA | NAP | 1,2,4-TMB | 1,3,5-TMB | PCE | TCE | t1,2-DCE | c1,2-DCE | 1,1-DCE | 1,1-DCA | 1,2-DCA | VC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | feet | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| SVE-1C | 9/9/11 | 100.76 | 5800 | ND | 20 | 41 | 63 | 22 | ND | 100 | 8.3 | 55 | 20 | ND | ND | 1.4 | 11 | 2.5 | 1 | 2.2 | 1.6 |
| W-10 | 9/12/2011 | 100.51 | 25000 | 6600 | 7.8 | 400 | 280 | 4.8 | ND | 150 | 280 | 200 | 44 | ND | ND | ND | ND | ND | 1.1 | 11 | 1.3 |
| IAS-1 | 9/12/2011 | 100.87 | 6400 | 1000 | 790 | 110 | 420 | 160 | ND | 76 | 29 | 97 | 35 | ND | ND | ND | 7.3 | 1.3 | 1.6 | 3.8 | 1 |

NOTES:
GW - Groundwater
PCE - Tetrachloroethylene
TCE - Trichloroethylene
c1,2-DCE - cis-1,2-Dichloroethene
t1,2-DCE - trans-1,2-Dichloroethene
1,1-DCE - 1,1-Dichloroethene
1,2-DCA - 1,2-Dichloroethane
1,3,5-TMB - 1,3,5-Trimethylbenzene
1,2,4-TMB - 1,2,4-Trimethylbenzene
VC - Vinyl Chloride
B- Benzene
T - Toluene
E - Ethylbenzene
1,1 DCA - 1,1-Dichloroethane
NAP - Naphthalene
m/p-X - p/m-Xylenes
o-X -o-Xylene
DIPE - Diisopropyl Ether (DIPE)
MTBE - Methyl-tert-Butyl Ether (MTBE)
TBA - tert-Butyl Alcohol (TBA)
ND - Not Detected above laboratory detection limits
ug/L - Micrograms per litre
NA - Information not available

**Table XI**
**Air Sparge Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Distance to AS-1 (ft) | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Water Elevation (Feet) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W-10 | 9/14/2011 | 8:56 | 15.28 | 24.59 | 2585 | 4.23 | 6.49 | -61.5 | 0 | 0 | - | Baseline data |
| W-10 | 9/14/2011 | 10:19 | 15.28 | 24.60 | 2594 | 4.54 | NA | NA | 5 | 10 | - | Equipment error |
| W-10 | 9/14/2011 | 12:08 | 15.28 | 24.62 | 2587 | 3.22 | NA | NA | 0 | 0 | - | Baseline data - Restart tests |
| W-10 | 9/14/2011 | 12:23 | 15.28 | 24.60 | 2620 | 2.30 | 6.69 | -89.9 | 5 | 10 | 7.2924 | First reading |
| W-10 | 9/14/2011 | 13:20 | 15.28 | 24.61 | 2592 | 1.75 | 6.65 | -52.6 | 5 | 10 | 7.462 | 15 min pulse test - 5 CFM |
| W-10 | 9/14/2011 | 14:10 | 15.28 | 24.57 | 2593 | 1.83 | NA | NA | 5 | 10 | - | 15 min pulse test - 5 CFM |
| W-10 | 9/14/2011 | 15:14 | 15.28 | 24.71 | 2603 | 2.57 | 7.00 | -171.8 | 10 | 25 | 10.3604 | 15 min pulse test - 10 CFM |
| W-10 | 9/14/2011 | 16:54 | 15.28 | 24.59 | 2564 | 2.56 | NA | -65.1 | 15 | 30 | 9.9237 | 15 min pulse test - 15 CFM |
| W-10 | 9/15/2011 | 7:43 | 15.28 | 24.25 | 2519 | 1.36 | 6.98 | -49.2 | 0 | 0 | - | Second day baseline |
| | | | | | | | | | | | | |
| SVE-1C | 9/14/2011 | 8:44 | 8.71 | 24.62 | 2277 | 3.20 | 6.29 | -13.5 | 0 | 0 | - | Baseline data |
| SVE-1C | 9/14/2011 | 10:13 | 8.71 | 24.58 | 2298 | 5.46 | NA | NA | 5 | 10 | - | Equipment error |
| SVE-1C | 9/14/2011 | 12:13 | 8.71 | 24.67 | 2293 | 3.04 | NA | NA | 0 | 0 | - | Baseline data - Restart tests |
| SVE-1C | 9/14/2011 | 12:18 | 8.71 | 24.59 | 2283 | 2.19 | 6.78 | -103.6 | 5 | 10 | 10.2228 | First reading |
| SVE-1C | 9/14/2011 | 13:19 | 8.71 | 24.64 | 2686 | 8.59 | 7.41 | 92.5 | 5 | 10 | 11.5641 | 15 min pulse test - 5 CFM |
| SVE-1C | 9/14/2011 | 13:43 | 8.71 | 24.67 | 2601 | 7.08 | 7.27 | 78.5 | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 13:46 | 8.71 | NA | NA | 6.91 | NA | NA | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 13:50 | 8.71 | NA | NA | 6.79 | NA | NA | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 13:54 | 8.71 | NA | NA | 6.75 | NA | NA | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 13:58 | 8.71 | NA | NA | 6.70 | NA | NA | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 14:02 | 8.71 | NA | NA | 6.66 | NA | NA | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 14:06 | 8.71 | NA | NA | 6.60 | NA | NA | 0 | 0 | - | Respiration - after 5 CFM |
| SVE-1C | 9/14/2011 | 15:16 | 8.71 | 24.60 | 2772 | 9.25 | 7.50 | -34.6 | 10 | 25 | 13.2461 | 15 min pulse test - 10 CFM |
| SVE-1C | 9/14/2011 | 15:35 | 8.71 | NA | NA | 8.02 | NA | -3 | 0 | 0 | - | Respiration - after 10 CFM |
| SVE-1C | 9/14/2011 | 15:39 | 8.71 | NA | NA | 7.94 | NA | 35.5 | 0 | 0 | - | Respiration - after 10 CFM |
| SVE-1C | 9/14/2011 | 15:43 | 8.71 | NA | NA | 7.74 | NA | 54 | 0 | 0 | - | Respiration - after 10 CFM |
| SVE-1C | 9/14/2011 | 15:47 | 8.71 | NA | NA | 7.30 | NA | 64.1 | 0 | 0 | - | Respiration - after 10 CFM |
| SVE-1C | 9/14/2011 | 15:51 | 8.71 | NA | NA | 7.09 | NA | 69.5 | 0 | 0 | - | Respiration - after 10 CFM |
| SVE-1C | 9/14/2011 | 16:57 | 8.71 | 24.55 | NA | 8.98 | NA | 24.5 | 15 | 30 | 14.2816 | 15 min pulse test - 15 CFM |
| SVE-1C | 9/14/2011 | 17:05 | 8.71 | NA | NA | 9.47 | NA | 49.6 | 0 | 0 | - | Respiration - after 15 CFM |
| SVE-1C | 9/14/2011 | 17:09 | 8.71 | NA | NA | 8.23 | NA | 61.7 | 0 | 0 | - | Respiration - after 15 CFM |
| SVE-1C | 9/14/2011 | 17:13 | 8.71 | NA | NA | 8.6 | NA | 53 | 0 | 0 | - | Respiration - after 15 CFM |
| SVE-1C | 9/14/2011 | 17:17 | 8.71 | NA | NA | 8.57 | NA | 65.5 | 0 | 0 | - | Respiration - after 15 CFM |
| SVE-1C | 9/14/2011 | 17:21 | 8.71 | NA | NA | 7.97 | NA | 65.4 | 0 | 0 | - | Respiration - after 15 CFM |
| SVE-1C | 9/14/2011 | 17:23 | 8.71 | 24.6 | 334 | 7.82 | 7.69 | 67 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 17:25 | 8.71 | NA | NA | 8.09 | NA | 70.4 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 17:28 | 8.71 | 24.61 | 261 | 7.53 | 7.65 | 73 | 0 | 0 | - | Respiration |

**Table XI**
**Air Sparge Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Distance to AS-1 (ft) | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Water Elevation (Feet) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SVE-1C | 9/14/2011 | 17:30 | 8.71 | NA | NA | 7.59 | NA | 73 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 18:28 | 8.71 | 24.56 | 2338 | 5.69 | 7.56 | 90 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 19:28 | 8.71 | 24.58 | 2304 | 4.51 | 7.49 | 96 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 20:28 | 8.71 | 24.6 | 2313 | 4.2 | 7.52 | 97 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 21:28 | 8.71 | 24.61 | 2308 | 3.69 | 7.47 | 99 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 22:28 | 8.71 | 24.62 | 2306 | 3.04 | 7.42 | 101 | 0 | 0 | - | Respiration |
| SVE-1C | 9/14/2011 | 23:28 | 8.71 | 24.63 | 2302 | 2.64 | 7.36 | 104 | 0 | 0 | - | Respiration |
| SVE-1C | 9/15/2011 | 0:28 | 8.71 | 24.66 | 2295 | 2.55 | 7.35 | 106 | 0 | 0 | - | Respiration |
| SVE-1C | 9/15/2011 | 1:28 | 8.71 | 24.66 | 2296 | 2.49 | 7.34 | 107 | 0 | 0 | - | Respiration |
| SVE-1C | 9/15/2011 | 2:28 | 8.71 | 24.68 | 2294 | 2.34 | 7.33 | 109 | 0 | 0 | - | Respiration |
| SVE-1C | 9/15/2011 | 3:28 | 8.71 | 24.7 | 2304 | 2.24 | 7.32 | 111 | 0 | 0 | - | Respiration |
| SVE-1C | 9/15/2011 | 4:28 | 8.71 | 24.68 | 2307 | 2.06 | 7.31 | 110 | 0 | 0 | - | Respiration |
| SVE-1C | 9/15/2011 | 7:51 | 8.71 | 24.6 | 2394 | 2.02 | 7.26 | -13.8 | 0 | 0 | - | Second day baseline |
| | | | | | | | | | | | | |
| IAS-1 | 9/14/2011 | 9:02 | 30.97 | 24.67 | 2284 | 4.25 | 6.68 | -35.0 | 0 | 0 | - | Baseline data |
| IAS-1 | 9/14/2011 | 10:21 | 30.97 | 24.70 | 2295 | 4.23 | NA | NA | 5 | 10 | - | Equipment error |
| IAS-1 | 9/14/2011 | 12:03 | 30.97 | 24.64 | 2330 | 3.89 | NA | NA | 0 | 0 | - | Baseline data - Restart tests |
| IAS-1 | 9/14/2011 | 12:29 | 30.97 | 24.68 | 2294 | 1.86 | 6.84 | 9.8 | 5 | 10 | 8.3327 | First reading |
| IAS-1 | 9/14/2011 | 13:22 | 30.97 | 24.72 | 2343 | 2.28 | 6.77 | -63.9 | 5 | 10 | 8.4904 | 15 min pulse test - 5 CFM |
| IAS-1 | 9/14/2011 | 14:14 | 30.97 | 24.70 | 2339 | 1.87 | NA | NA | 5 | 10 | - | 15 min pulse test - 5 CFM |
| IAS-1 | 9/14/2011 | 15:20 | 30.97 | 24.68 | 2381 | 1.96 | 6.79 | -63.9 | 10 | 25 | 8.7708 | 15 min pulse test - 10 CFM |
| IAS-1 | 9/14/2011 | 15:27 | 30.97 | NA | NA | 1.57 | NA | NA | 10 | 25 | - | 15 min pulse test - 10 CFM |
| IAS-1 | 9/14/2011 | 15:28 | 30.97 | NA | NA | 1.45 | NA | NA | 10 | 25 | - | 15 min pulse test - 10 CFM |
| IAS-1 | 9/14/2011 | 16:51 | 30.97 | 24.82 | 2372 | 2.89 | NA | -80 | 15 | 30 | - | 15 min pulse test - 15 CFM |
| IAS-1 | 9/14/2011 | 16:52 | 30.97 | 24.84 | 2376 | 1.73 | NA | -161 | 15 | 30 | 8.5988 | 15 min pulse test - 15 CFM |
| IAS-1 | 9/15/2011 | 7:47 | 30.97 | 24.66 | 2406 | 1.47 | 6.78 | -64 | 0 | 0 | - | Second day baseline |
| IAS-1 | 9/15/2011 | 8:05 | 30.97 | 24.36 | 2427 | 1.49 | 6.78 | -65 | 0 | 0 | - | Continual sonde logging |
| IAS-1 | 9/15/2011 | 8:15 | 30.97 | 24.67 | 2422 | 1.27 | 6.76 | -92 | 0 | 0 | - | Continual sonde logging |
| IAS-1 | 9/15/2011 | 8:25 | 30.97 | 24.69 | 2413 | 1.27 | 6.75 | -98 | 0 | 0 | - | Continual sonde logging |
| IAS-1 | 9/15/2011 | 8:35 | 30.97 | 24.69 | 2412 | 1.27 | 6.75 | -99 | 0 | 0 | - | Continual sonde logging |
| IAS-1 | 9/15/2011 | 8:45 | 30.97 | 24.68 | 2416 | 1.28 | 6.74 | -101 | 0 | 0 | - | Continual sonde logging |
| IAS-1 | 9/15/2011 | 8:55 | 30.97 | 24.69 | 2413 | 1.29 | 6.74 | -100 | 10 | 23 | - | Air sparge started at 8:53 |
| IAS-1 | 9/15/2011 | 9:05 | 30.97 | 24.73 | 2386 | 1.29 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 9:15 | 30.97 | 24.73 | 2378 | 1.29 | 6.75 | -104 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 9:25 | 30.97 | 24.74 | 2373 | 1.3 | 6.75 | -102 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 9:35 | 30.97 | 24.73 | 2366 | 1.31 | 6.74 | -100 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 9:45 | 30.97 | 24.74 | 2338 | 1.31 | 6.74 | -102 | 10 | 23 | - | Continuous Air Sparging |

**Table XI**
**Air Sparge Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| | | | | | | | | | AS-1 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well | Date | Time | Distance to AS-1 (ft) | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Air Flow Rate (CFM) | Air Pressure (psi) | Water Elevation (Feet) | Comments |
| IAS-1 | 9/15/2011 | 9:55 | 30.97 | 24.75 | 2326 | 1.31 | 6.74 | -102 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 10:05 | 30.97 | 24.75 | 2319 | 1.31 | 6.74 | -102 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 10:15 | 30.97 | 24.75 | 2300 | 1.31 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 10:25 | 30.97 | 24.76 | 2293 | 1.3 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 10:35 | 30.97 | 24.75 | 2284 | 1.3 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 10:45 | 30.97 | 24.76 | 2270 | 1.29 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 10:55 | 30.97 | 24.76 | 2260 | 1.29 | 6.75 | -102 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 11:05 | 30.97 | 24.76 | 2259 | 1.29 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 11:15 | 30.97 | 24.76 | 2252 | 1.28 | 6.75 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 11:25 | 30.97 | 24.75 | 2258 | 1.28 | 6.76 | -103 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 11:35 | 30.97 | 24.75 | 2264 | 1.28 | 6.76 | -105 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 11:45 | 30.97 | 24.75 | 2248 | 1.28 | 6.76 | -105 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 11:55 | 30.97 | 24.75 | 2244 | 1.27 | 6.76 | -106 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 12:05 | 30.97 | 24.76 | 2228 | 1.27 | 6.76 | -105 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 12:15 | 30.97 | 24.75 | 2242 | 1.27 | 6.76 | -106 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 12:25 | 30.97 | 24.76 | 2226 | 1.26 | 6.76 | -106 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 12:35 | 30.97 | 24.75 | 2224 | 1.26 | 6.76 | -107 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 12:45 | 30.97 | 24.75 | 2228 | 1.26 | 6.77 | -107 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 12:55 | 30.97 | 24.75 | 2224 | 1.25 | 6.77 | -108 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 13:05 | 30.97 | 24.75 | 2229 | 1.25 | 6.77 | -109 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 13:15 | 30.97 | 24.75 | 2232 | 1.25 | 6.77 | -109 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 13:25 | 30.97 | 24.75 | 2231 | 1.25 | 6.77 | -110 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 13:35 | 30.97 | 24.74 | 2229 | 1.24 | 6.77 | -109 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 13:45 | 30.97 | 24.75 | 2219 | 1.24 | 6.77 | -110 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 13:55 | 30.97 | 24.75 | 2226 | 1.24 | 6.77 | -110 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 14:05 | 30.97 | 24.74 | 2249 | 1.24 | 6.78 | -110 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 14:15 | 30.97 | 24.74 | 2246 | 1.24 | 6.78 | -111 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 14:25 | 30.97 | 24.74 | 2247 | 1.23 | 6.78 | -110 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 14:35 | 30.97 | 24.74 | 2233 | 1.23 | 6.78 | -111 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 14:45 | 30.97 | 24.73 | 2250 | 1.23 | 6.78 | -111 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 14:55 | 30.97 | 24.73 | 2254 | 1.23 | 6.79 | -112 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 15:05 | 30.97 | 24.73 | 2246 | 1.22 | 6.79 | -113 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 15:15 | 30.97 | 24.74 | 2246 | 1.22 | 6.79 | -113 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 15:25 | 30.97 | 24.73 | 2250 | 1.22 | 6.8 | -114 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 15:35 | 30.97 | 24.73 | 2246 | 1.21 | 6.8 | -114 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 15:45 | 30.97 | 24.73 | 2245 | 1.21 | 6.8 | -114 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 15:55 | 30.97 | 24.74 | 2232 | 1.21 | 6.8 | -116 | 10 | 23 | - | Continuous Air Sparging |

**Table XI**
**Air Sparge Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| | | | | | | | | | AS-1 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well | Date | Time | Distance to AS-1 (ft) | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Air Flow Rate (CFM) | Air Pressure (psi) | Water Elevation (Feet) | Comments |
| IAS-1 | 9/15/2011 | 16:05 | 30.97 | 24.74 | 2242 | 1.21 | 6.8 | -117 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 16:15 | 30.97 | 24.74 | 2234 | 1.2 | 6.8 | -119 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 16:25 | 30.97 | 24.75 | 2207 | 1.21 | 6.79 | -117 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 16:35 | 30.97 | 24.74 | 2232 | 1.19 | 6.81 | -118 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 16:45 | 30.97 | 24.74 | 2238 | 1.17 | 6.8 | -120 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 16:47 | 30.97 | 24.74 | 2237 | 1.16 | 6.8 | -119 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 17:47 | 30.97 | 24.73 | 2229 | 1.18 | 6.83 | -94 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 18:47 | 30.97 | 24.73 | 2229 | 1.19 | 6.83 | -81 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 19:47 | 30.97 | 24.74 | 2219 | 1.22 | 6.84 | -75 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 20:47 | 30.97 | 24.73 | 2221 | 1.26 | 6.86 | -71 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 21:47 | 30.97 | 24.73 | 2218 | 1.31 | 6.88 | -68 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 22:47 | 30.97 | 24.72 | 2222 | 1.37 | 6.85 | -67 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/15/2011 | 23:47 | 30.97 | 24.73 | 2221 | 1.43 | 6.89 | -65 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 0:47 | 30.97 | 24.73 | 2219 | 1.5 | 6.91 | -63 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 1:47 | 30.97 | 24.74 | 2214 | 1.56 | 6.9 | -64 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 2:47 | 30.97 | 24.73 | 2223 | 1.67 | 6.89 | -63 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 3:47 | 30.97 | 24.73 | 2219 | 1.73 | 6.89 | -65 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 4:47 | 30.97 | 24.73 | 2227 | 1.72 | 6.91 | -64 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 5:47 | 30.97 | 24.73 | 2232 | 1.83 | 6.91 | -61 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 6:47 | 30.97 | 24.74 | 2225 | 1.79 | 6.93 | -60 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 7:47 | 30.97 | 24.73 | 2234 | 1.93 | 6.94 | -59 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 9:56 | 30.97 | 24.74 | 2225 | 1.75 | 6.92 | -58 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 10:56 | 30.97 | 24.73 | 2250 | 2.05 | 6.94 | -57 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 11:56 | 30.97 | 24.74 | 2236 | 2 | 6.9 | -58 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 12:56 | 30.97 | 24.74 | 2241 | 2.03 | 6.92 | -58 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 13:56 | 30.97 | 24.73 | 2250 | 2.43 | 6.95 | -50 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 14:56 | 30.97 | 24.73 | 2261 | 2.46 | 6.94 | -48 | 10 | 23 | - | Continuous Air Sparging |
| IAS-1 | 9/16/2011 | 15:56 | 30.97 | 24.73 | 2266 | 2.4 | 6.93 | -48 | 10 | 23 | - | Continuous Air Sparging |

NOTES:
Equipment Error
Baseline Reading
Respiration Test
NA - Not Available

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| W-10 | 9/19/2011 | 13:48 | 24.92 | 2334 | 2.01 | 6.96 | -28.2 | NM |
| W-10 | 9/19/2011 | 14:07 | 24.88 | 2337 | 1.46 | 6.84 | -5 | NM |
| W-10 | 9/19/2011 | 14:12 | 24.89 | 2336 | 1.6 | 6.81 | -25 | NM |
| W-10 | 9/19/2011 | 14:18 | 24.87 | 2336 | 1.66 | 6.79 | -24.8 | NM |
| W-10 | 9/19/2011 | 14:24 | 24.84 | 2333 | 1.67 | 6.82 | -25.2 | NM |
| W-10 | 9/19/2011 | 14:27 | 24.82 | 2340 | 1.66 | 6.81 | -25 | NM |
| W-10 | 9/19/2011 | 14:31 | 24.82 | 2333 | 1.66 | 6.82 | -25.3 | NM |
| W-10 | 9/19/2011 | 15:27 | 24.74 | 2338 | 1.6 | 6.8 | -25 | NM |
| W-10 | 9/19/2011 | 16:27 | 24.73 | 2339 | 1.58 | 6.87 | -26 | NM |
| W-10 | 9/19/2011 | 17:27 | 24.72 | 2337 | 1.58 | 6.87 | -28 | NM |
| W-10 | 9/19/2011 | 18:27 | 24.72 | 2334 | 1.57 | 6.89 | -30 | NM |
| W-10 | 9/19/2011 | 19:27 | 24.71 | 2334 | 1.55 | 6.89 | -31 | NM |
| W-10 | 9/19/2011 | 20:27 | 24.71 | 2333 | 1.53 | 6.89 | -31 | NM |
| W-10 | 9/19/2011 | 21:27 | 24.71 | 2333 | 1.53 | 6.88 | -36 | NM |
| W-10 | 9/19/2011 | 22:27 | 24.71 | 2333 | 1.53 | 6.89 | -38 | NM |
| W-10 | 9/19/2011 | 23:27 | 24.71 | 2333 | 1.52 | 6.89 | -40 | NM |
| W-10 | 9/20/2011 | 9:10 | 24.71 | 2334 | 1.46 | 6.91 | -53.8 | NM |
| W-10 | 9/20/2011 | 11:00 | 24.65 | 2338 | 1.66 | 6.91 | -44.1 | NM |
| W-10 | 9/20/2011 | 16:10 | 24.73 | 2346 | 1.46 | 6.89 | -56 | NM |
| W-10 | 9/21/2011 | 9:33 | 24.65 | 2346 | 1.31 | 6.98 | -67.2 | NM |
| W-10 | 9/21/2011 | 16:40 | 24.64 | 2355 | 1.43 | 7 | -73.7 | NM |
| W-10 | 9/22/2011 | 9:00 | 24.4 | 2351 | 1.39 | 7.28 | -78.1 | NM |
| W-10 | 9/22/2011 | 13:20 | 24.77 | 2391.4 | 1.42 | 7.1 | -98 | 8.89 |
| W-10 | 9/22/2011 | 17:45 | 24.8 | 1605 | 1.47 | 7.23 | -111.0 | NM |
| W-10 | 9/22/2011 | 18:05 | 24.56 | 2371 | 1.33 | 7.2 | -72.1 | NM |
| W-10 | 9/22/2011 | 18:20 | 24.49 | 2387.6 | 2.05 | 7.26 | -60 | 6.043 |
| W-10 | 9/22/2011 | 19:20 | 24.65 | 2385.9 | 1.69 | 7.16 | -83 | 5.931 |
| W-10 | 9/22/2011 | 20:20 | 24.67 | 2387.1 | 1.66 | 7.17 | -85 | 5.917 |
| W-10 | 9/22/2011 | 21:20 | 24.67 | 2387.2 | 1.66 | 7.18 | -87 | 5.918 |
| W-10 | 9/22/2011 | 22:20 | 24.67 | 2387.4 | 1.66 | 7.18 | -89 | 5.915 |
| W-10 | 9/22/2011 | 23:20 | 24.67 | 2387.8 | 1.66 | 7.19 | -91 | 5.917 |
| W-10 | 9/23/2011 | 0:20 | 24.67 | 2389.1 | 1.65 | 7.21 | -93 | 5.914 |
| W-10 | 9/23/2011 | 1:20 | 24.69 | 2388.8 | 1.8 | 7.22 | -95 | 5.925 |
| W-10 | 9/23/2011 | 2:20 | 24.67 | 2391.1 | 1.8 | 7.22 | -96 | 5.933 |
| W-10 | 9/23/2011 | 3:20 | 24.68 | 2390.2 | 1.78 | 7.22 | -98 | 5.935 |
| W-10 | 9/23/2011 | 4:20 | 24.68 | 2390.6 | 1.79 | 7.22 | -100 | 5.936 |
| W-10 | 9/23/2011 | 5:20 | 24.68 | 2391.2 | 1.78 | 7.22 | -101 | 5.946 |
| W-10 | 9/23/2011 | 6:20 | 24.68 | 2391.6 | 1.79 | 7.22 | -103 | 5.955 |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| W-10 | 9/23/2011 | 7:16 | 24.68 | 23.79 | 1.78 | 7.22 | -106 | NM |
| W-10 | 9/23/2011 | 7:20 | 24.58 | 2037.4 | 1.2 | 7.62 | -88 | 5.325 |
| W-10 | 9/23/2011 | 9:55 | 24.57 | 2390 | 1.78 | 7.3 | -81.9 | NM |
| W-10 | 9/23/2011 | 10:20 | 24.62 | 2415.7 | 1.95 | 7.26 | -90 | 5.162 |
| W-10 | 9/23/2011 | 11:20 | 24.64 | 2417.1 | 2.21 | 7.24 | -92 | 4.991 |
| W-10 | 9/23/2011 | 12:20 | 24.65 | 2417 | 2.36 | 7.25 | -94 | 4.942 |
| W-10 | 9/23/2011 | 13:20 | 24.65 | 2417.4 | 2.35 | 7.24 | -95 | 4.925 |
| W-10 | 9/23/2011 | 14:20 | 24.65 | 2417.2 | 2.35 | 7.25 | -97 | 4.914 |
| W-10 | 9/23/2011 | 15:20 | 24.66 | 2418 | 2.32 | 7.25 | -98 | 4.909 |
| W-10 | 9/23/2011 | 16:20 | 24.65 | 2418.5 | 2.34 | 7.25 | -99 | 4.898 |
| W-10 | 9/23/2011 | 17:20 | 24.66 | 2418.5 | 2.24 | 7.24 | -101 | 4.89 |
| W-10 | 9/23/2011 | 18:20 | 24.66 | 2419.3 | 2.22 | 7.25 | -97 | 5.461 |
| W-10 | 9/23/2011 | 19:20 | 24.67 | 2419.8 | 2.21 | 7.25 | -99 | 5.452 |
| W-10 | 9/23/2011 | 20:20 | 24.67 | 2420.3 | 2.22 | 7.25 | -100 | 5.451 |
| W-10 | 9/23/2011 | 21:20 | 24.67 | 2420.4 | 2.12 | 7.25 | -101 | 5.448 |
| W-10 | 9/23/2011 | 22:20 | 24.67 | 2420.8 | 2.07 | 7.25 | -103 | 5.446 |
| W-10 | 9/23/2011 | 23:20 | 24.67 | 2421.1 | 2.06 | 7.25 | -104 | 5.455 |
| W-10 | 9/24/2011 | 0:20 | 24.67 | 2421.5 | 2.08 | 7.25 | -105 | 5.457 |
| W-10 | 9/24/2011 | 1:20 | 24.67 | 2422.2 | 2.02 | 7.25 | -106 | 5.458 |
| W-10 | 9/24/2011 | 2:20 | 24.69 | 2422.7 | 2.01 | 7.25 | -107 | 5.465 |
| W-10 | 9/24/2011 | 3:20 | 24.68 | 2423.1 | 2.04 | 7.25 | -109 | 5.463 |
| W-10 | 9/24/2011 | 4:20 | 24.68 | 2423.3 | 2.03 | 7.25 | -110 | 5.461 |
| W-10 | 9/24/2011 | 5:20 | 24.67 | 2424.4 | 2.02 | 7.25 | -113 | 5.466 |
| W-10 | 9/24/2011 | 6:20 | 24.66 | 2425.1 | 2 | 7.25 | -114 | 5.473 |
| W-10 | 9/24/2011 | 7:20 | 24.66 | 2427.8 | 2.01 | 7.25 | -119 | 5.479 |
| W-10 | 9/24/2011 | 8:20 | 24.66 | 2428.2 | 1.97 | 7.25 | -122 | 5.483 |
| W-10 | 9/24/2011 | 9:20 | 24.65 | 2430.1 | 1.98 | 7.25 | -123 | 5.488 |
| W-10 | 9/24/2011 | 10:20 | 24.65 | 2430.9 | 1.99 | 7.18 | -126 | 5.49 |
| W-10 | 9/24/2011 | 11:20 | 24.66 | 2430.5 | 1.99 | 7.17 | -127 | 5.489 |
| W-10 | 9/24/2011 | 12:20 | 24.65 | 2431.9 | 1.98 | 7.15 | -129 | 5.498 |
| W-10 | 9/24/2011 | 13:20 | 24.66 | 2432.3 | 2.03 | 7.12 | -131 | 5.494 |
| W-10 | 9/24/2011 | 14:20 | 24.65 | 2433.4 | 2.01 | 7.09 | -133 | 5.497 |
| W-10 | 9/24/2011 | 15:20 | 24.65 | 2434.6 | 2.01 | 7.07 | -136 | 5.492 |
| W-10 | 9/24/2011 | 16:20 | 24.66 | 2434.1 | 2.02 | 7.04 | -140 | 5.493 |
| W-10 | 9/24/2011 | 17:20 | 24.65 | 2435.5 | 2.01 | 7.03 | -140 | 5.491 |
| W-10 | 9/24/2011 | 18:20 | 24.66 | 2435.1 | 2 | 7.03 | -146 | 5.489 |
| W-10 | 9/24/2011 | 19:20 | 24.66 | 2437.3 | 1.98 | 7.01 | -152 | 5.492 |
| W-10 | 9/24/2011 | 20:20 | 24.66 | 2436.3 | 1.98 | 7 | -157 | 5.497 |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| W-10 | 9/24/2011 | 21:20 | 24.66 | 2439.2 | 1.96 | 6.99 | -160 | 5.495 |
| W-10 | 9/24/2011 | 22:20 | 24.66 | 2439 | 1.92 | 6.99 | -164 | 5.493 |
| W-10 | 9/24/2011 | 23:20 | 24.66 | 2438.1 | 1.9 | 6.98 | -170 | 5.495 |
| W-10 | 9/25/2011 | 0:20 | 24.67 | 2438.8 | 1.89 | 6.97 | -168 | 5.498 |
| W-10 | 9/25/2011 | 1:20 | 24.65 | 2440 | 1.92 | 6.97 | -177 | 5.495 |
| W-10 | 9/25/2011 | 2:20 | 24.66 | 2440.4 | 1.87 | 6.97 | -192 | 5.497 |
| W-10 | 9/25/2011 | 3:20 | 24.66 | 2440.1 | 1.9 | 6.97 | -199 | 5.496 |
| W-10 | 9/25/2011 | 4:20 | 24.66 | 2439.2 | 1.87 | 6.97 | -217 | 5.501 |
| W-10 | 9/25/2011 | 5:20 | 24.66 | 2439.3 | 1.9 | 6.96 | -236 | 5.501 |
| W-10 | 9/25/2011 | 6:20 | 24.66 | 2439.4 | 1.85 | 6.96 | -256 | 5.51 |
| W-10 | 9/25/2011 | 7:20 | 24.66 | 2440.2 | 1.89 | 6.97 | -308 | 5.513 |
| W-10 | 9/25/2011 | 8:20 | 24.66 | 2438.9 | 1.89 | 6.96 | -317 | 5.518 |
| W-10 | 9/25/2011 | 9:20 | 24.66 | 2439.6 | 1.87 | 6.97 | -323 | 5.518 |
| W-10 | 9/25/2011 | 10:20 | 24.66 | 2439.4 | 1.83 | 6.96 | -326 | 5.523 |
| W-10 | 9/25/2011 | 11:20 | 24.66 | 2439.1 | 1.88 | 6.96 | -327 | 5.519 |
| W-10 | 9/25/2011 | 12:20 | 24.66 | 2439.8 | 1.83 | 6.95 | -329 | 5.526 |
| W-10 | 9/25/2011 | 13:20 | 24.66 | 2439.9 | 1.86 | 6.93 | -331 | 5.525 |
| W-10 | 9/25/2011 | 14:20 | 24.66 | 2440.3 | 1.78 | 6.92 | -331 | 5.522 |
| W-10 | 9/25/2011 | 15:20 | 24.67 | 2440.9 | 1.68 | 6.9 | -334 | 5.522 |
| W-10 | 9/25/2011 | 16:20 | 24.66 | 2441.1 | 1.68 | 6.89 | -334 | 5.517 |
| W-10 | 9/25/2011 | 17:20 | 24.66 | 2441.9 | 1.62 | 6.87 | -335 | 5.516 |
| W-10 | 9/25/2011 | 18:20 | 24.66 | 2441.9 | 1.63 | 6.87 | -336 | 5.512 |
| W-10 | 9/25/2011 | 19:20 | 24.66 | 2442.9 | 1.62 | 6.85 | -337 | 5.516 |
| W-10 | 9/25/2011 | 20:20 | 24.66 | 2443.1 | 1.63 | 6.84 | -336 | 5.523 |
| W-10 | 9/25/2011 | 21:20 | 24.66 | 2443.3 | 1.66 | 6.84 | -336 | 5.526 |
| W-10 | 9/25/2011 | 22:20 | 24.66 | 2443.6 | 1.67 | 6.83 | -338 | 5.516 |
| W-10 | 9/25/2011 | 23:20 | 24.66 | 2443.5 | 1.64 | 6.82 | -338 | 5.523 |
| W-10 | 9/26/2011 | 0:20 | 24.66 | 2443.2 | 1.63 | 6.82 | -338 | 5.527 |
| W-10 | 9/26/2011 | 1:20 | 24.66 | 2443.6 | 1.65 | 6.81 | -339 | 5.516 |
| W-10 | 9/26/2011 | 2:20 | 24.66 | 2443.6 | 1.6 | 6.81 | -340 | 5.526 |
| W-10 | 9/26/2011 | 3:20 | 24.66 | 2443 | 1.62 | 6.81 | -340 | 5.526 |
| W-10 | 9/26/2011 | 4:20 | 24.66 | 2442.6 | 1.61 | 6.81 | -340 | 5.527 |
| W-10 | 9/26/2011 | 5:20 | 24.66 | 2442.6 | 1.6 | 6.82 | -339 | 5.525 |
| W-10 | 9/26/2011 | 6:20 | 24.66 | 2442.6 | 1.56 | 6.83 | -340 | 5.535 |
| W-10 | 9/26/2011 | 7:20 | 24.66 | 2441.7 | 1.55 | 6.84 | -365 | 5.541 |
| W-10 | 9/26/2011 | 8:20 | 24.66 | 2441.9 | 1.54 | 6.84 | -389 | 5.534 |
| W-10 | 9/26/2011 | 9:51 | 24.65 | 2428 | 1.66 | 6.85 | -394.9 | NM |
| W-10 | 9/26/2011 | 16:29 | 24.67 | 2437 | 1.77 | 6.88 | -256 | NM |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| W-10 | 9/27/2011 | 9:59 | 24.69 | 2438 | 2.03 | 7.07 | -272.2 | NM |
| W-10 | 9/27/2011 | 11:00 | 24.69 | 2453.9 | 2.01 | 7.01 | -332 | 6.553 |
| W-10 | 9/27/2011 | 12:00 | 24.69 | 2453.6 | 2.01 | 7.01 | -336 | 6.491 |
| W-10 | 9/27/2011 | 13:00 | 24.68 | 2454.5 | 2.06 | 7.02 | -338 | 6.467 |
| W-10 | 9/27/2011 | 14:00 | 24.69 | 2454.2 | 2.06 | 7.03 | -339 | 6.451 |
| W-10 | 9/27/2011 | 15:00 | 24.69 | 2454 | 2.08 | 7.03 | -339 | 6.443 |
| W-10 | 9/27/2011 | 15:15 | 24.69 | 2440 | 2.09 | 7.02 | -340.7 | NM |
| W-10 | 9/27/2011 | 16:00 | 24.69 | 2451.8 | 2.06 | 7.03 | -318 | 6.472 |
| W-10 | 9/27/2011 | 17:00 | 24.69 | 2451.2 | 2.09 | 7.03 | -334 | 6.46 |
| W-10 | 9/27/2011 | 18:00 | 24.69 | 2451.2 | 2.04 | 7.03 | -336 | 6.452 |
| W-10 | 9/27/2011 | 19:00 | 24.69 | 2451.3 | 2.02 | 7.03 | -338 | 6.459 |
| W-10 | 9/27/2011 | 20:00 | 24.69 | 2450.7 | 2.07 | 7.03 | -339 | 6.461 |
| W-10 | 9/27/2011 | 21:00 | 24.69 | 2451 | 2.02 | 7.04 | -340 | 6.468 |
| W-10 | 9/27/2011 | 22:00 | 24.69 | 2451.5 | 2.05 | 7.05 | -342 | 6.474 |
| W-10 | 9/27/2011 | 23:00 | 24.69 | 2451.4 | 2.01 | 7.05 | -342 | 6.496 |
| W-10 | 9/28/2011 | 0:00 | 24.69 | 2450.8 | 2.03 | 7.05 | -342 | 6.485 |
| W-10 | 9/28/2011 | 1:00 | 24.69 | 2451.2 | 2.08 | 7.05 | -342 | 6.481 |
| W-10 | 9/28/2011 | 2:00 | 24.7 | 2451.3 | 2.04 | 7.05 | -343 | 6.497 |
| W-10 | 9/28/2011 | 3:00 | 24.69 | 2451.1 | 2.09 | 7.05 | -344 | 6.502 |
| W-10 | 9/28/2011 | 4:00 | 24.69 | 2451 | 2.12 | 7.05 | -345 | 6.51 |
| W-10 | 9/28/2011 | 5:00 | 24.69 | 2450.4 | 2.18 | 7.05 | -344 | 6.503 |
| W-10 | 9/28/2011 | 6:00 | 24.69 | 2451.9 | 2.24 | 7.05 | -346 | 6.523 |
| W-10 | 9/28/2011 | 7:00 | 24.69 | 2449.9 | 2.27 | 7.06 | -347 | 6.529 |
| W-10 | 9/28/2011 | 8:00 | 24.69 | 2449.8 | 2.25 | 7.05 | -345 | 6.533 |
| W-10 | 9/28/2011 | 9:00 | 24.69 | 2450.8 | 2.3 | 7.05 | -347 | 6.539 |
| W-10 | 9/28/2011 | 10:00 | 24.7 | 2450.2 | 2.37 | 7.06 | -346 | 6.543 |
| W-10 | 9/28/2011 | 11:00 | 24.69 | 2450 | 2.38 | 7.05 | -348 | 6.546 |
| W-10 | 9/28/2011 | 11:01 | 24.70 | 2435 | 2.40 | 7.05 | -347.7 | NM |
| W-10 | 9/28/2011 | 16:45 | 24.65 | 2415 | 2.57 | 7.05 | -229.1 | NM |
| W-10 | 9/28/2011 | 17:00 | 24.64 | 2426.3 | 2.29 | 7.04 | -309 | 4.586 |
| W-10 | 9/28/2011 | 18:00 | 24.64 | 2427.4 | 2.16 | 7.03 | -342 | 4.389 |
| W-10 | 9/28/2011 | 19:00 | 24.65 | 2427.2 | 2.21 | 7.04 | -344 | 4.349 |
| W-10 | 9/28/2011 | 20:00 | 24.64 | 2427.3 | 2.2 | 7.03 | -345 | 4.33 |
| W-10 | 9/28/2011 | 21:00 | 24.64 | 2427.3 | 2.24 | 7.03 | -345 | 4.334 |
| W-10 | 9/28/2011 | 22:00 | 24.65 | 2426.1 | 2.26 | 7.02 | -346 | 4.332 |
| W-10 | 9/28/2011 | 23:00 | 24.65 | 2427.5 | 2.23 | 7.02 | -346 | 4.335 |
| W-10 | 9/29/2011 | 0:00 | 24.65 | 2427.6 | 2.3 | 7.03 | -346 | 4.332 |
| W-10 | 9/29/2011 | 1:00 | 24.64 | 2425.3 | 2.27 | 7.02 | -346 | 4.331 |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| W-10 | 9/29/2011 | 2:00 | 24.64 | 2424.8 | 2.29 | 7.01 | -347 | 4.335 |
| W-10 | 9/29/2011 | 3:00 | 24.63 | 2416.6 | 2.29 | 7 | -349 | 4.335 |
| W-10 | 9/29/2011 | 4:00 | 24.63 | 2406.6 | 2.31 | 7.01 | -349 | 4.334 |
| W-10 | 9/29/2011 | 5:00 | 24.63 | 2394.5 | 2.31 | 7 | -349 | 4.336 |
| W-10 | 9/29/2011 | 6:00 | 24.63 | 2385.6 | 2.3 | 7.01 | -348 | 4.34 |
| W-10 | 9/29/2011 | 7:00 | 24.63 | 2379.8 | 2.3 | 7.01 | -349 | 4.348 |
| W-10 | 9/29/2011 | 8:00 | 24.63 | 2375.2 | 2.32 | 7.01 | -349 | 4.348 |
| W-10 | 9/29/2011 | 9:00 | 24.63 | 2366.6 | 2.27 | 7.02 | -348 | 4.351 |
| W-10 | 9/29/2011 | 10:00 | 24.63 | 2360 | 2.24 | 7.01 | -349 | 4.361 |
| W-10 | 9/29/2011 | 10:10 | 24.63 | 2350 | 2.28 | 7 | -349.2 | NM |
| W-10 | 9/29/2011 | 17:10 | 24.66 | 2364 | 2.39 | 7.06 | -254.7 | NM |
| W-10 | 9/29/2011 | 18:00 | 24.67 | 2381 | 2.32 | 5.505 | -336 | 7.03 |
| W-10 | 9/29/2011 | 19:00 | 24.66 | 2380.9 | 2.35 | 5.41 | -343 | 7.02 |
| W-10 | 9/29/2011 | 20:00 | 24.66 | 2380.3 | 2.34 | 5.4 | -345 | 7.02 |
| W-10 | 9/29/2011 | 21:00 | 24.66 | 2379.3 | 2.35 | 5.383 | -345 | 7.04 |
| W-10 | 9/29/2011 | 22:00 | 24.66 | 2378.9 | 2.35 | 5.38 | -346 | 7.02 |
| W-10 | 9/29/2011 | 23:00 | 24.66 | 2379 | 2.38 | 5.395 | -346 | 7.01 |
| W-10 | 9/30/2011 | 0:00 | 24.66 | 2379.1 | 2.37 | 5.38 | -347 | 6.98 |
| W-10 | 9/30/2011 | 1:00 | 24.66 | 2379.5 | 2.31 | 5.401 | -347 | 6.92 |
| W-10 | 9/30/2011 | 2:00 | 24.66 | 2379.4 | 2.34 | 5.399 | -347 | 6.99 |
| W-10 | 9/30/2011 | 3:00 | 24.66 | 2379.9 | 2.28 | 5.4 | -348 | 7.01 |
| W-10 | 9/30/2011 | 4:00 | 24.66 | 2379.3 | 2.29 | 5.395 | -348 | 6.98 |
| W-10 | 9/30/2011 | 5:00 | 24.67 | 2380.7 | 2.25 | 5.389 | -348 | 6.98 |
| W-10 | 9/30/2011 | 6:00 | 24.67 | 2380.6 | 2.2 | 5.395 | -349 | 6.97 |
| W-10 | 9/30/2011 | 7:00 | 24.67 | 2381 | 2.17 | 5.396 | -349 | 6.99 |
| W-10 | 9/30/2011 | 8:00 | 24.66 | 2380.6 | 2.16 | 5.402 | -349 | 6.95 |
| W-10 | 9/30/2011 | 9:00 | 24.66 | 2381.1 | 2.14 | 5.397 | -349 | 6.9 |
| W-10 | 9/30/2011 | 9:12 | 24.66 | 2366 | 2.14 | 7.02 | -350.9 | NM |
| | | | | | | | | |
| SVE-1C | 9/19/2011 | 13:52 | 24.81 | 1888 | 1.18 | 7.44 | 8.2 | NM |
| SVE-1C | 9/19/2011 | 13:58 | 24.87 | 1895 | 0.97 | 7.4 | 39.2 | NM |
| SVE-1C | 9/19/2011 | 14:03 | 24.85 | 1885 | 0.91 | 7.4 | 49.9 | NM |
| SVE-1C | 9/20/2011 | 9:15 | 24.65 | 1939 | 0.9 | 7.38 | -37.3 | NM |
| SVE-1C | 9/20/2011 | 9:35 | 24.7 | 1934 | 0.82 | 7.37 | -29.7 | NM |
| SVE-1C | 9/20/2011 | 10:52 | 24.71 | 1935 | 1.28 | 7.38 | -27.1 | NM |
| SVE-1C | 9/20/2011 | 16:18 | 24.66 | 1950 | 0.89 | 7.34 | -44.1 | NM |
| SVE-1C | 9/20/2011 | 16:48 | 24.7 | 1956 | 1.02 | 7.35 | -41 | NM |
| SVE-1C | 9/20/2011 | 17:48 | 24.72 | 1956 | 0.81 | 7.34 | -44 | NM |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| SVE-1C | 9/20/2011 | 18:48 | 24.73 | 1958 | 0.79 | 7.35 | -48 | NM |
| SVE-1C | 9/20/2011 | 19:48 | 24.73 | 1957 | 0.78 | 7.35 | -51 | NM |
| SVE-1C | 9/20/2011 | 20:48 | 24.73 | 1958 | 0.78 | 7.34 | -54 | NM |
| SVE-1C | 9/20/2011 | 21:48 | 24.73 | 1963 | 0.77 | 7.35 | -58 | NM |
| SVE-1C | 9/20/2011 | 22:48 | 24.73 | 1955 | 0.76 | 7.35 | -60 | NM |
| SVE-1C | 9/20/2011 | 23:48 | 24.73 | 1959 | 0.77 | 7.34 | -63 | NM |
| SVE-1C | 9/21/2011 | 0:48 | 24.73 | 1958 | 0.76 | 7.35 | -66 | NM |
| SVE-1C | 9/21/2011 | 1:48 | 24.73 | 1956 | 0.76 | 7.39 | -70 | NM |
| SVE-1C | 9/21/2011 | 2:48 | 24.73 | 1958 | 0.76 | 7.39 | -74 | NM |
| SVE-1C | 9/21/2011 | 3:48 | 24.73 | 1972 | 0.76 | 7.39 | -77 | NM |
| SVE-1C | 9/21/2011 | 4:48 | 24.73 | 1972 | 0.76 | 7.39 | -80 | NM |
| SVE-1C | 9/21/2011 | 5:48 | 24.73 | 1961 | 0.76 | 7.39 | -82 | NM |
| SVE-1C | 9/21/2011 | 6:48 | 24.73 | 1966 | 0.76 | 7.4 | -84 | NM |
| SVE-1C | 9/21/2011 | 7:48 | 24.73 | 1975 | 0.76 | 7.4 | -86 | NM |
| SVE-1C | 9/21/2011 | 8:48 | 24.73 | 1969 | 0.76 | 7.4 | -88 | NM |
| SVE-1C | 9/21/2011 | 9:23 | 24.72 | 1968 | 0.93 | 7.42 | -90 | NM |
| SVE-1C | 9/21/2011 | 9:27 | 24.72 | 1967 | 0.84 | 7.41 | -89.7 | NM |
| SVE-1C | 9/21/2011 | 10:01 | 24.57 | 1985 | 1.01 | 7.41 | -65 | NM |
| SVE-1C | 9/21/2011 | 11:01 | 24.73 | 1858 | 0.76 | 7.38 | -75 | NM |
| SVE-1C | 9/21/2011 | 12:01 | 24.74 | 1979 | 0.77 | 7.38 | -79 | NM |
| SVE-1C | 9/21/2011 | 13:01 | 24.75 | 1986 | 0.77 | 7.39 | -84 | NM |
| SVE-1C | 9/21/2011 | 14:01 | 24.75 | 1985 | 0.78 | 7.39 | -87 | NM |
| SVE-1C | 9/21/2011 | 15:01 | 24.75 | 1993 | 0.78 | 7.4 | -92 | NM |
| SVE-1C | 9/21/2011 | 16:01 | 24.75 | 1763 | 0.78 | 7.41 | -95 | NM |
| SVE-1C | 9/21/2011 | 16:36 | 24.75 | 1979 | 0.77 | 7.39 | -93.4 | NM |
| SVE-1C | 9/21/2011 | 16:47 | 24.61 | 1995 | 0.92 | 7.42 | -69 | NM |
| SVE-1C | 9/21/2011 | 17:47 | 24.74 | 1991 | 0.77 | 7.41 | -86 | NM |
| SVE-1C | 9/21/2011 | 18:47 | 24.74 | 1990 | 0.76 | 7.42 | -92 | NM |
| SVE-1C | 9/21/2011 | 19:47 | 24.74 | 1996 | 0.77 | 7.42 | -97 | NM |
| SVE-1C | 9/21/2011 | 20:47 | 24.74 | 1999 | 0.76 | 7.43 | -97 | NM |
| SVE-1C | 9/21/2011 | 21:47 | 24.74 | 1999 | 0.75 | 7.44 | -100 | NM |
| SVE-1C | 9/21/2011 | 22:47 | 24.74 | 2000 | 0.75 | 7.46 | -104 | NM |
| SVE-1C | 9/21/2011 | 23:47 | 24.75 | 1999 | 0.75 | 7.47 | -104 | NM |
| SVE-1C | 9/22/2011 | 0:47 | 24.74 | 2002 | 0.74 | 7.48 | -108 | NM |
| SVE-1C | 9/22/2011 | 1:47 | 24.75 | 1997 | 0.74 | 7.48 | -108 | NM |
| SVE-1C | 9/22/2011 | 2:47 | 24.75 | 1998 | 0.74 | 7.49 | -110 | NM |
| SVE-1C | 9/22/2011 | 3:47 | 24.75 | 2005 | 0.74 | 7.5 | -111 | NM |
| SVE-1C | 9/22/2011 | 4:47 | 24.74 | 2007 | 0.73 | 7.51 | -116 | NM |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| SVE-1C | 9/22/2011 | 5:47 | 24.75 | 2005 | 0.73 | 7.51 | -115 | NM |
| SVE-1C | 9/22/2011 | 6:47 | 24.75 | 2011 | 0.72 | 7.5 | -116 | NM |
| SVE-1C | 9/22/2011 | 7:47 | 24.75 | 2008 | 0.72 | 7.51 | -117 | NM |
| SVE-1C | 9/22/2011 | 8:34 | 24.75 | 1994 | 0.72 | 7.51 | -119.1 | NM |
| SVE-1C | 9/22/2011 | 18:00 | 24.48 | 2002 | 0.89 | 7.63 | -80.5 | NM |
| SVE-1C | 9/23/2011 | 7:21 | 24.57 | 2020 | 1.20 | 7.62 | -88.3 | NM |
| SVE-1C | 9/23/2011 | 9:50 | 24.51 | 2021 | 1.51 | 7.85 | -53 | NM |
| SVE-1C | 9/23/2011 | 17:35 | 24.68 | 2038 | 1.21 | 7.62 | -92.5 | NM |
| SVE-1C | 9/26/2011 | 9:59 | 24.54 | 2052 | 1.28 | 7.23 | -203.9 | NM |
| SVE-1C | 9/26/2011 | 10:00 | 24.64 | 2067.4 | 1.22 | 7.24 | -225 | NM |
| SVE-1C | 9/26/2011 | 11:00 | 24.7 | 2069.7 | 0.8 | 7.22 | -255 | NM |
| SVE-1C | 9/26/2011 | 12:00 | 24.72 | 2066 | 0.61 | 7.23 | -272 | NM |
| SVE-1C | 9/26/2011 | 13:00 | 24.72 | 2071.9 | 0.59 | 7.24 | -287 | NM |
| SVE-1C | 9/26/2011 | 14:00 | 24.72 | 2068.3 | 0.62 | 7.24 | -325 | NM |
| SVE-1C | 9/26/2011 | 15:00 | 24.72 | 2074.1 | 0.62 | 7.25 | -338 | NM |
| SVE-1C | 9/26/2011 | 16:00 | 24.72 | 2075 | 0.58 | 7.25 | -344 | NM |
| SVE-1C | 9/26/2011 | 16:17 | 24.73 | 2064 | 0.59 | 7.25 | -348.2 | NM |
| SVE-1C | 9/26/2011 | 17:00 | 24.71 | 2063.4 | 0.8 | 7.25 | -271 | NM |
| SVE-1C | 9/26/2011 | 18:00 | 24.71 | 2068.2 | 0.71 | 7.23 | -313 | NM |
| SVE-1C | 9/26/2011 | 19:00 | 24.71 | 2060.1 | 0.69 | 7.23 | -333 | NM |
| SVE-1C | 9/26/2011 | 20:00 | 24.71 | 2072.7 | 0.61 | 7.25 | -341 | NM |
| SVE-1C | 9/26/2011 | 21:00 | 24.72 | 2067.1 | 0.67 | 7.26 | -345 | NM |
| SVE-1C | 9/26/2011 | 22:00 | 24.72 | 2076.6 | 0.68 | 7.25 | -348 | NM |
| SVE-1C | 9/26/2011 | 23:00 | 24.72 | 2072.7 | 0.76 | 7.27 | -350 | NM |
| SVE-1C | 9/27/2011 | 0:00 | 24.71 | 2068.9 | 0.73 | 7.28 | -352 | NM |
| SVE-1C | 9/27/2011 | 1:00 | 24.72 | 2070.9 | 0.77 | 7.29 | -354 | NM |
| SVE-1C | 9/27/2011 | 2:00 | 24.71 | 2077 | 0.84 | 7.3 | -354 | NM |
| SVE-1C | 9/27/2011 | 3:00 | 24.71 | 2077.4 | 0.78 | 7.32 | -356 | NM |
| SVE-1C | 9/27/2011 | 4:00 | 24.71 | 2077.3 | 0.82 | 7.32 | -356 | NM |
| SVE-1C | 9/27/2011 | 5:00 | 24.71 | 2078.6 | 0.83 | 7.33 | -357 | NM |
| SVE-1C | 9/27/2011 | 6:00 | 24.71 | 2082.6 | 0.83 | 7.32 | -357 | NM |
| SVE-1C | 9/27/2011 | 7:00 | 24.71 | 2082.9 | 0.86 | 7.33 | -357 | NM |
| SVE-1C | 9/27/2011 | 8:00 | 24.71 | 2082.8 | 0.88 | 7.34 | -357 | NM |
| SVE-1C | 9/27/2011 | 9:00 | 24.71 | 2080 | 0.91 | 7.35 | -358 | NM |
| SVE-1C | 9/27/2011 | 9:44 | 24.73 | 2073 | 0.85 | 7.36 | -358.7 | NM |
| SVE-1C | 9/27/2011 | 10:00 | 24.68 | 2453.5 | 2.09 | 7.01 | -276 | NM |
| SVE-1C | 9/27/2011 | 15:20 | 24.68 | 2081 | 1.74 | 7.39 | -206.5 | NM |
| SVE-1C | 9/28/2011 | 11:05 | 24.58 | 2093 | 2.15 | 7.41 | -194.4 | NM |

**Table XII**
**In-Well Air Stripping Pilot Test Field Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Well | Date | Time | Temp (°C) | Cond (µS/cm) | DO (mg/L) | pH | ORP (mV) | Depth in Water (ft) |
|---|---|---|---|---|---|---|---|---|
| SVE-1C | 9/28/2011 | 12:00 | 24.71 | 2107.3 | 1.51 | 7.37 | -281 | 5.619 |
| SVE-1C | 9/28/2011 | 13:00 | 24.71 | 2102.1 | 1.43 | 7.36 | -316 | 5.619 |
| SVE-1C | 9/28/2011 | 14:00 | 24.72 | 2105.2 | 1.33 | 7.37 | -328 | 5.618 |
| SVE-1C | 9/28/2011 | 15:00 | 24.72 | 2101.2 | 1.12 | 7.37 | -333 | 5.619 |
| SVE-1C | 9/28/2011 | 16:00 | 24.72 | 2112.8 | 1.12 | 7.37 | -342 | 5.621 |
| SVE-1C | 9/28/2011 | 16:40 | 24.72 | 2101 | 1.21 | 7.36 | -344.8 | NM |
| SVE-1C | 9/29/2011 | 10:33 | 2483 | 2117 | 2.33 | 7.35 | -167.3 | NM |
| SVE-1C | 9/29/2011 | 11:00 | 24.77 | 2121.8 | 2.08 | 7.38 | -201 | 5.788 |
| SVE-1C | 9/29/2011 | 12:00 | 24.73 | 2124 | 1.71 | 7.37 | -204 | 5.788 |
| SVE-1C | 9/29/2011 | 13:00 | 24.73 | 2116.9 | 1.51 | 7.37 | -226 | 5.792 |
| SVE-1C | 9/29/2011 | 14:00 | 24.72 | 2123.9 | 1.56 | 7.37 | -241 | 5.787 |
| SVE-1C | 9/29/2011 | 15:00 | 24.72 | 2126.9 | 1.4 | 7.37 | -263 | 5.791 |
| SVE-1C | 9/29/2011 | 16:00 | 24.72 | 2123.8 | 1.42 | 7.39 | -283 | 5.782 |
| SVE-1C | 9/29/2011 | 17:00 | 24.72 | 2112 | 1.3 | 7.37 | -294.5 | NM |
| SVE-1C | 9/30/2011 | 9:30 | 24.57 | 2112 | 2.83 | 7.36 | -147.2 | NM |

NOTES:
NM - Not Measured

**Table XIII**
**In-well Air Stripping Pilot Test System Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| System Pilot-Test Monitoring Data | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Area | Date | Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | Comments |
| 3 | 9/20/2011 | 10:20 | 660.4 | 672 | 582 | -7 | NA | 36 | System OFF upon arrival (overheat) |
| 3 | 9/20/2011 | 16:32 | 666.9 | 689 | 825 | -7 | NA | 36 | |
| 3 | 9/21/2011 | 9:51 | 669.3 | 677 | 583 | -3 | NA | 35 | System OFF upon arrival (overheat) |
| 3 | 9/21/2011 | 16:05 | 675.5 | 680 | 631 | -7 | NA | 35 | |
| 3 | 9/22/2011 | 9:45 | 683.9 | 680 | 605 | 0 | NA | 35 | System OFF upon arrival (overheat) |
| 3 | 9/23/2011 | 7:25 | 705.6 | 686 | 722 | 0 | 270 | 37 | |
| 3 | 9/23/2011 | 17:00 | 713 | 703 | 630 | 4 | 280 | 34 | |
| 3 | 9/26/2011 | 9:42 | 777.8 | 640 | 622 | 0 | 272 | 35 | |
| 3 | 9/26/2011 | 16:08 | 784.2 | 642 | 622 | 5 | 290 | 35 | |
| 3 | 9/27/2011 | 9:40 | 801.8 | 693 | 623 | 1.5 | NA | 35 | |
| 3 | 9/27/2011 | 15:13 | 807.2 | 660 | 617 | 5 | 308 | 35 | |
| 3 | 9/28/2011 | 10:56 | 827 | 620 | 612 | 0 | 278 | 35 | |
| 3 | 9/28/2011 | 16:59 | 833 | 698 | 625 | 2 | 280 | 35 | |
| 3 | 9/29/2011 | 17:15 | 849.1 | 632 | 552 | 2 | 270 | 35 | |
| 3 | 9/30/2011 | 9:06 | 856.2 | 690 | 427 | 0 | 280 | 35 | |
| | | | | | | | | | |

| Influent Catalytic Oxidizer Pilot-Test Monitoring Data (Air injection ON) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Area | Date | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
| 3 | 9/20/2011 | 9:56 | 20.7 | 230 | 20.9 | 300 | 0 | NA | Reading with air injection ON |
| 3 | 9/20/2011 | 16:30 | 1518 | 12750 | 16.3 | 5675 | 0 | NA | Reading with air injection ON |
| 3 | 9/21/2011 | 9:58 | 21.9 | 270 | 20.9 | 225 | 0 | NA | Reading with air injection ON |
| 3 | 9/21/2011 | 16:22 | 360 | 1000 | 18.8 | 775 | 0 | NA | Reading with air injection ON |
| 3 | 9/22/2011 | 9:46 | 52 | 80 | 20.9 | 250 | 0 | NA | Reading with air injection ON |
| 3 | 9/22/2011 | 18:28 | 1055 | 6400 | 18.8 | 2725 | 0 | NA | Reading with air injection ON |
| 3 | 9/23/2011 | 7:32 | NA | 2000 | 20.2 | 1850 | 0 | NA | Reading with air injection ON |
| 3 | 9/26/2011 | 16:15 | 8.4 | 0 | 20.9 | 175 | 0 | NA | Reading with air injection ON |
| 3 | 9/26/2011 | 16:35 | 9.7 | 400 | 20.9 | 5400 | 0 | NA | Reading with air injection ON |
| 3 | 9/27/2011 | 9:52 | 23 | 0 | 20.9 | 250 | 0 | NA | Reading with air injection ON |
| 3 | 9/27/2011 | 10:04 | 7.7 | 320 | 20.9 | 300 | 0 | NA | Reading with air injection ON |
| 3 | 9/27/2011 | 15:35 | 6.3 | 280 | 20.9 | 50 | 0 | NA | Reading with air injection ON |
| 3 | 9/28/2011 | 11:12 | 7 | 0 | 20.9 | 125 | 0 | NA | Reading with air injection ON |
| 3 | 9/28/2011 | 16:52 | 5.2 | 250 | 20.9 | 25 | 0 | NA | Reading with air injection ON |
| 3 | 9/29/2011 | 17:25 | 4.6 | 0 | 20.9 | 75 | 0 | NA | Reading with air injection ON |
| 3 | 9/30/2011 | 9:00 | 5.1 | 0 | 20.9 | 200 | 0 | NA | Reading with air injection ON |

**Table XIII**
**In-well Air Stripping Pilot Test System Readings - Area 3**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Influent Catalytic Oxidizer Pilot-Test Monitoring Data (Air injection OFF) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Area | Date | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
| 3 | 9/22/2011 | 18:35 | 47.2 | 350 | 20.9 | 100 | 0 | NA | Reading with air injection OFF |
| 3 | 9/26/2011 | 16:21 | 242 | 1950 | 20.4 | 150 | 0 | NA | Reading with air injection OFF |
| 3 | 9/27/2011 | 9:54 | 159 | 230 | 20.1 | 5300 | 0 | NA | Reading with air injection OFF |
| 3 | 9/27/2011 | 15:40 | 240 | 2100 | 19.9 | 5500 | 0 | NA | Reading with air injection OFF |
| 3 | 9/28/2011 | 11:20 | 122 | 1350 | 20.2 | 4650 | 0 | NA | Reading with air injection OFF |
| 3 | 9/28/2011 | 16:57 | 167 | 1700 | 20.3 | 4975 | 0 | NA | Reading with air injection OFF |
| 3 | 9/29/2011 | 17:30 | 124 | 1500 | 20.7 | 3875 | 0 | NA | Reading with air injection OFF |
| 3 | 9/30/2011 | 9:08 | 6.2 | 300 | 20.9 | 800 | 0 | NA | Reading with air injection OFF |

NOTES:
CFM - cubic feet per minute
in Hg - inches of Mercury
ppm - parts per million
NA - Information not available

**Table XIV**
**Summary of Analytical Data for Shallow Soil Borings**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Sample # | Location | Depth | Pilot Test Area | Date | 1,2,4-TMB | 1,3,5-TMB | B | T | E | m/p-X | o-X | TPHg | TPHd | TPHo | NAP | B(a)p | dib(a,h)a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Feet | | | All Units in µg/kg | | | | | | | | | | | | |
| 1 | B-401 | 1 | Area 5 | 10/6/11 | 16000 | 320 | 300 | 280 | 3800 | 9000 | 4100 | 23000 | 630000 | 340000 | 8500 | <3000 | <3000 |
| 2 | B-402 | 1 | Area 5 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 270000 | 1600000 | <5.0 | <3000 | <3000 |
| 3 | B-403 | 1 | Area 5 | 10/7/11 | 13 | 13 | 18 | <5.0 | 140 | 14 | 13 | 3500 | 460000 | 400000 | 36 | <300 | <300 |
| 4 | B-404 | 1 | Area 5 | 10/7/11 | 100 | 27 | 70 | 13 | 480 | 94 | 40 | 20000 | 3300000 | 30000000 | 3700 | <300 | <300 |
| 5 | B-405 | 1 | Area 5 | 10/7/11 | 6.0 | <5.0 | 30 | 26 | <5.0 | <5.0 | <5.0 | 1400 | 1100000 | 5600000 | 24 | <300 | <300 |
| 6 | B-406 | 1 | Area 5 | 10/7/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 350000 | 3400000 | <5.0 | <300 | <300 |
| 7 | B-407 | 1 | Area 5 | 10/7/11 | 38000 | 14000 | 50 | 18 | 430 | 1100 | 310 | 41000 | 4500000 | 6400000 | 21000 | 880 | <300 |
| 8 | B-408 | 1 | Area 5 | 10/7/11 | 57 | 18 | 43 | 10 | 180 | 62 | 14 | 8100 | 570000 | 740000 | 33 | <300 | <300 |
| 9 | B-409 | 1 | Area 5 | 10/7/11 | 9.9 | 7.8 | 190 | 38 | 140 | 89 | 52 | <500 | 380000 | 1600000 | 66 | <300 | <300 |
| 10 | B-410 | 1 | Area 5 | 10/7/11 | 100 | 74 | 64 | <5.0 | 330 | 74 | 23 | 6300 | 1300000 | 850000 | 360 | <300 | <300 |
| 11 | B-411 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 980 | 25000 | 120000 | <5.0 | <300 | <300 |
| 12 | B-412 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 35000 | 180000 | <5.0 | <300 | <300 |
| 13 | B-413 | 1 | Area 6 | 10/6/11 | 130 | 26 | 5.1 | 53 | 26 | 96 | 58 | 4400 | 4900000 | 1500000 | 410 | <300 | <300 |
| 14 | B-414 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | 6.6 | 8.0 | 7.2 | 14 | <5.0 | 2000 | 750000 | 1200000 | 67 | <300 | <300 |
| 15 | B-415 | 1 | Area 6 | 10/6/11 | 19 | <5.0 | 61 | <5.0 | 87 | 7.0 | <5.0 | 34000 | 2900000 | 140000 | 2400 | <300 | <300 |
| 16 | B-416 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 430000 | 4800000 | 35 | <30000 | <30000 |
| 17 | B-417 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 18 | B-418 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | 5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 22000 | 4700000 | 440000 | 17000 | <300 | <300 |
| 19 | B-419 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 140000 | 360000 | <5.0 | <30000 | <30000 |
| 20 | B-420 | 1 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 880 | 21000 | 84000 | <5.0 | <30000 | <30000 |
| 21 | B-421 | 1 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 96000 | 440000 | <5.0 | <300 | <300 |
| 22 | B-422 | 1 | Area 4 | 10/5/11 | 90 | 18 | <5.0 | 6.0 | 5.6 | 13 | 7.6 | 50000 | 2100000 | 110000 | 260 | <300 | <300 |
| 23 | B-423 | 1 | Area 4 | 10/7/11 | 43 | 26 | 11 | <5.0 | 11 | 14 | 17 | 170000 | 850000 | 170000 | 21 | <300 | <300 |
| 24 | B-424 | 1 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 520 | 82000 | 620000 | <5.0 | <300 | <300 |
| 25 | B-425 | 1 | Area 4 | 10/5/11 | 60 | 25 | 7.2 | 38 | 20 | 96 | 42 | 7400 | 2200000 | 1900000 | 350 | <30000 | <30000 |
| 26 | B-426 | 1 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 42000 | 5700000 | 1800000 | 40 | <300 | <300 |
| 27 | B-427 | 1 | Area 4 | 10/5/11 | 28000 | 6600 | 380 | 1200 | 3400 | 11000 | 7800 | 1300000 | 16000000 | 1600000 | 21000 | <300 | <300 |
| 28 | B-428 | 1 | Area 4 | 10/5/11 | 8400 | 480 | 88 | 1400 | 440 | 8300 | 3500 | 30000 | 3600000 | 9700000 | 460 | <300 | <300 |
| 29 | B-429 | 1 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 840000 | 1500000 | <5.0 | <300 | <300 |
| 30 | B-430 | 1 | Area 4 | 10/5/11 | 43 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 92000 | 2800000 | 1100000 | 140 | <300 | <300 |
| 31 | B-401 | 3 | Area 5 | 10/6/11 | 48 | 13 | 5.6 | <5.0 | 17 | 32 | 17 | 2500 | 40000 | 86000 | 81 | <300 | <300 |
| 32 | B-402 | 3 | Area 5 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 85000 | 410000 | <5.0 | <3000 | <3000 |
| 33 | B-403 | 3 | Area 5 | 10/7/11 | 180 | 58 | 75 | 9.6 | 220 | 240 | 40 | 8000 | 1500000 | 1100000 | 330 | <300 | <300 |
| 34 | B-404 | 3 | Area 5 | 10/7/11 | 67 | 8.6 | 360 | 21 | 230 | 62 | 28 | 31000 | 1700000 | 8300000 | 7100 | <300 | <300 |
| 35 | B-405 | 3 | Area 5 | 10/7/11 | 77000 | 21000 | 4400 | 70000 | 29000 | 98000 | 52000 | 8400000 | 4800000 | 7000000 | 46000 | <300 | <300 |
| 36 | B-406 | 3 | Area 5 | 10/7/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 690 | 850000 | 3100000 | <5.0 | <300 | <300 |
| 37 | B-407 | 3 | Area 5 | 10/7/11 | 620 | 150 | 170 | 17 | 290 | 1000 | 66 | 12000 | 5900000 | 4000000 | 7500 | <300 | <300 |
| 38 | B-408 | 3 | Area 5 | 10/7/11 | 7.2 | <5.0 | 7.7 | <5.0 | 14 | 6.4 | <5.0 | <500 | 94000 | 470000 | 9.0 | <300 | <300 |
| 39 | B-409 | 3 | Area 5 | 10/7/11 | 330 | 31 | 140 | 28 | 270 | 330 | 27 | 15000 | 250000 | 460000 | 86 | <300 | <300 |
| 40 | B-410 | 3 | Area 5 | 10/7/11 | 14 | <5.0 | 70 | 14 | 110 | 20 | 10 | 8300 | 500000 | 1900000 | 920 | <300 | <300 |
| 41 | B-411 | 3 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 17000 | 99000 | <5.0 | <300 | <300 |

**Table XIV**
**Summary of Analytical Data for Shallow Soil Borings**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Sample # | Location | Depth | Pilot Test Area | Date | 1,2,4-TMB | 1,3,5-TMB | B | T | E | m/p-X | o-X | TPHg | TPHd | TPHo | NAP | B(a)p | dib(a,h)a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Feet | | | All Units in µg/kg | | | | | | | | | | | | |
| 42 | B-412 | 3 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 120000 | 440000 | <5.0 | <300 | <300 |
| 43 | B-413 | 3 | Area 6 | 10/6/11 | 91 | 21 | 9.1 | 74 | 17 | 73 | 37 | 3900 | 27000000 | 11000000 | 7400 | <300 | <300 |
| 44 | B-414 | 3 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | 8.4 | <300 | <300 |
| 45 | B-415 | 3 | Area 6 | 10/6/11 | 520 | 150 | 56 | <5.0 | 120 | 110 | 12 | 55000 | 5200000 | 390000 | 2000 | <300 | <300 |
| 46 | B-416 | 3 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 730 | 330000 | <10000 | <5.0 | <300 | <300 |
| 47 | B-417 | 3 | Area 6 | 10/6/11 | 100 | <5.0 | 32 | <5.0 | 19 | 5.2 | 11 | 47000 | 3000000 | 220000 | 3300 | <300 | <300 |
| 48 | B-418 | 3 | Area 6 | 10/6/11 | 13 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 6000 | 870000 | 180000 | 320 | <300 | <300 |
| 49 | B-419 | 3 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 50 | B-420 | 3 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 51 | B-421 | 3 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 790 | <10000 | <10000 | <5.0 | <300 | <300 |
| 52 | B-422 | 3 | Area 4 | 10/5/11 | 7700 | 3300 | 70 | 230 | 160 | 1000 | 450 | 1200000 | 4600000 | 73000 | 8700 | <300 | <300 |
| 53 | B-423 | 3 | Area 4 | 10/7/11 | <5.0 | <5.0 | 96 | 12 | 20 | 9.8 | 18 | 3500000 | 1800000 | 290000 | 26 | <300 | <300 |
| 54 | B-424 | 3 | Area 4 | 10/5/11 | 11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 170000 | 500000 | 140 | <300 | <300 |
| 55 | B-425 | 3 | Area 4 | 10/5/11 | 340 | 100 | 54 | 25 | 43 | 80 | 55 | <500 | 510000 | 2200000 | 1500 | <30000 | <30000 |
| 56 | B-426 | 3 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | 19000 | <5.0 | <300 | <300 |
| 57 | B-427 | 3 | Area 4 | 10/5/11 | 230 | 78 | 130 | 140 | 240 | 560 | 250 | 6200 | 19000 | 27000 | 300 | <300 | <300 |
| 58 | B-428 | 3 | Area 4 | 10/5/11 | 7600 | 570 | 460 | 4000 | 1800 | 9800 | 3900 | 21000 | 5400000 | 2000000 | 110 | <300 | <300 |
| 59 | B-429 | 3 | Area 4 | 10/5/11 | 21 | 7.9 | 41 | 48 | 13 | 65 | 26 | 1800 | 160000 | 330000 | 15 | <300 | <300 |
| 60 | B-430 | 3 | Area 4 | 10/5/11 | 17 | 5.4 | 5.4 | <5.0 | <5.0 | <5.0 | 5.6 | 44000 | 1000000 | 550000 | 98 | <300 | <300 |
| 61 | B-401 | 6 | Area 5 | 10/6/11 | 76 | 22 | <5.0 | <5.0 | 24 | 55 | 27 | 4700 | <10000 | <10000 | 54 | <300 | <300 |
| 62 | B-402 | 6 | Area 5 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 10000 | <10000 | <5.0 | <300 | <300 |
| 63 | B-403 | 6 | Area 5 | 10/7/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 16000 | 100000 | <5.0 | <300 | <300 |
| 64 | B-404 | 6 | Area 5 | 10/7/11 | 17 | <5.0 | 14 | <5.0 | 21 | 18 | 6.6 | 8700 | 1000000 | 2900000 | 360 | <300 | <300 |
| 65 | B-406 | 6 | Area 5 | 10/7/11 | <5.0 | <5.0 | <5.0 | <5.0 | 14 | <5.0 | <5.0 | 730 | 1000000 | 3200000 | <5.0 | <300 | <300 |
| 66 | B-407 | 6 | Area 5 | 10/7/11 | 240 | 46 | 38 | 7.8 | 210 | 150 | 11 | 11000 | 2000000 | 1800000 | 570 | <300 | <300 |
| 67 | B-408 | 6 | Area 5 | 10/7/11 | 16 | <5.0 | <5.0 | <5.0 | 17 | 7.6 | <5.0 | <500 | 18000 | 240000 | 18 | <300 | <300 |
| 68 | B-409 | 6 | Area 5 | 10/7/11 | 270 | 8.6 | 17 | 5.4 | 170 | 100 | <5.0 | 2200 | 1700000 | 1700000 | 41 | <300 | <300 |
| 69 | B-410 | 6 | Area 5 | 10/7/11 | 9.6 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | 20000 | 22 | <300 | <300 |
| 70 | B-411 | 6 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 47000 | 50000 | <5.0 | <300 | <300 |
| 71 | B-412 | 6 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | 27000 | <5.0 | <300 | <300 |
| 72 | B-413 | 6 | Area 6 | 10/6/11 | 90 | 17 | 21 | 40 | 22 | 42 | 48 | 8800 | 6400000 | 2700000 | 3400 | <300 | <300 |
| 73 | B-414 | 6 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | 19000 | 5.8 | <300 | <300 |
| 74 | B-415 | 6 | Area 6 | 10/6/11 | 73 | 31 | 110 | <5.0 | 55 | 25 | <5.0 | 23000 | 430000 | 180000 | 6300 | <30000 | <30000 |
| 75 | B-416 | 6 | Area 6 | 10/6/11 | <5.0 | <5.0 | 8.0 | <5.0 | 170 | <5.0 | <5.0 | 42000 | 730000 | <10000 | 85 | <300 | <300 |
| 76 | B-417 | 6 | Area 6 | 10/6/11 | 67 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 12000 | 1200000 | 2100000 | 56 | <300 | <300 |
| 77 | B-418 | 6 | Area 6 | 10/6/11 | 10 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 38000 | 7100000 | 640000 | 970 | <30000 | <30000 |
| 78 | B-419 | 6 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 980 | <10000 | <10000 | <5.0 | <300 | <300 |
| 79 | B-420 | 6 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 72000 | 96000 | <5.0 | <300 | <300 |
| 80 | B-421 | 6 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | 6.6 | <5.0 | <5.0 | 760 | <10000 | <10000 | <5.0 | <300 | <300 |
| 81 | B-422 | 6 | Area 4 | 10/6/11 | 1800 | 260 | 270 | 18 | 510 | 530 | 38 | 130000 | 5200000 | 140000 | 22000 | <300 | <300 |
| 82 | B-423 | 6 | Area 4 | 10/7/11 | 260 | 110 | 46 | 16 | 54 | 87 | 88 | 88000 | 690000 | 160000 | 420 | <300 | <300 |

**Table XIV**
**Summary of Analytical Data for Shallow Soil Borings**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Sample # | Location | Depth | Pilot Test Area | Date | 1,2,4-TMB | 1,3,5-TMB | B | T | E | m/p-X | o-X | TPHg | TPHd | TPHo | NAP | B(a)p | dib(a,h)a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Feet | | | All Units in µg/kg | | | | | | | | | | | | |
| 83 | B-424 | 6 | Area 4 | 10/5/11 | 71 | <5.0 | <5.0 | <5.0 | 6.6 | 9.6 | <5.0 | 1300 | 110000 | 160000 | 210 | <300 | <300 |
| 84 | B-425 | 6 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 2400 | 160000 | 240000 | 71 | <300 | <300 |
| 85 | B-426 | 6 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 86000 | 1100000 | 59000 | <5.0 | <300 | <300 |
| 86 | B-427 | 6 | Area 4 | 10/5/11 | 72 | 22 | 31 | 14 | 33 | 57 | 31 | 4200 | 12000 | <10000 | 120 | <300 | <300 |
| 87 | B-428 | 6 | Area 4 | 10/5/11 | 6200 | 400 | 370 | 1600 | 310 | 6200 | 600 | 830000 | 1900000 | 690000 | 4000 | <300 | <300 |
| 88 | B-429 | 6 | Area 4 | 10/5/11 | <5.0 | <5.0 | 8.4 | <5.0 | 5.4 | <5.0 | <5.0 | 580 | <10000 | <10000 | <5.0 | <300 | <300 |
| 89 | B-430 | 6 | Area 4 | 10/5/11 | 29 | <5.0 | 12 | <5.0 | 7.1 | <5.0 | <5.0 | 36000 | 790000 | 340000 | 53 | <300 | <300 |
| 90 | B-401 | 9 | Area 5 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 91 | B-402 | 9 | Area 5 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 92 | B-403 | 9 | Area 5 | 10/7/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 93 | B-404 | 9 | Area 5 | 10/7/11 | 19 | <5.0 | 5.1 | <5.0 | 21 | 5.1 | <5.0 | 22000 | 4000000 | 8200000 | 180 | <300 | <300 |
| 94 | B-406 | 9 | Area 5 | 10/7/11 | 16 | <5.0 | <5.0 | <5.0 | 50 | 16 | 5.6 | 13000 | 4500000 | 6400000 | 18 | <300 | <300 |
| 95 | B-407 | 9 | Area 5 | 10/7/11 | 11000 | 300 | 130 | 14 | 320 | 6000 | 40 | 17000 | 2900000 | 1700000 | 5300 | <300 | <300 |
| 96 | B-408 | 9 | Area 5 | 10/7/11 | <5.0 | <300 | <300 | <5.0 | <5.0 | <5.0 | <5.0 | 41000 | <500 | <5.0 | <5.0 | <10000 | <5.0 |
| 97 | B-409 | 9 | Area 5 | 10/7/11 | 180 | 8.6 | 86 | 7.9 | 190 | 99 | 6.1 | 4800 | 4300000 | 4500000 | 89 | <300 | <300 |
| 98 | B-410 | 9 | Area 5 | 10/7/11 | 160 | 87 | 99 | 9.8 | 430 | 170 | 58 | 28000 | 630000 | 640000 | 4900 | <300 | <300 |
| 99 | B-411 | 9 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 100 | B-412 | 9 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 101 | B-413 | 9 | Area 6 | 10/6/11 | 86 | 18 | 7.2 | 63 | 15 | 65 | 32 | 5600 | 20000000 | 9200000 | 5500 | <300 | <300 |
| 102 | B-414 | 9 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | 83000 | 270000 | <5.0 | <300 | <300 |
| 103 | B-415 | 9 | Area 6 | 10/6/11 | 110 | 34 | 88 | <5.0 | 70 | 49 | <5.0 | 12000 | 54000 | 18000 | 1900 | <300 | <300 |
| 104 | B-416 | 9 | Area 6 | 10/6/11 | 230 | 93 | 160 | <5.0 | 6000 | 110 | <5.0 | 530000 | 360000 | <10000 | 410 | <300 | <300 |
| 105 | B-417 | 9 | Area 6 | 10/6/11 | 9.2 | <5.0 | 51 | <5.0 | 270 | 33 | <5.0 | 44000 | 1600000 | 3300000 | <5.0 | <300 | <300 |
| 106 | B-418 | 9 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | 35 | <300 | <300 |
| 107 | B-419 | 9 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 108 | B-420 | 9 | Area 6 | 10/6/11 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <500 | <10000 | <10000 | <5.0 | <300 | <300 |
| 109 | B-421 | 9 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | <5.0 | 5.1 | <5.0 | <5.0 | 670 | <10000 | <10000 | <5.0 | <300 | <300 |
| 110 | B-422 | 9 | Area 4 | 10/6/11 | 430 | 64 | 150 | 6.0 | 400 | 120 | 24 | 150000 | 8900000 | 220000 | 43000 | <300 | <300 |
| 111 | B-423 | 9 | Area 4 | 10/7/11 | <5.0 | <5.0 | 6.6 | <5.0 | <5.0 | <5.0 | <5.0 | 15000 | 310000 | 70000 | 350 | <300 | <300 |
| 112 | B-424 | 9 | Area 4 | 10/5/11 | 62 | 6.2 | <5.0 | <5.0 | 19 | 7.2 | <5.0 | 45000 | 340000 | 130000 | 220 | <300 | <300 |
| 113 | B-425 | 9 | Area 4 | 10/5/11 | 20 | 5.8 | <5.0 | 17 | 6.6 | 23 | 12 | 3600 | 1800000 | 3400000 | 110 | <300 | <300 |
| 114 | B-426 | 9 | Area 4 | 10/5/11 | 180 | 58 | 27 | 9.3 | 35 | 46 | 30 | 59000 | 680000 | 63000 | 550 | <300 | <300 |
| 115 | B-427 | 9 | Area 4 | 10/5/11 | 66 | 800 | 120 | 600 | 360 | 2200 | 980 | 1700 | 17000 | <10000 | 750 | <300 | <300 |
| 116 | B-428 | 9 | Area 4 | 10/5/11 | 6300 | 310 | 80 | 290 | 180 | 930 | 330 | 420000 | 1100000 | 390000 | 4300 | <300 | <300 |
| 117 | B-429 | 9 | Area 4 | 10/5/11 | <5.0 | <5.0 | <5.0 | 6.2 | <5.0 | 12 | 5.1 | 600 | <10000 | <10000 | 5.6 | <300 | <300 |
| 118 | B-430 | 9 | Area 4 | 10/5/11 | 5.6 | <5.0 | 7.7 | <5.0 | <5.0 | <5.0 | <5.0 | 34000 | 580000 | 260000 | 38 | <300 | <300 |

NOTES:
1,2,4-TMB | 1,2,4-Trimethylbenzene
1,3,5-TMB | 1,3,5-Trimethylbenzene
B | Benzene

**Table XIV**
**Summary of Analytical Data for Shallow Soil Borings**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Sample # | Location | Depth | Pilot Test Area | Date | 1,2,4-TMB | 1,3,5-TMB | B | T | E | m/p-X | o-X | TPHg | TPHd | TPHo | NAP | B(a)p | dib(a,h)a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Feet | | | All Units in µg/kg | | | | | | | | | | | | |

E | Ethylbenzene
T | Methylbenzene
NAP | Naphthalene
B (a) p | Benzo (a) pyrene
d (a,h)a | Dibenz (a,h) anthracene
TPHg | C6-C12
TPHo | C29-C40
TPHd | C13-C32
m/p-X | m,p-Xylene
o-X | o-Xylene

**Table XV**
**Summary of Title 22 Metals Analytical Data for Shallow Soil Borings**
**Former CENCO Refinery**
**Santa Fe Springs, CA**

| Sample | Location | Unit | Date | Antimony | Arsenic | Barium | Be | Cd | Chromium | Cobalt | Copper | Lead | Mo | Nickel | Selenium | Silver | Thallium | V | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_B-401-1_100611 | B-401 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 120 | <1.0 | <2.0 | 20 | 5.8 | 23 | 19 | <1.0 | 9.8 | <5.0 | <2.0 | <2.0 | 22 | 38 |
| LL_B-403-1_100711 | B-403 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 140 | <1.0 | <2.0 | 33 | 13 | 29 | 32 | <1.0 | 19 | <5.0 | <2.0 | <2.0 | 47 | 63 |
| LL_B-404-3_100711 | B-404 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 150 | <1.0 | <2.0 | 25 | 12 | 24 | 6.5 | <1.0 | 19 | <5.0 | <2.0 | <2.0 | 39 | 48 |
| LL_B-405-1_100711 | B-405 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 55 | <1.0 | 12 | 35 | 8.7 | 110 | 100 | 26 | 20 | <5.0 | <2.0 | <2.0 | 6.2 | 810 |
| LL_B-406-6_100711 | B-406 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 140 | <1.0 | <2.0 | 28 | 15 | 29 | 7.5 | <1.0 | 21 | <5.0 | <2.0 | <2.0 | 51 | 53 |
| LL_B-407-9_100711 | B-407 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 160 | <1.0 | <2.0 | 25 | 13 | 29 | 7.3 | <1.0 | 23 | <5.0 | <2.0 | <2.0 | 44 | 57 |
| LL_B-408-1_100711 | B-408 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 150 | <1.0 | <2.0 | 30 | 15 | 27 | 9.9 | <1.0 | 20 | <5.0 | <2.0 | <2.0 | 50 | 64 |
| LL_B-410-3_100711 | B-410 | MG/KG | 07-Oct-11 | <3.0 | <5.0 | 150 | <1.0 | <2.0 | 30 | 11 | 27 | 38 | <1.0 | 16 | <5.0 | <2.0 | <2.0 | 40 | 88 |
| LL_B-412-1_100611 | B-412 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 130 | <1.0 | <2.0 | 35 | 13 | 26 | 68 | <1.0 | 17 | <5.0 | <2.0 | <2.0 | 38 | 360 |
| LL_B-413-3_100611 | B-413 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 340 | <1.0 | 2.4 | 46 | 12 | 40 | 2500 | <1.0 | 23 | <5.0 | <2.0 | <2.0 | 33 | 81 |
| LL_B-414-1_100611 | B-414 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 140 | <1.0 | <2.0 | 26 | 6.4 | 26 | 550 | <1.0 | 9.3 | <5.0 | <2.0 | <2.0 | 21 | 78 |
| LL_B-415-6_100611 | B-415 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 160 | <1.0 | <2.0 | 33 | 17 | 34 | 8.9 | <1.0 | 25 | <5.0 | <2.0 | <2.0 | 62 | 62 |
| LL_B-416-9_100611 | B-416 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 150 | <1.0 | <2.0 | 37 | 16 | 32 | 6.9 | <1.0 | 29 | <5.0 | <2.0 | <2.0 | 50 | 69 |
| LL_B-418-6_100611 | B-418 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 170 | <1.0 | <2.0 | 31 | 16 | 31 | 8.0 | <1.0 | 23 | <5.0 | <2.0 | <2.0 | 58 | 60 |
| LL_B-420-9_100611 | B-420 | MG/KG | 06-Oct-11 | <3.0 | 5.2 | 150 | <1.0 | <2.0 | 29 | 17 | 47 | 11 | <1.0 | 29 | <5.0 | <2.0 | <2.0 | 42 | 73 |
| LL_B-422-1_100511 | B-422 | MG/KG | 05-Oct-11 | <3.0 | <5.0 | 130 | <1.0 | <2.0 | 29 | 12 | 24 | 37 | <1.0 | 15 | <5.0 | <2.0 | <2.0 | 28 | 49 |
| LL_B-422-9_100611 | B-422 | MG/KG | 06-Oct-11 | <3.0 | <5.0 | 120 | <1.0 | <2.0 | 23 | 14 | 25 | 6.5 | <1.0 | 18 | <5.0 | <2.0 | <2.0 | 46 | 52 |
| LL_B-424-3_100511 | B-424 | MG/KG | 05-Oct-11 | <3.0 | <5.0 | 110 | <1.0 | <2.0 | 21 | 9.9 | 25 | 1000 | <1.0 | 13 | <5.0 | <2.0 | <2.0 | 31 | 54 |
| LL_B-426-1_100511 | B-426 | MG/KG | 05-Oct-11 | <3.0 | <5.0 | 46 | <1.0 | <2.0 | 14 | 8.2 | 9.6 | 3.7 | <1.0 | 12 | <5.0 | <2.0 | <2.0 | 28 | 28 |
| LL_B-427-6_100511 | B-427 | MG/KG | 05-Oct-11 | <3.0 | <5.0 | 130 | <1.0 | <2.0 | 26 | 14 | 22 | 5.9 | <1.0 | 18 | <5.0 | <2.0 | <2.0 | 49 | 50 |
| LL_B-429-9_100511 | B-429 | MG/KG | 05-Oct-11 | <3.0 | <5.0 | 140 | <1.0 | <2.0 | 31 | 14 | 24 | 16 | <1.0 | 21 | <5.0 | <2.0 | <2.0 | 56 | 56 |
| LL_B-430-3_100511 | B-430 | MG/KG | 05-Oct-11 | <3.0 | <5.0 | 110 | <1.0 | <2.0 | 44 | 7.7 | 75 | 2100 | <1.0 | 14 | <5.0 | <2.0 | <2.0 | 28 | 74 |

NOTES:
Mo - Molybdenum
V - Vanadium
Cd - Cadmium
Be - Beryllium

SOURCE OF BASE MAP

U.S. GEOLOGICAL SURVEY, 7.5 MIN QUAD., WHITTIER, CA. 1965, PHOTOREVISED 1981

N
W E
S

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

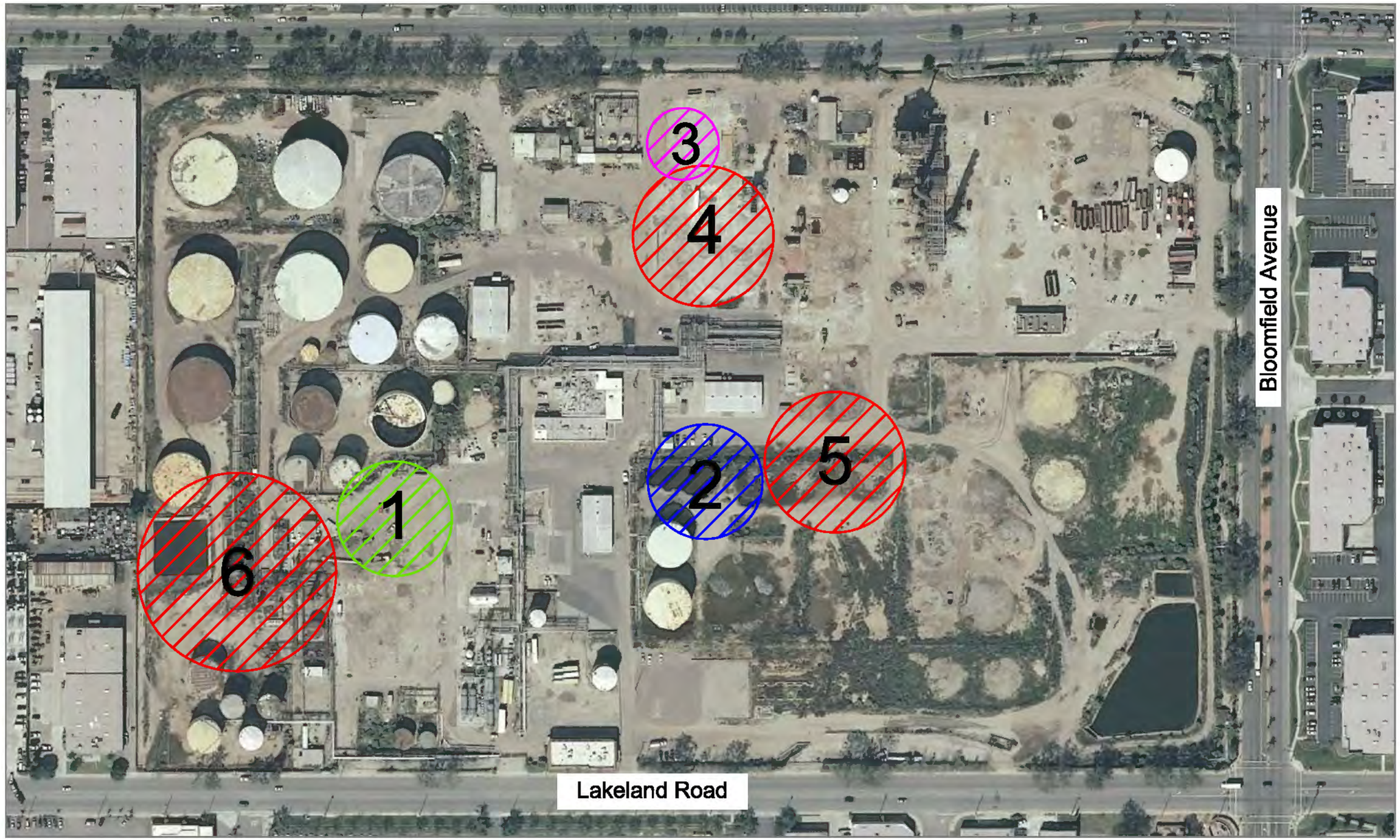
SITE LOCATION MAP

MUREX environmental, inc

FIGURE
1

DRAWN BY: RLM REVISION DATE: 3/8/11

SCALE: NOT TO SCALE




LEGEND

- AREA 1 - BIOVENTING
- AREA 2 - BIOVENTING
- AREA 3 - AIR SPARGING AND IN-WELL AIR STRIPPING
- AREAS 4, 5, 6 - SHALLOW SOIL SAMPLING

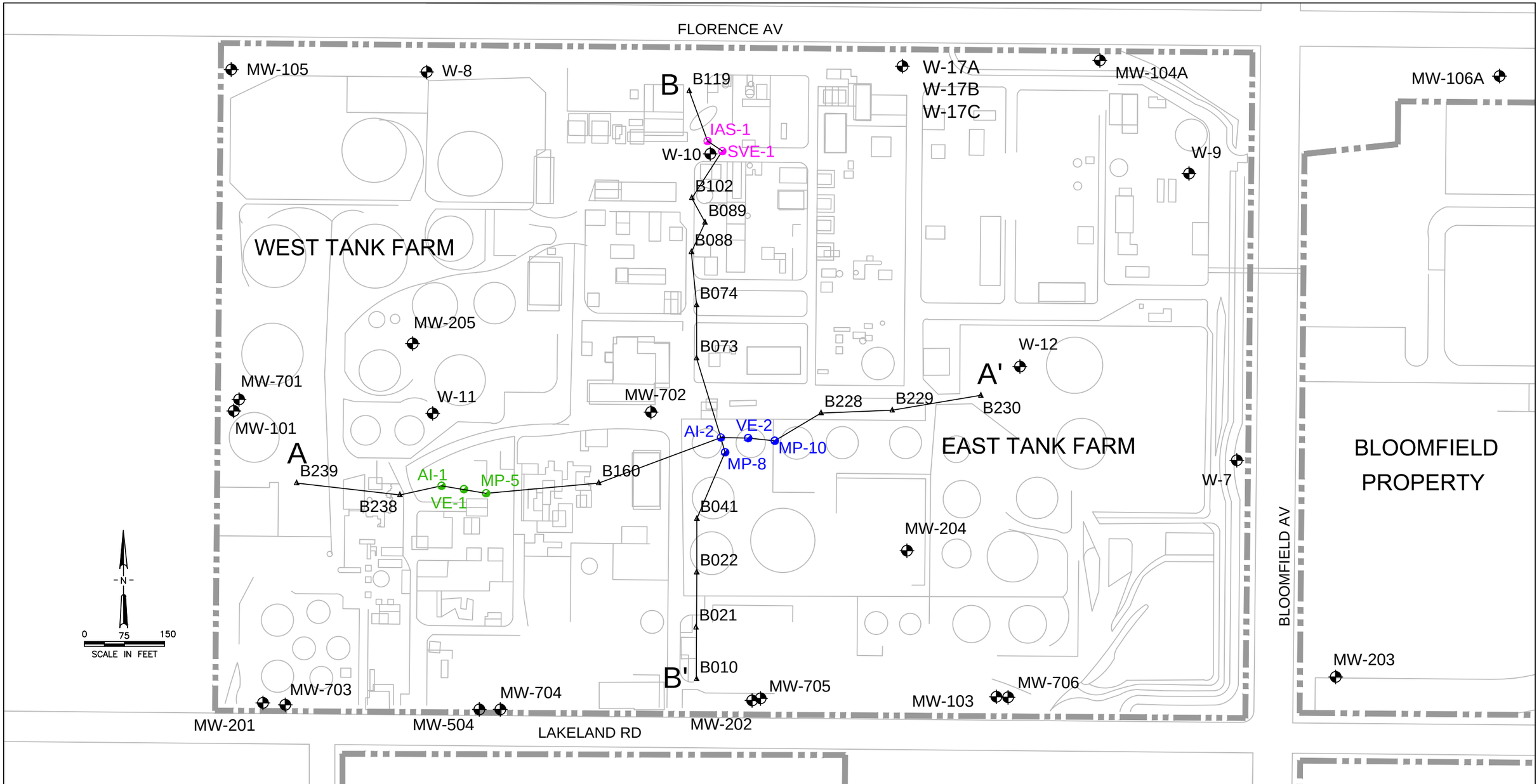
DRAWN BY: BR REVISED BY: BR REVISION DATE: 11/04/11

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE AERIAL PHOTO SHOWING PILOT TESTING AREAS

MUREX environmental, inc

FIGURE 2




LEGEND

MW-17 MONITORING WELL LOCATION

2011 PILOT TESTING LOCATIONS USED IN CROSS SECTION

B119 SOIL BORING LOCATIONS USED IN CROSS SECTION

SITE BOUNDARY

A A' CROSS SECTION CUT LINE

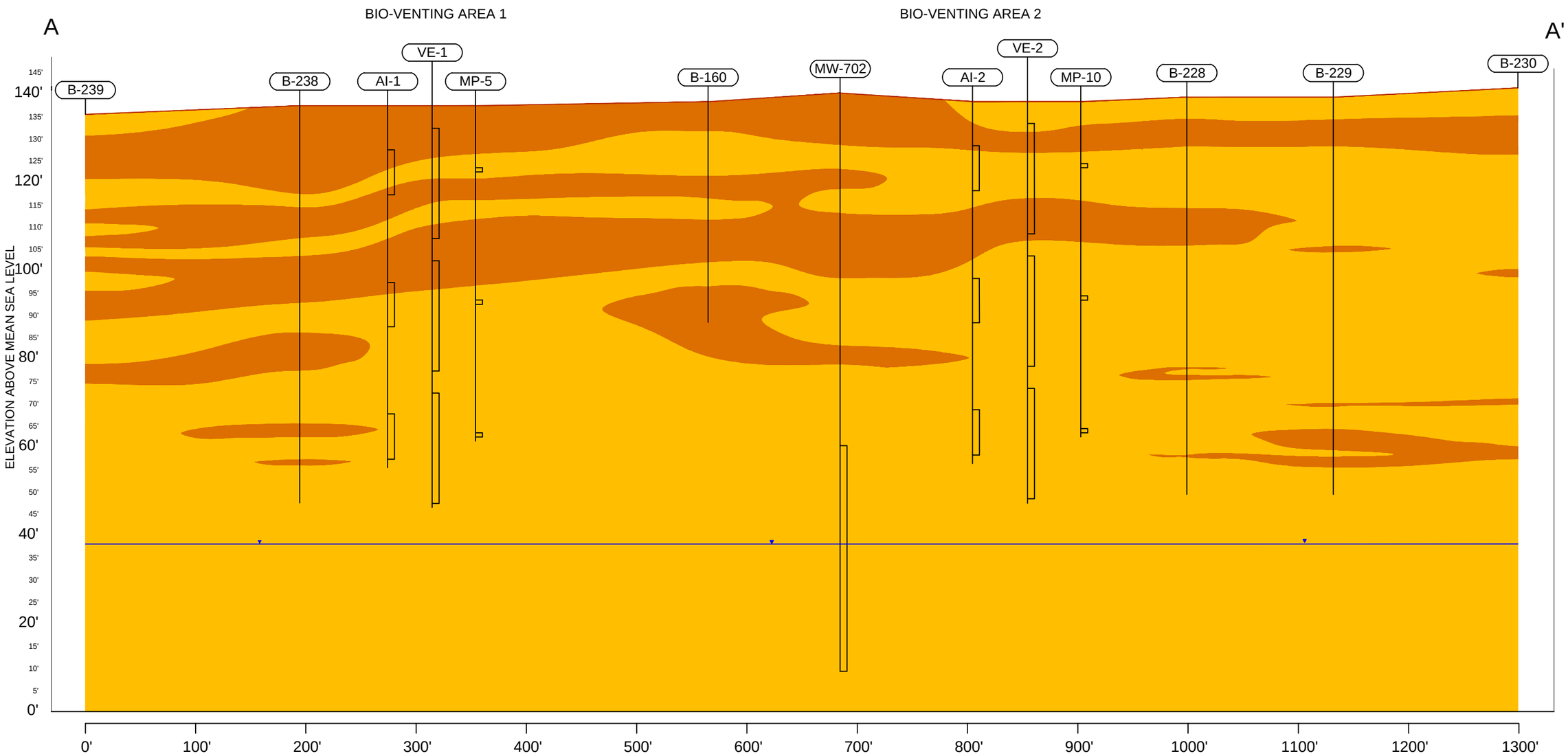
DRAWN BY: RH DATE: 10/24/2011

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN SHOWING MONITORING WELL LOCATIONS AND CROSS SECTION CUT LINES

MUREX environmental, inc

FIGURE 3




## LEGEND

- SILT / CLAY
- SILTY SAND / SAND
- GROUNDWATER ELEVATION
- AI-2 BORING ID
- GROUND SURFACE
- SCREENED INTERVAL

DRAWN BY: RH DATE: 10/24/11

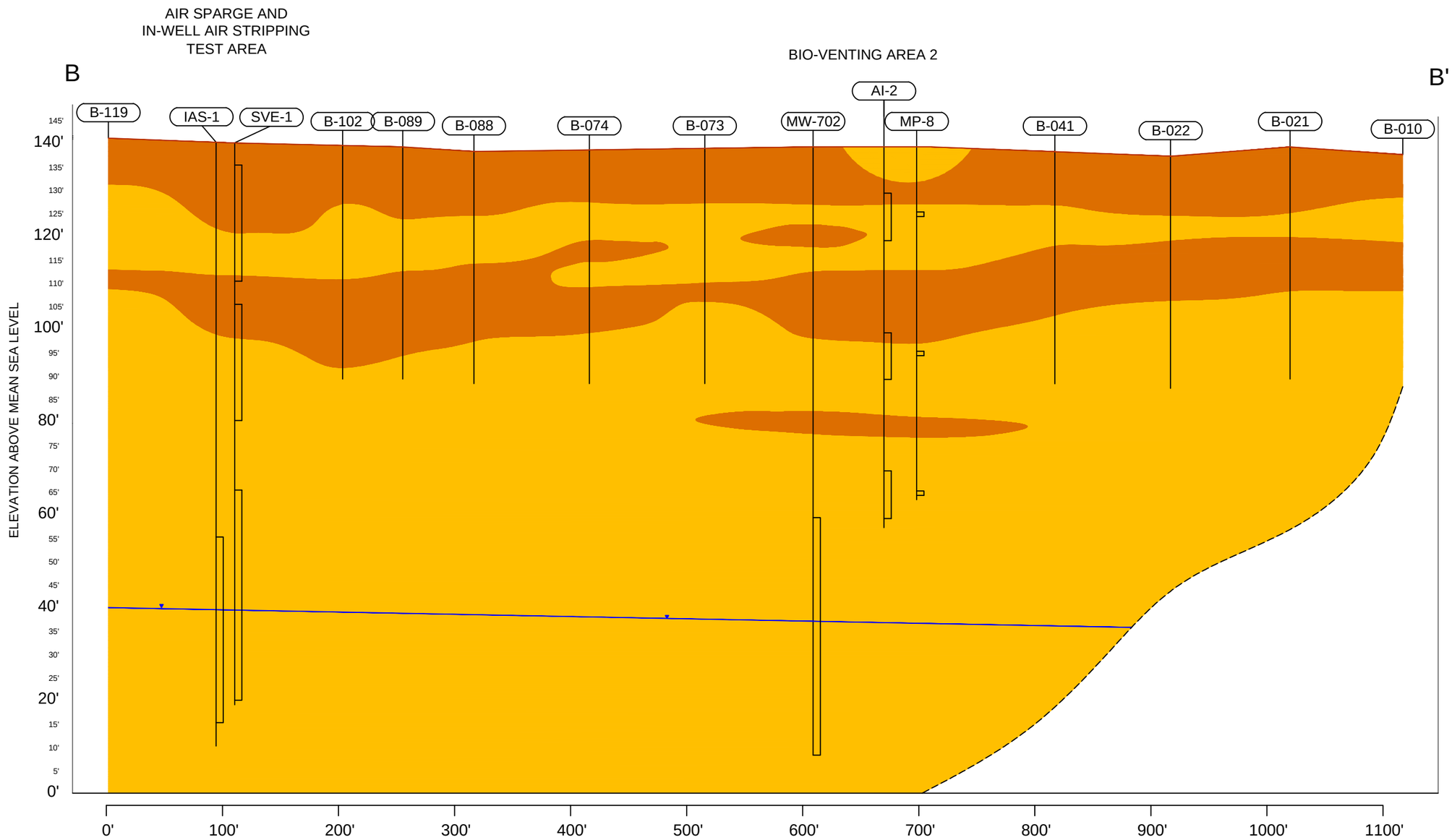
CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

CROSS SECTION A-A'

MUREX environmental, inc

FIGURE
4

\\LS-WTGL202\SHARE\PROJECTS\1003_ISOLA\1003_001_CENCO\DELIVERABLES\DRAFT\2011 PILOT TEST REPORT\FIGURES\(F4.5)XS AA BB 110711.DWG




## LEGEND

- SILT / CLAY
- SILTY SAND / SAND
- GROUNDWATER ELEVATION
- AI-2 — BORING ID
- GROUND SURFACE
- SCREENED INTERVAL

DRAWN BY: RH DATE: 10/24/11

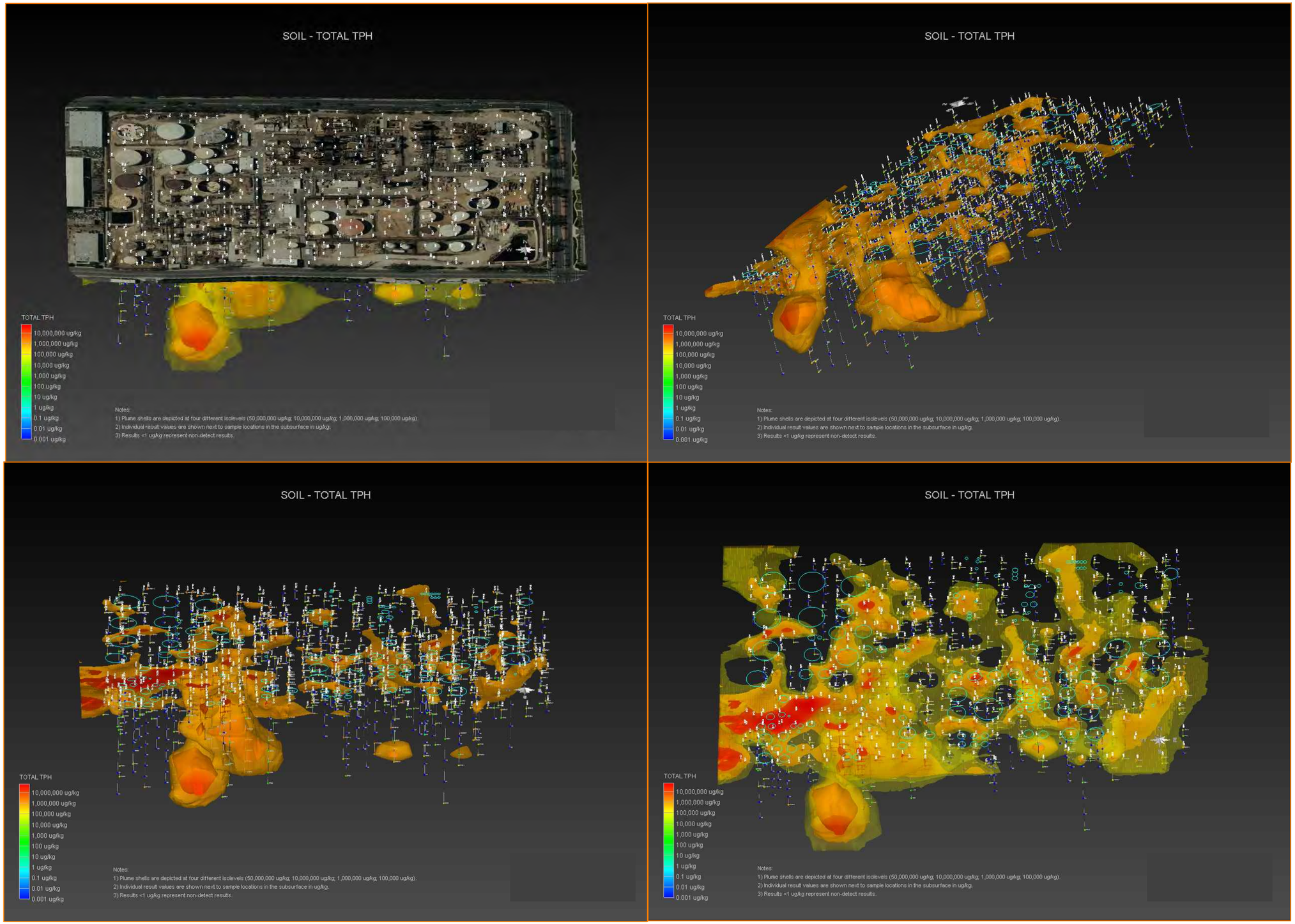
CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

CROSS SECTION B-B'

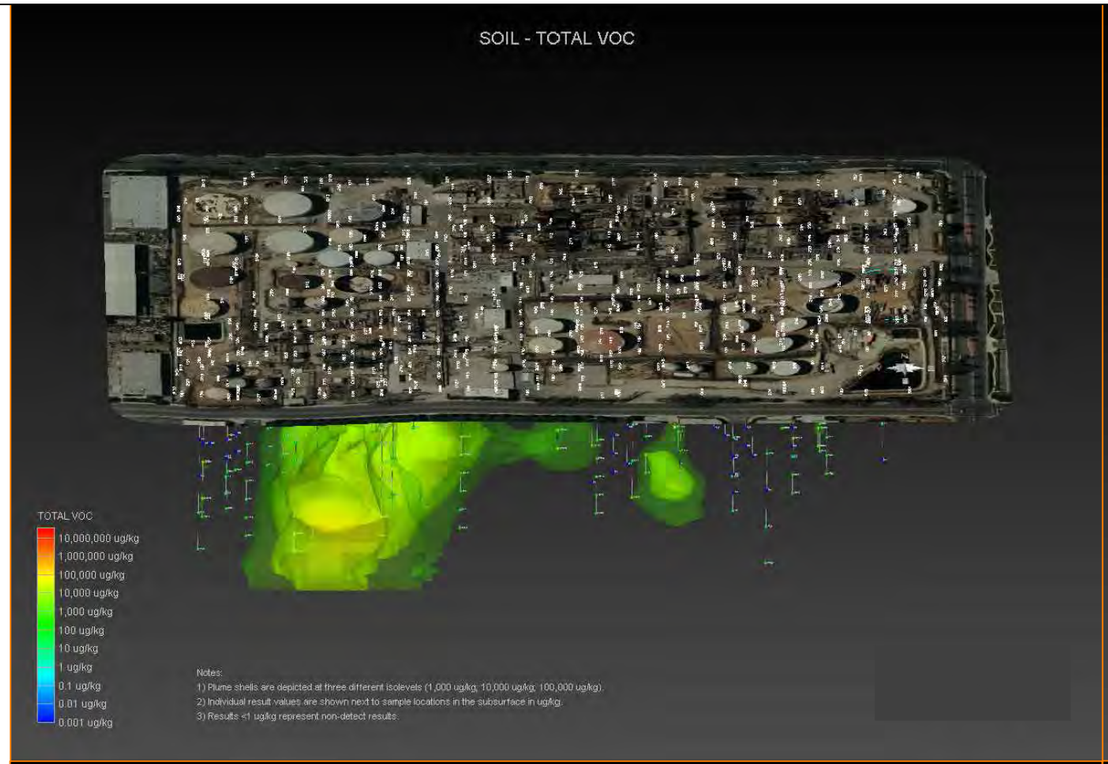
MUREX environmental, inc

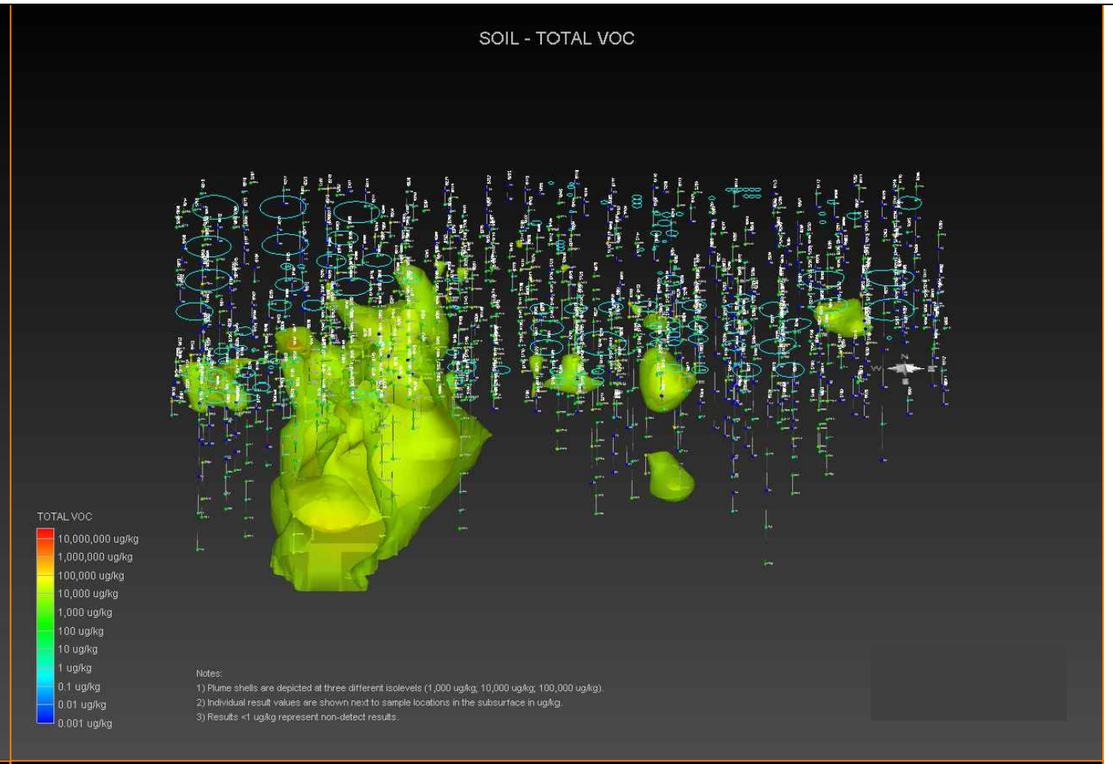
FIGURE
5

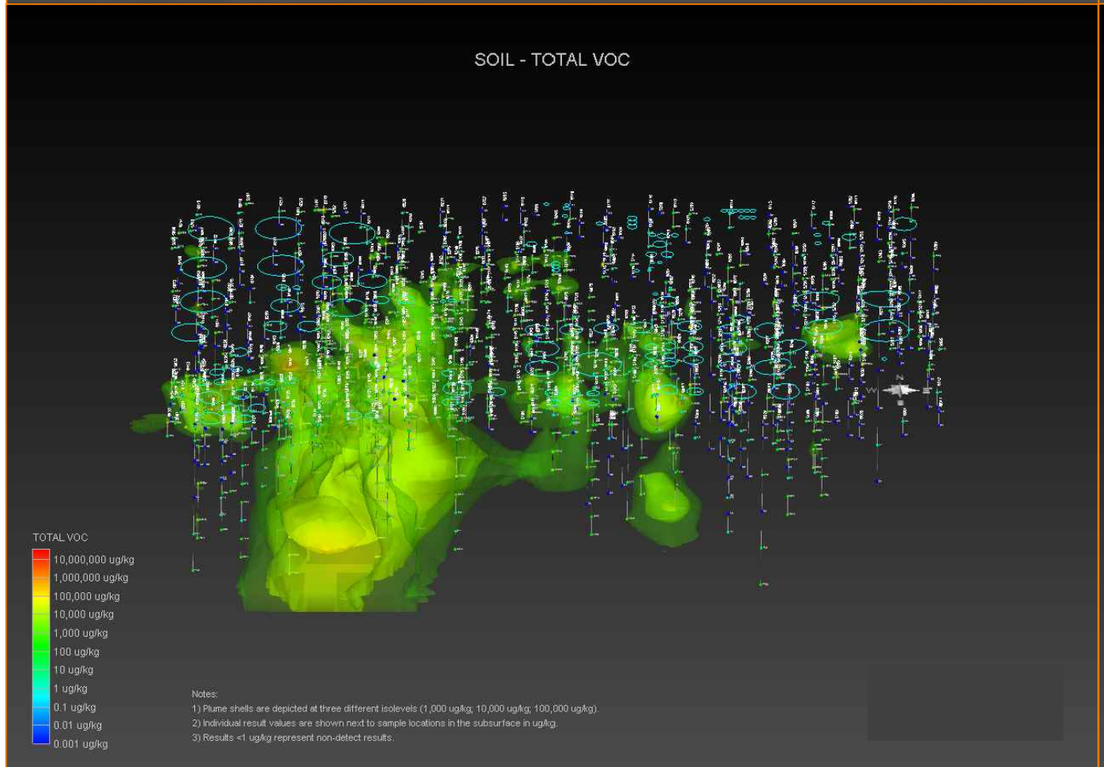
\\LS-WTGL202\SHARE\PROJECTS\1003_ISOLA\1003_001_CENCO\DELIVERABLES\DRAFT\2011 PILOT TEST REPORT\FIGURES\(F4 5)XS AA BB 110711.DWG

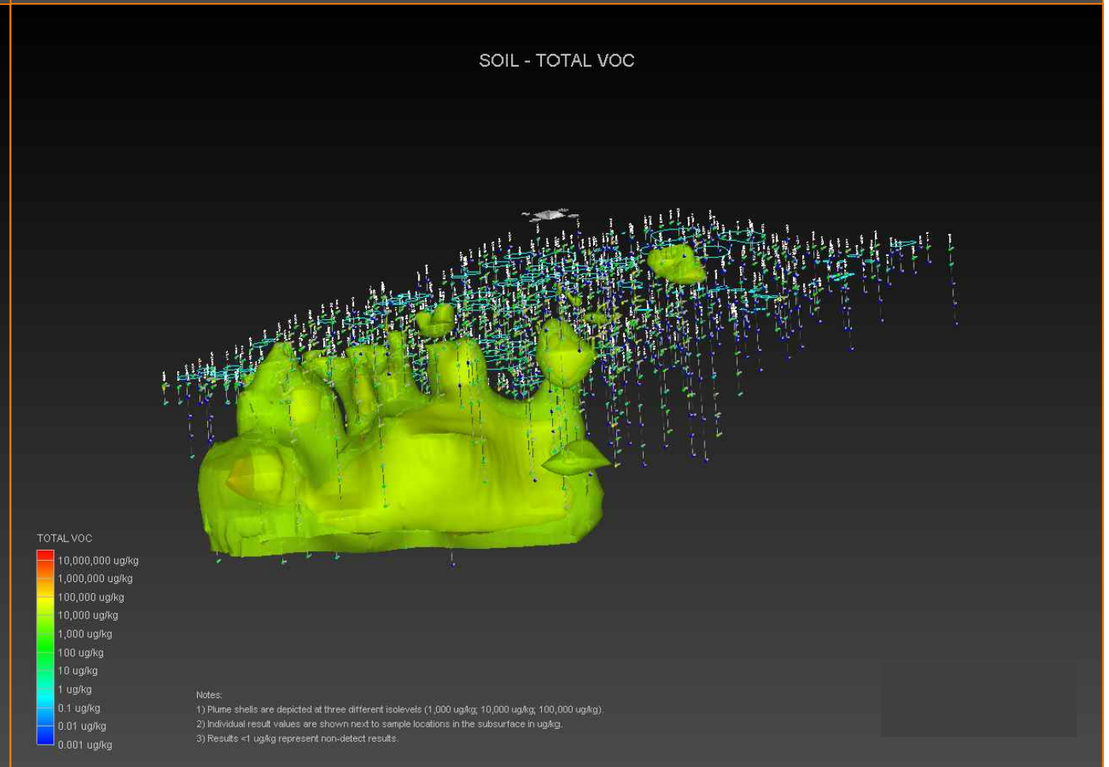



| | | | | | |
|---|---|---|---|---|---|
| MUREX environmental, inc | FORMER CENCO REFINERY<br>12345 LAKELAND ROAD<br>SANTA FE SPRINGS, CALIFORNIA | IMAGE SOURCE:<br>ARCADIS, 2009 | DRAWN BY: RH DATE: 9/14/2010<br>REVISED BY: BR DATE: 11/04/2011 | SITE PLANS SHOWING ISOMETRIC VIEWS OF TPH PLUME IN SOIL | FIGURE<br>6 |

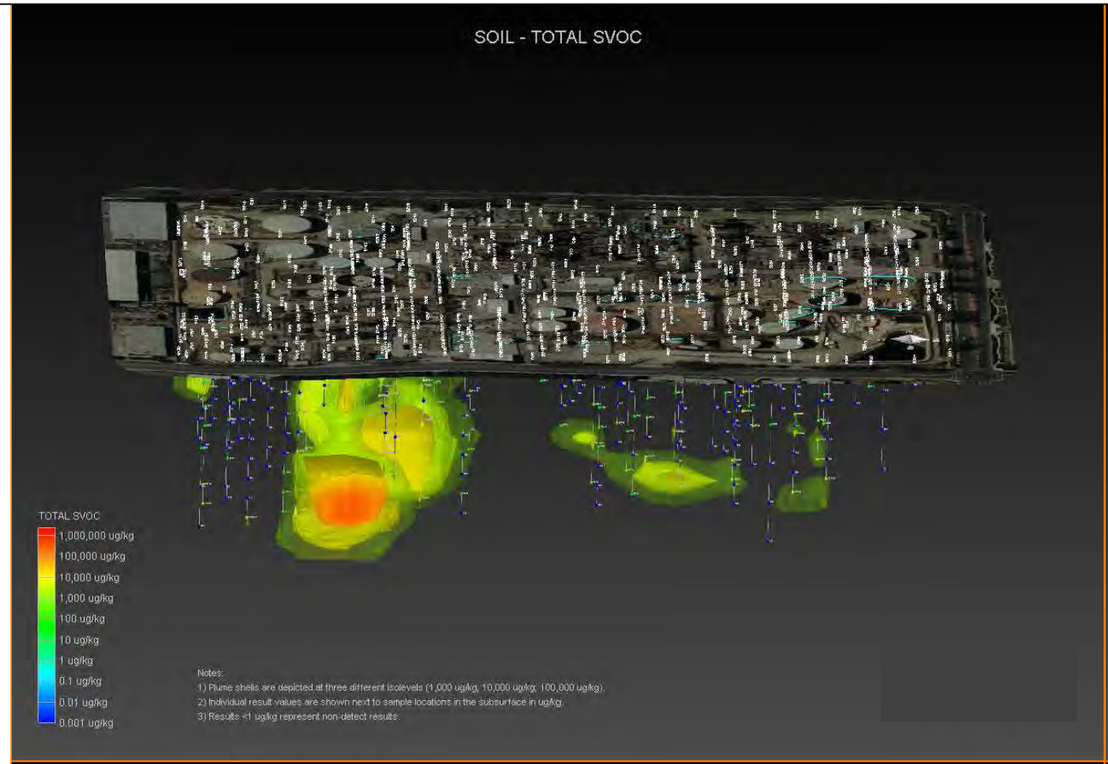


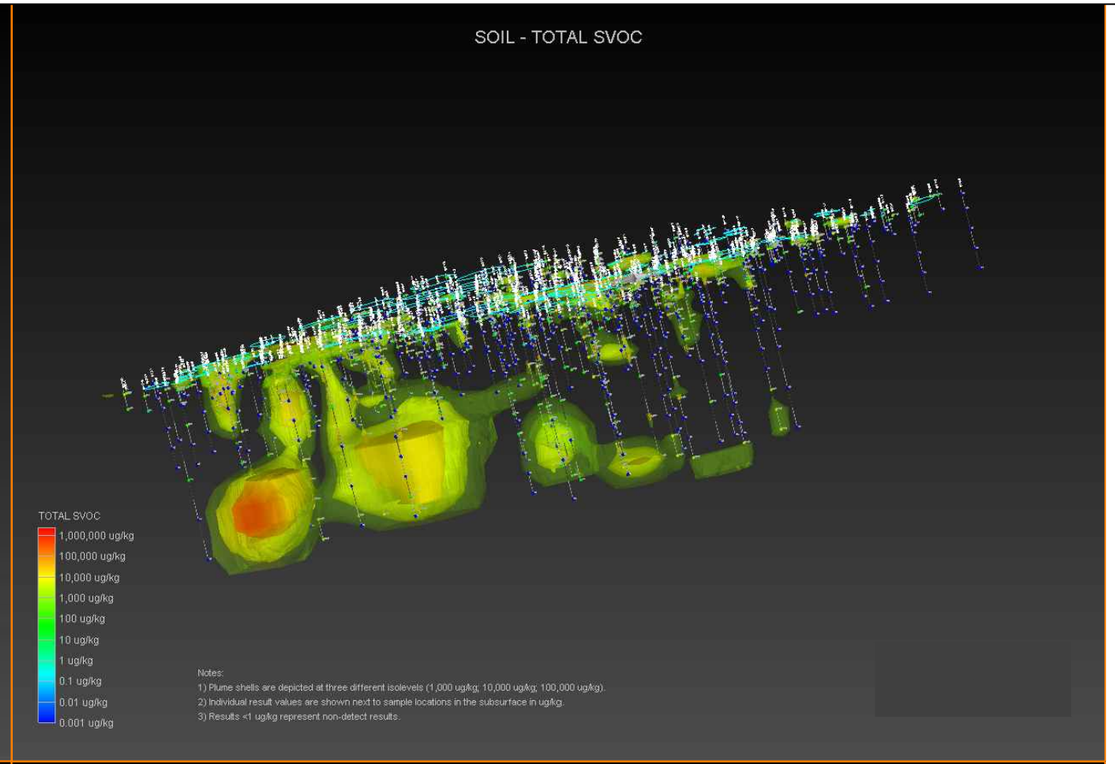



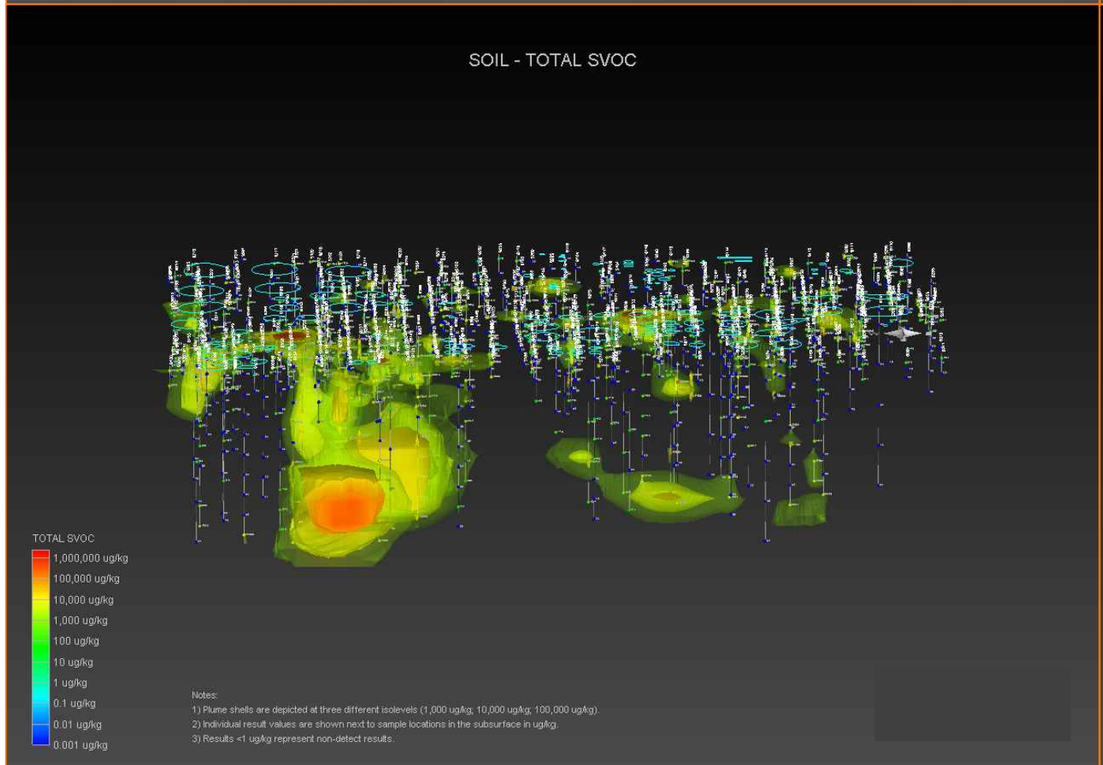



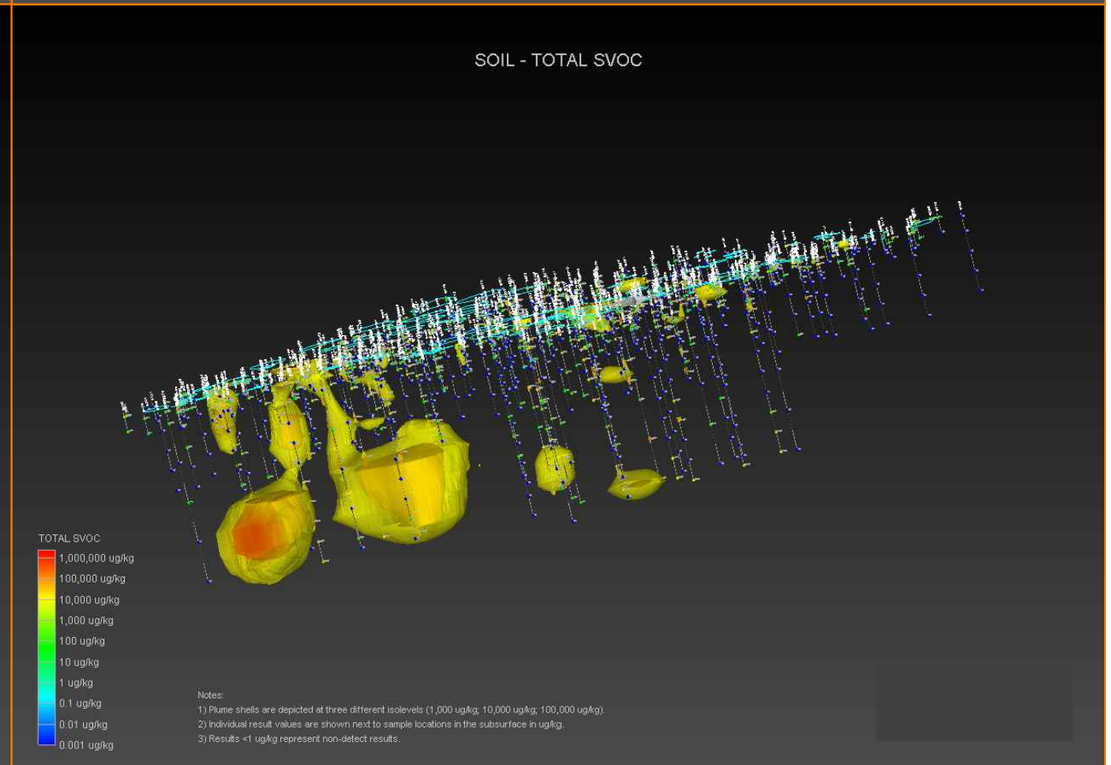




| | | | | | |
|---|---|---|---|---|---|
| MUREX environmental, inc | FORMER CENCO REFINERY<br>12345 LAKELAND ROAD<br>SANTA FE SPRINGS, CALIFORNIA | IMAGE SOURCE:<br>ARCADIS, 2009 | DRAWN BY: RH DATE: 9/14/2010<br>REVISED BY: BR DATE: 11/04/2011 | SITE PLANS SHOWING ISOMETRIC VIEWS OF TOTAL VOC PLUME IN SOIL | FIGURE<br>7 |

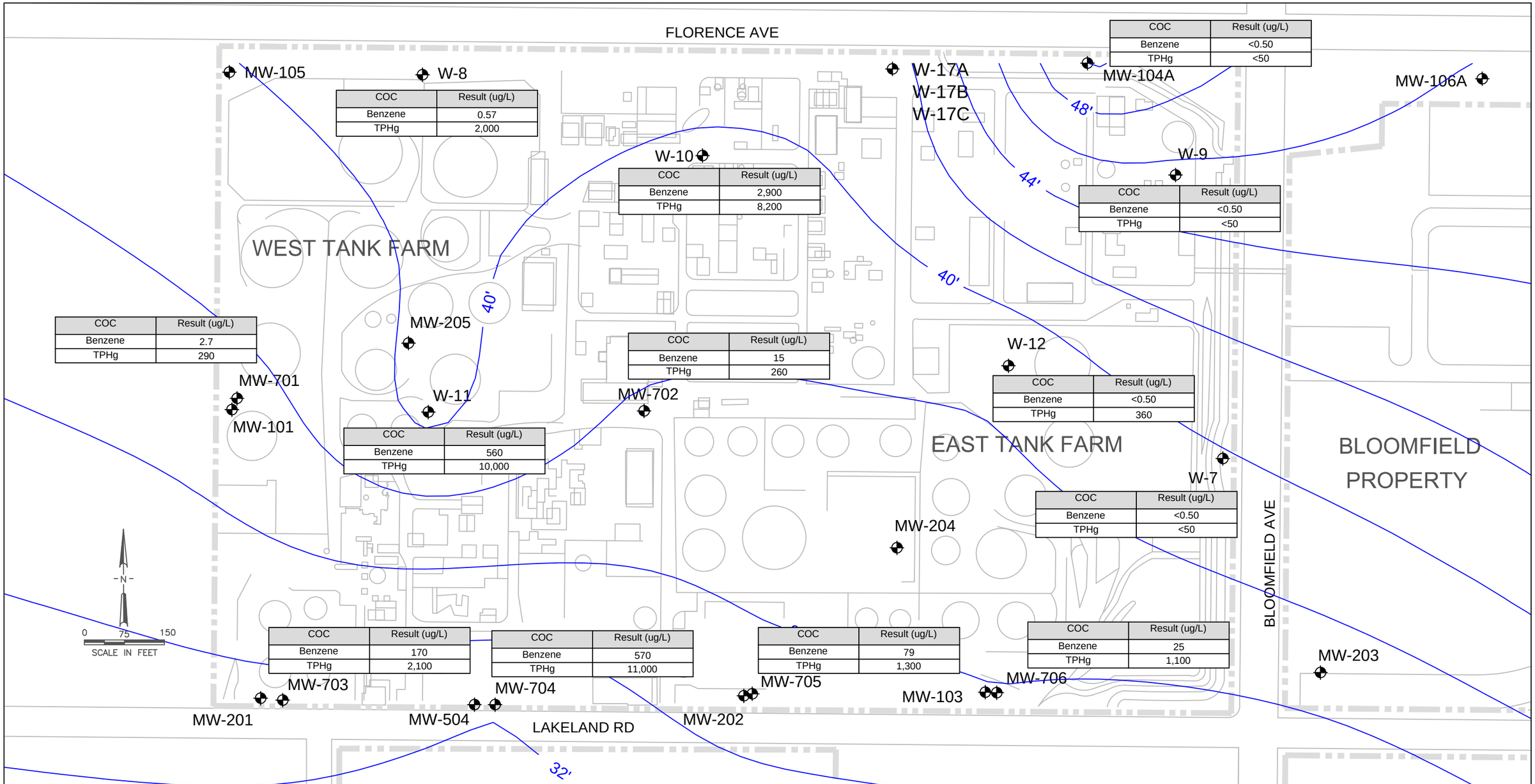



| | | | | | |
|---|---|---|---|---|---|
| MUREX environmental, inc | FORMER CENCO REFINERY<br>12345 LAKELAND ROAD<br>SANTA FE SPRINGS, CALIFORNIA | IMAGE SOURCE:<br>ARCADIS, 2009 | DRAWN BY: RH DATE: 9/14/2010<br>REVISED BY: BR DATE: 11/04/2011 | SITE PLANS SHOWING ISOMETRIC VIEWS OF sVOC PLUME IN SOIL | FIGURE<br>8 |




| COC | Result (ug/L) |
|---|---|
| Benzene | 0.57 |
| TPHg | 2,000 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 2,900 |
| TPHg | 8,200 |

| COC | Result (ug/L) |
|---|---|
| Benzene | <0.50 |
| TPHg | <50 |

| COC | Result (ug/L) |
|---|---|
| Benzene | <0.50 |
| TPHg | <50 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 2.7 |
| TPHg | 290 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 15 |
| TPHg | 260 |

| COC | Result (ug/L) |
|---|---|
| Benzene | <0.50 |
| TPHg | 360 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 560 |
| TPHg | 10,000 |

| COC | Result (ug/L) |
|---|---|
| Benzene | <0.50 |
| TPHg | <50 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 170 |
| TPHg | 2,100 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 570 |
| TPHg | 11,000 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 79 |
| TPHg | 1,300 |

| COC | Result (ug/L) |
|---|---|
| Benzene | 25 |
| TPHg | 1,100 |

LEGEND

MW-17 MONITORING WELL LOCATION

GROUNDWATER ELEVATION CONTOUR (CI=2 ft)

SITE BOUNDARY

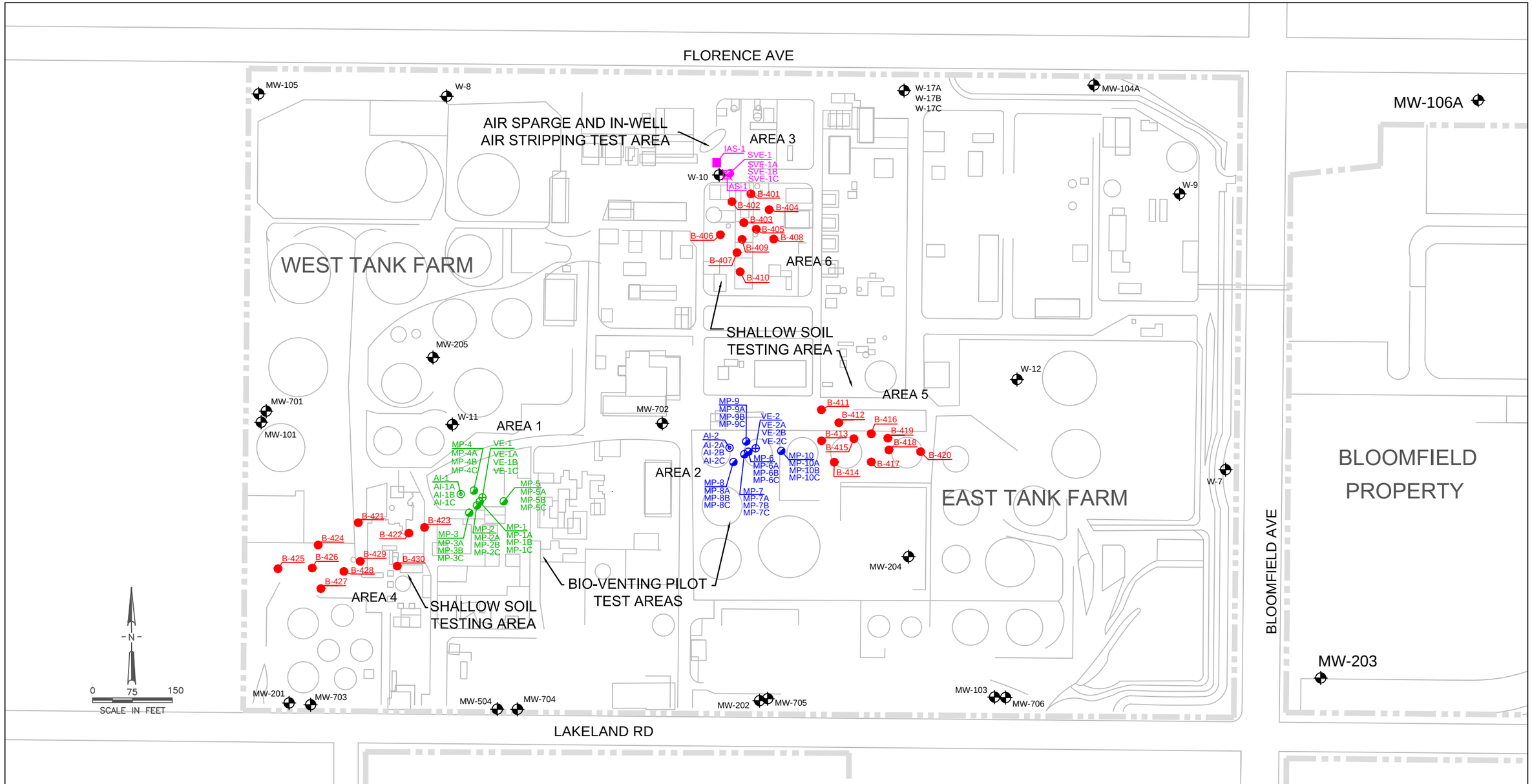
DRAWN BY: RH REVISED BY: BR DATE: 11/08/2011

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN SHOWING THIRD QUARTER 2011 GROUNDWATER ELEVATION CONTOURS AND TPHg AND BENZENE RESULTS

MUREX environmental, inc

FIGURE 9




LEGEND

MW-17 MONITORING WELL LOCATION

PILOT TEST MONITORING POINT

AIR INJECTION WELL

VAPOR EXTRACTION WELL

IN-WELL AIR STRIPPING WELL

AIR SPARGING WELL

BORING HOLE FOR SOIL SAMPLING

SITE BOUNDARY

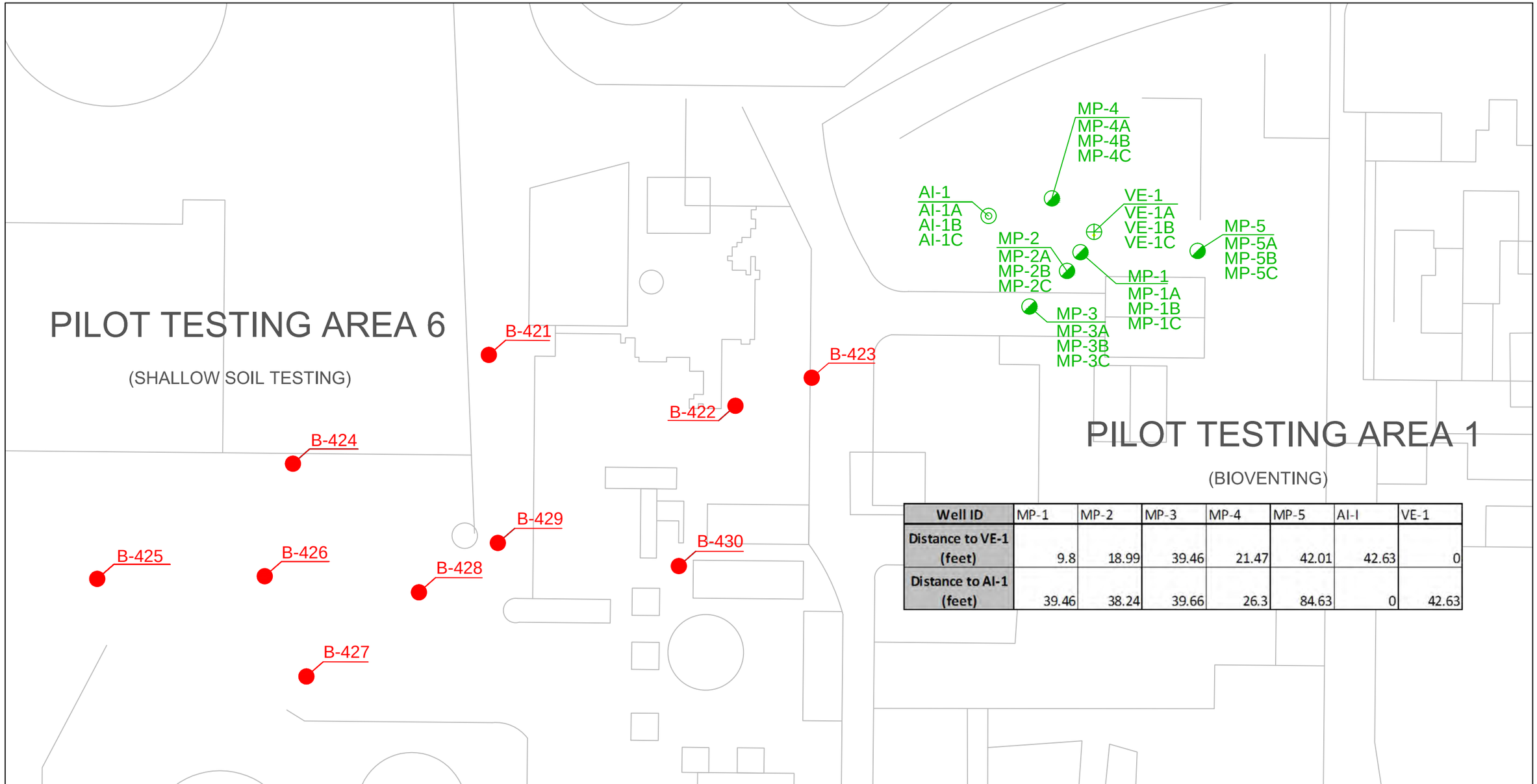
DRAWN BY: RH REVISED BY: BR DATE: 11/07/2011

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN SHOWING
PILOT TESTING DATA
COLLECTION POINTS

MUREX environmental, inc

FIGURE
10




| Well ID | MP-1 | MP-2 | MP-3 | MP-4 | MP-5 | AI-I | VE-1 |
|---|---|---|---|---|---|---|---|
| Distance to VE-1 (feet) | 9.8 | 18.99 | 39.46 | 21.47 | 42.01 | 42.63 | 0 |
| Distance to AI-1 (feet) | 39.46 | 38.24 | 39.66 | 26.3 | 84.63 | 0 | 42.63 |

LEGEND

PILOT TEST MONITORING POINT

AIR INJECTION WELL

VAPOR EXTRACTION WELL

B-427 SHALLOW SOIL BORING LOCATION

N

0 25 50

SCALE IN FEET

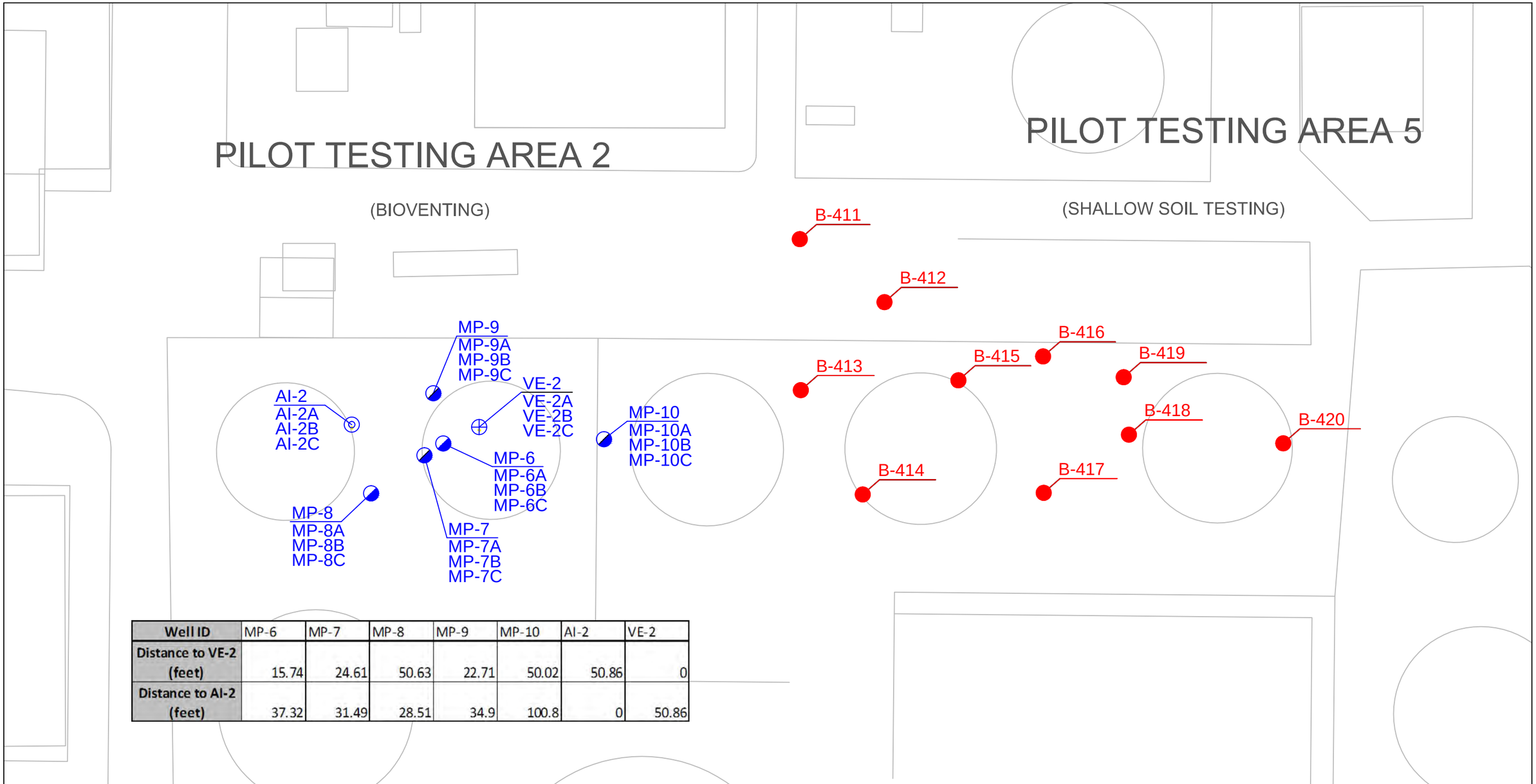
DRAWN BY: RH REVISED BY: BR DATE: 11/08/2011

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN SHOWING
PILOT TESTING AREAS 1 AND 6

MUREX environmental, inc

FIGURE
11




| Well ID | MP-6 | MP-7 | MP-8 | MP-9 | MP-10 | AI-2 | VE-2 |
|---|---|---|---|---|---|---|---|
| Distance to VE-2 (feet) | 15.74 | 24.61 | 50.63 | 22.71 | 50.02 | 50.86 | 0 |
| Distance to AI-2 (feet) | 37.32 | 31.49 | 28.51 | 34.9 | 100.8 | 0 | 50.86 |

LEGEND

PILOT TEST MONITORING POINT

AIR INJECTION WELL

VAPOR EXTRACTION WELL

B-417 SHALLOW SOIL BORING LOCATION

N

0 25 50

SCALE IN FEET

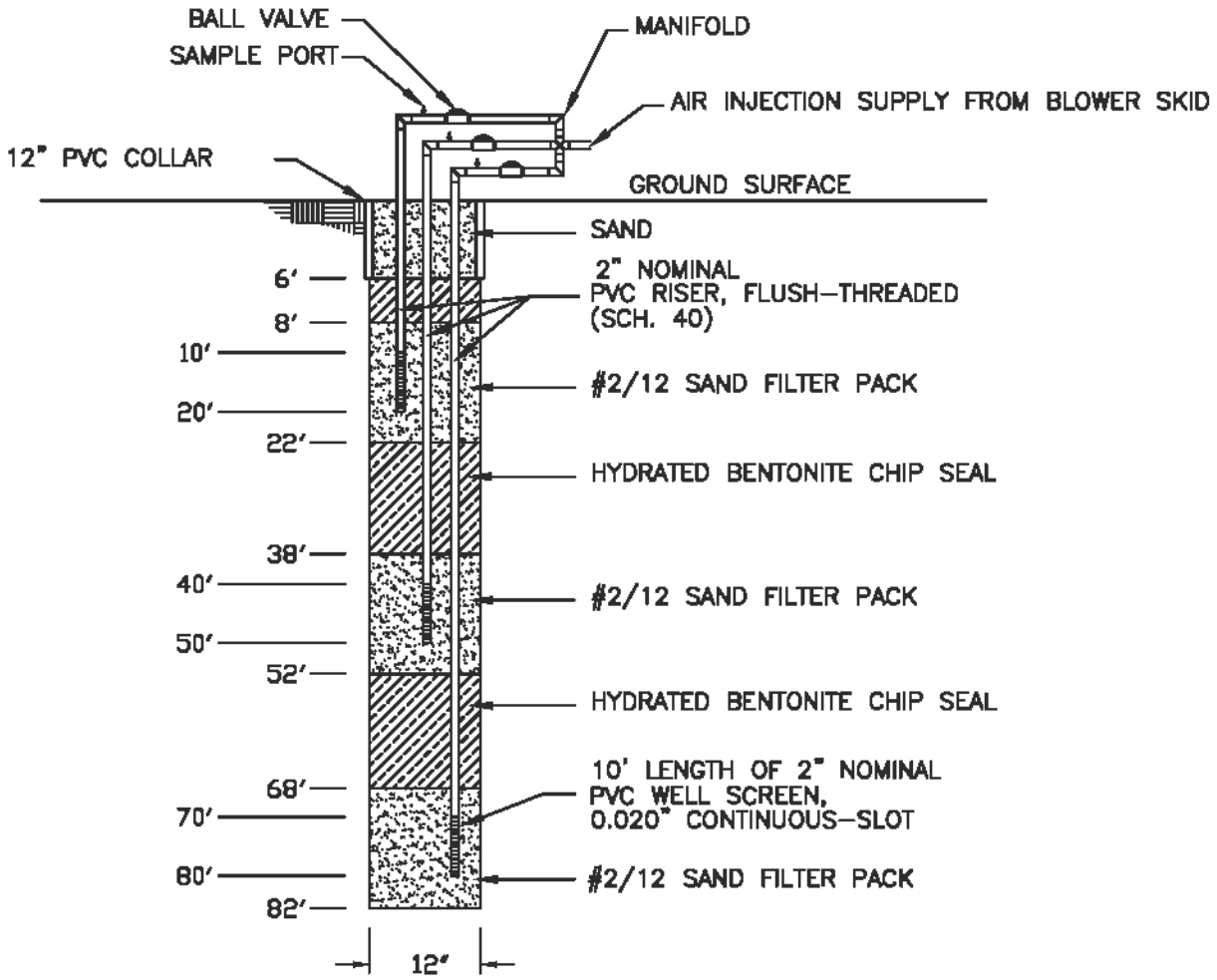
DRAWN BY: RH REVISED BY: BR DATE: 11/08/2011

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN SHOWING
PILOT TESTING AREAS 2 AND 5

MUREX environmental, inc

FIGURE
12




AIR INJECTION WELL (AI-1 – AI-2)
CONSTRUCTION DETAIL (TYP.)

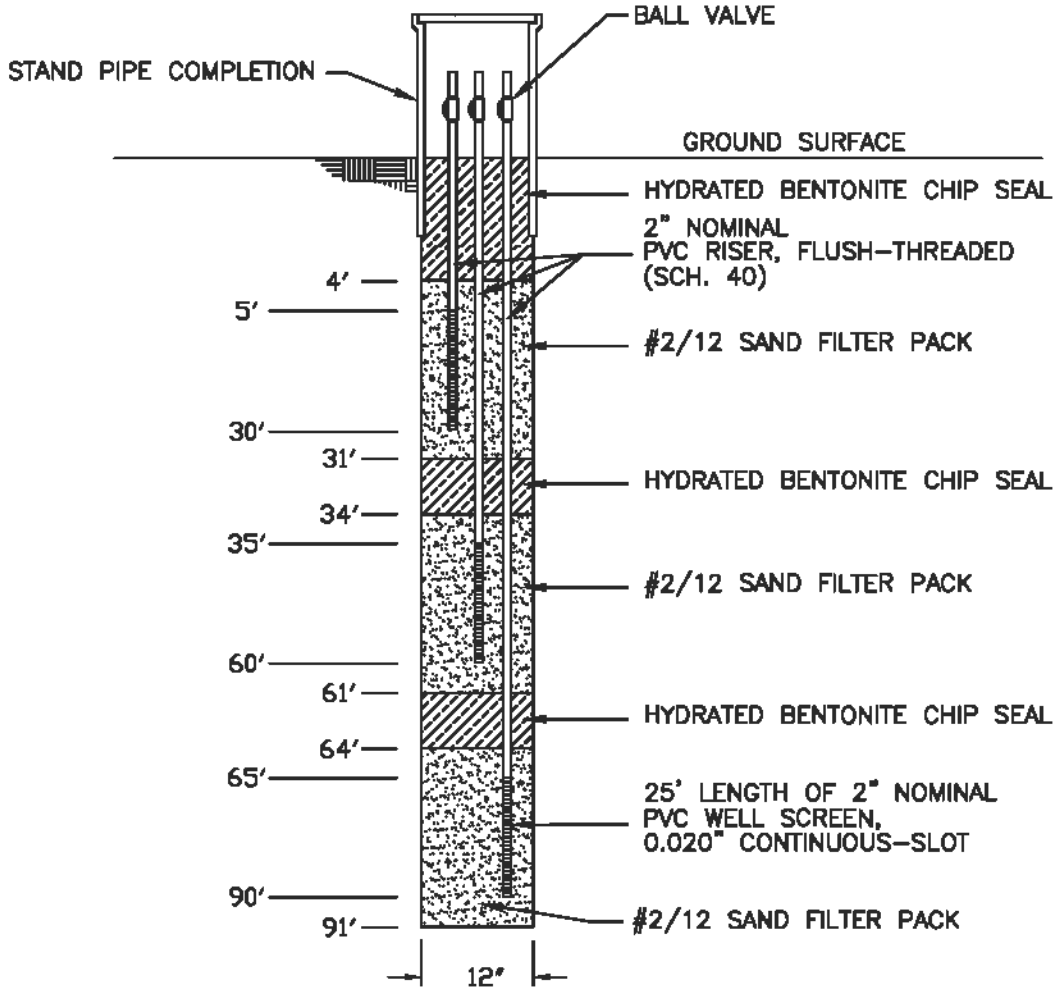
N.T.S.

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

AIR INJECTION WELL
CONSTRUCTION DETAIL

MUREX environmental, inc

FIGURE
13




BIOVENTING SVE WELL (VE-1 – VE-2)
CONSTRUCTION DETAIL (TYP.)

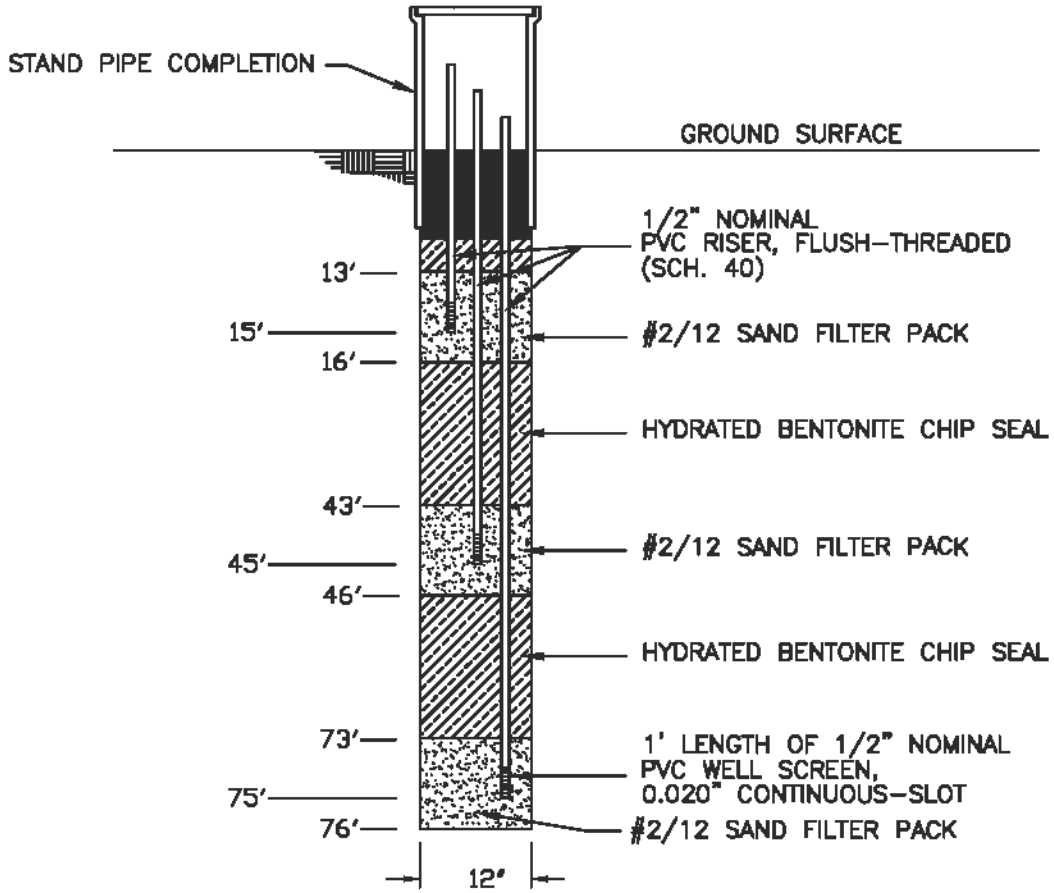
N.T.S.

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

BIOVENTING SVE WELL
CONSTRUCTION DETAIL

MUREX environmental, inc

FIGURE
14




VAPOR MONITORING WELL (MP-1 – MP-10)
CONSTRUCTION DETAIL (TYP.)

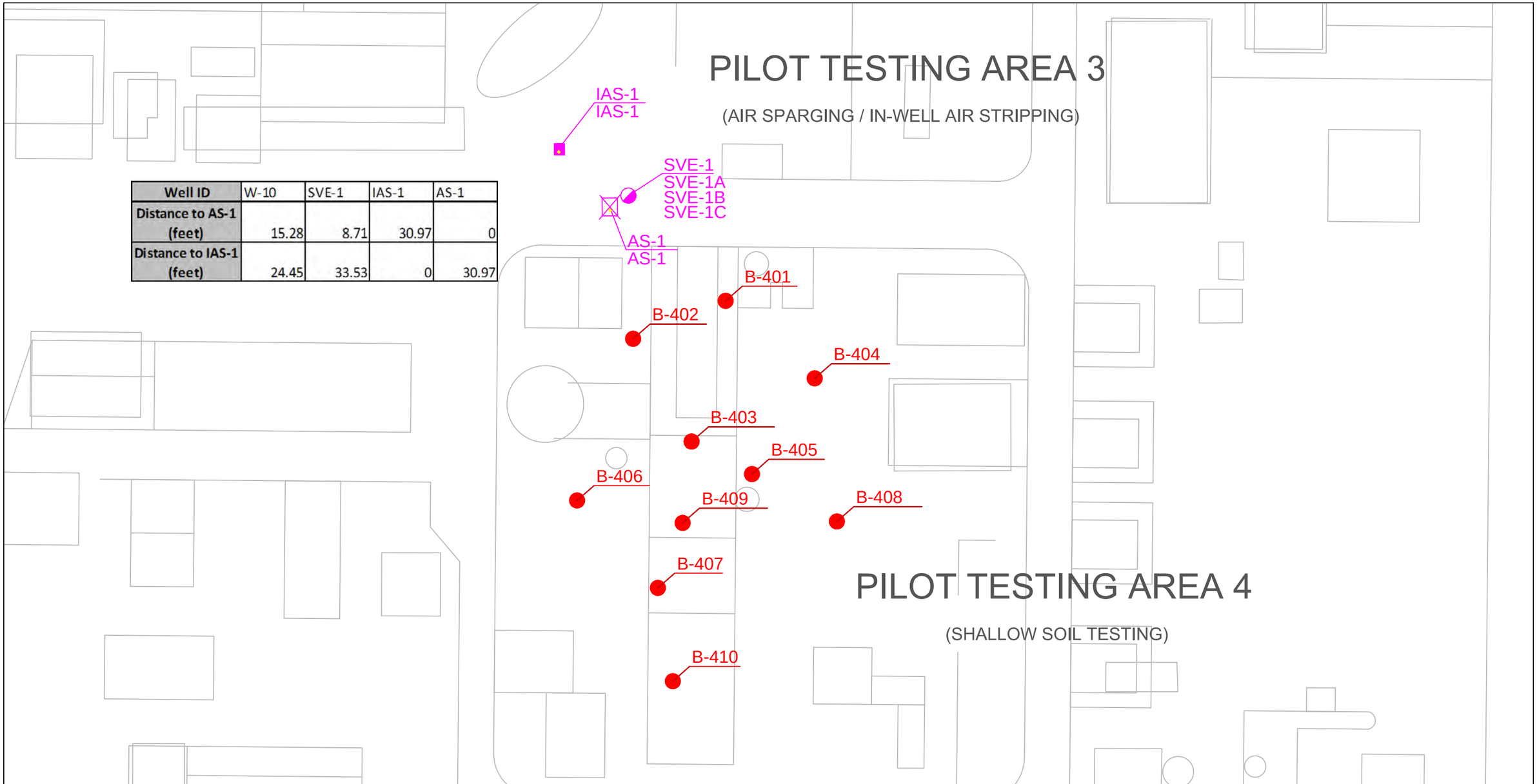
N.T.S.

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

VAPOR MONITORING WELL
CONSTRUCTION DETAIL

MUREX environmental, inc

FIGURE
15




| Well ID | W-10 | SVE-1 | IAS-1 | AS-1 |
|---|---|---|---|---|
| Distance to AS-1 (feet) | 15.28 | 8.71 | 30.97 | 0 |
| Distance to IAS-1 (feet) | 24.45 | 33.53 | 0 | 30.97 |

LEGEND

- PILOT TEST MONITORING POINT
- IN-WELL AIR STRIPPING WELL
- AIR SPARGING WELL
- BORING HOLE FOR SOIL SAMPLING

N

0 25 50
SCALE IN FEET

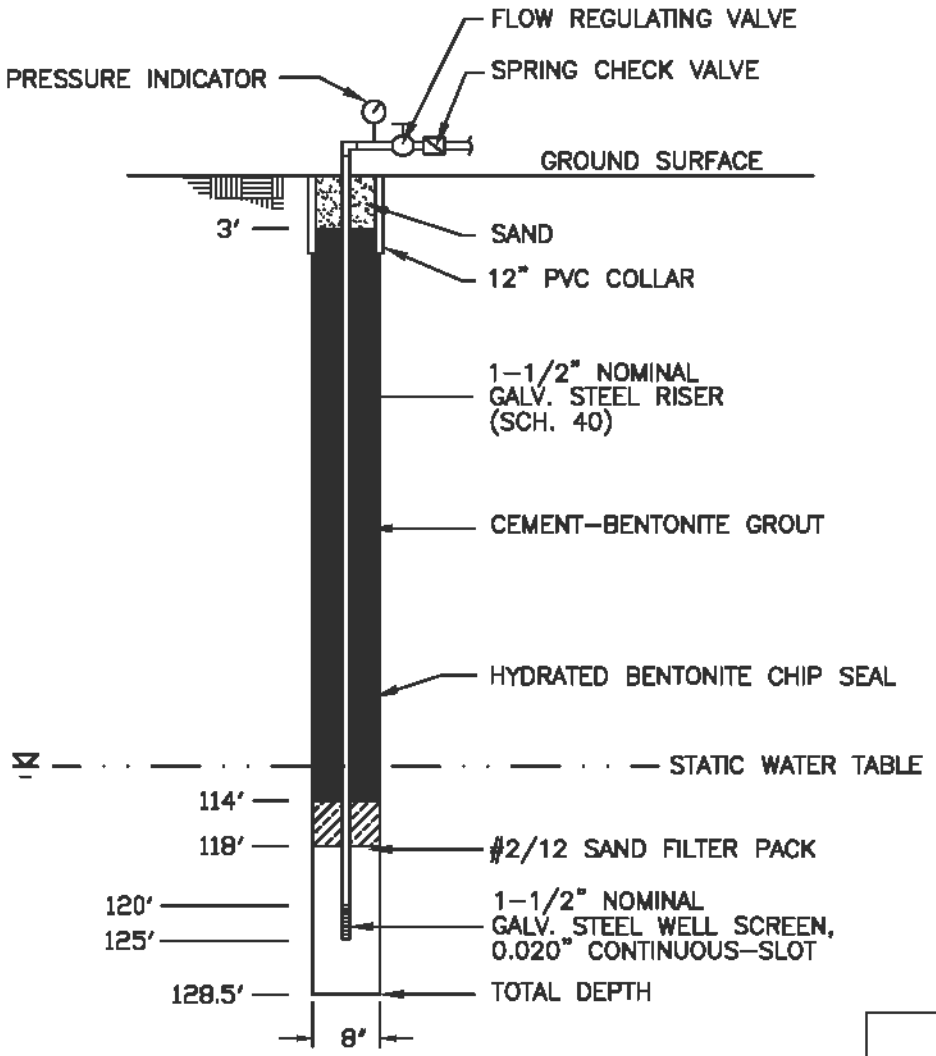
DRAWN BY: RH REVISED BY: BR DATE: 11/08/2011

FORMER CENCO REFINERY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN SHOWING
PILOT TESTING AREAS 3 AND 4

MUREX environmental, inc

FIGURE
16




AIR SPARGE WELL (AS-1)
CONSTRUCTION DETAIL (TYP.)

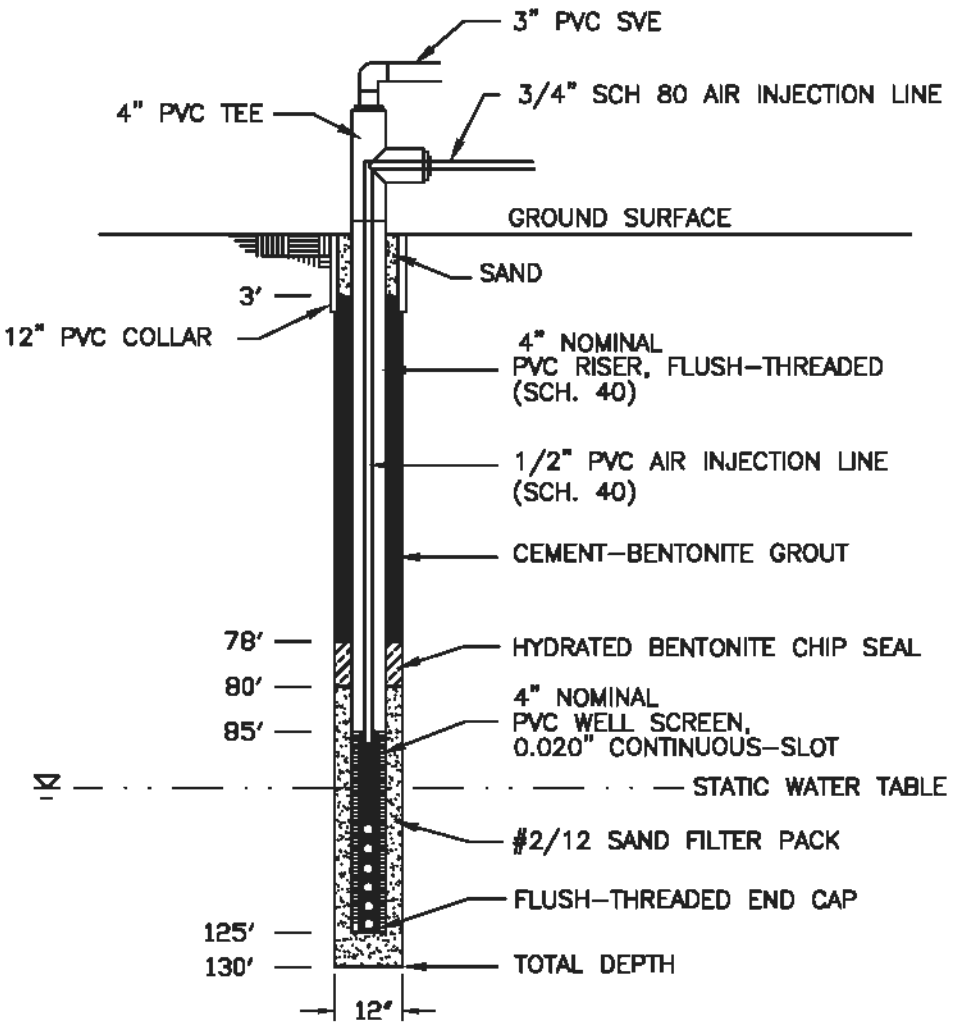
N.T.S.

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

AIR SPARGE WELL
CONSTRUCTION DETAIL

MUREX environmental, inc

FIGURE
17




IN-WELL AIR STRIPPING (IAS-1)
WELL CONSTRUCTION DETAIL (TYP.)

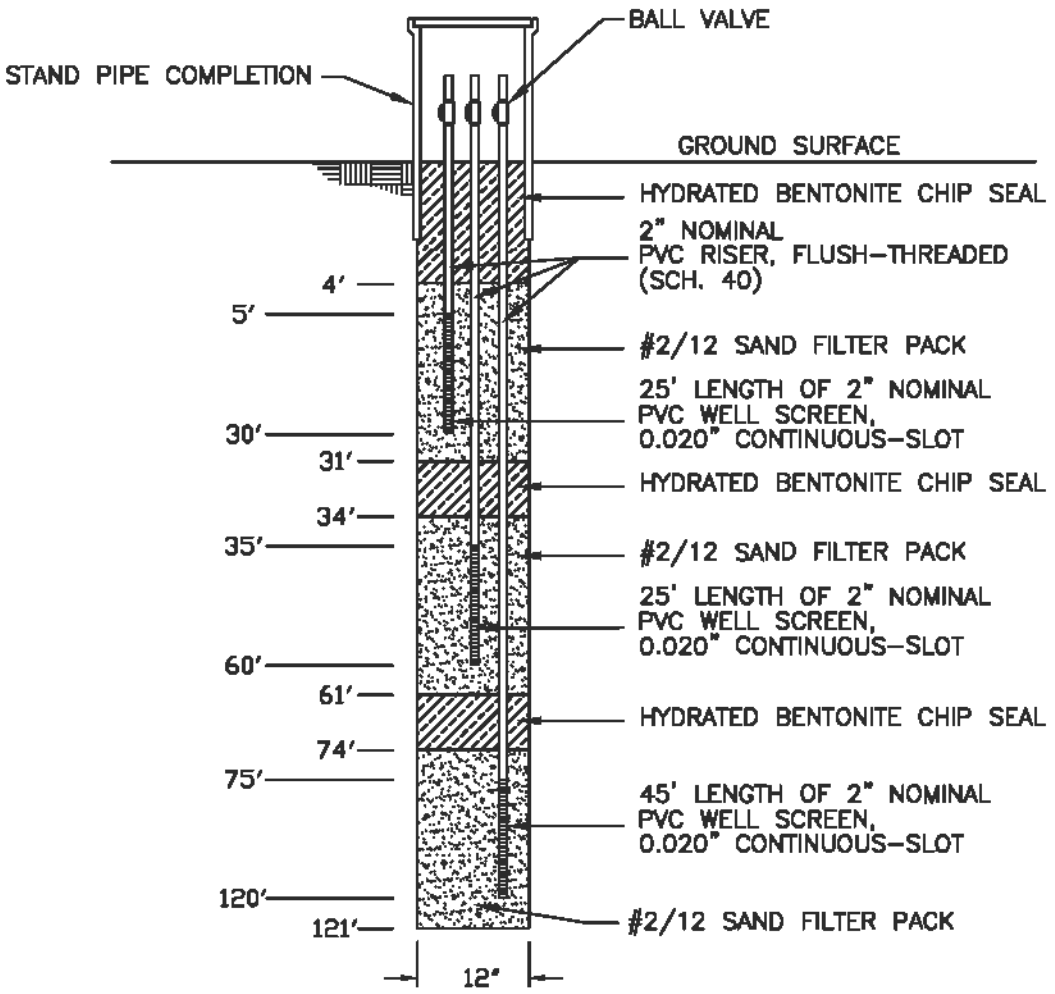
N.T.S.

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

IN-WELL AIR STRIPPING WELL
CONSTRUCTION DETAIL

MUREX environmental, inc

FIGURE
18




SOIL VAPOR EXTRACTION WELL (SVE-1)
CONSTRUCTION DETAIL (TYP.)

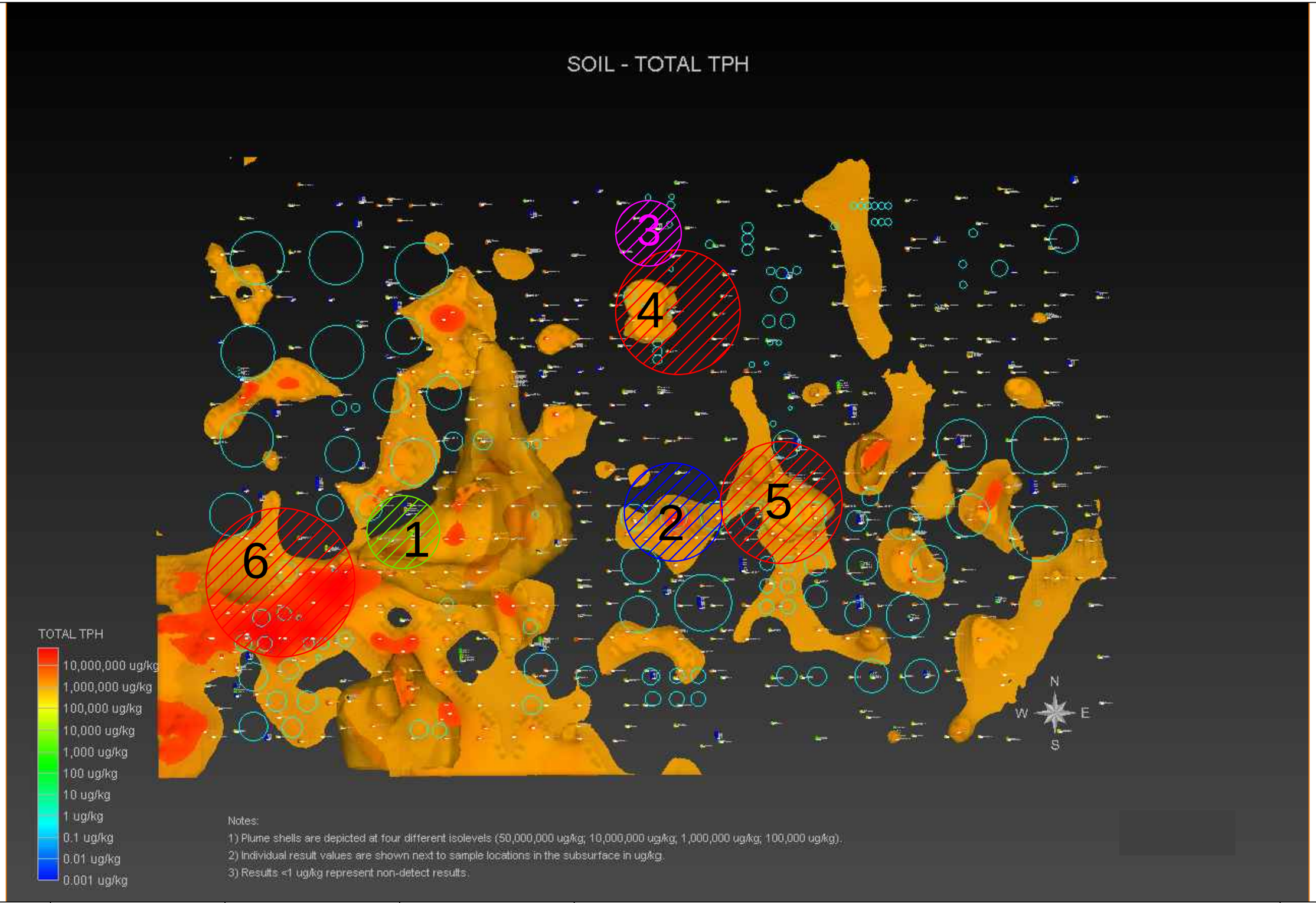
N.T.S.

CENCO REFINING COMPANY
12345 LAKELAND ROAD
SANTA FE SPRINGS, CALIFORNIA

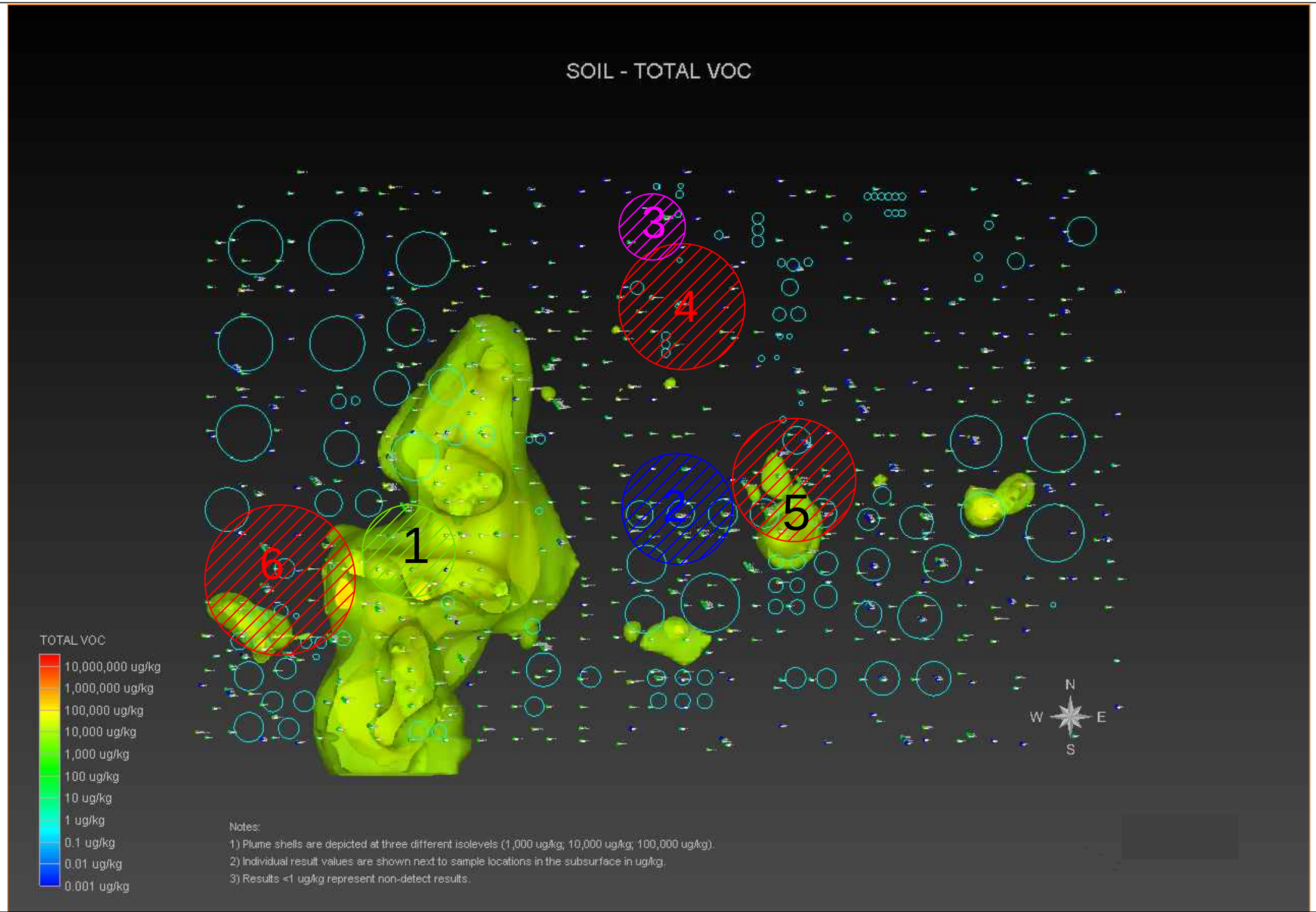
SVE WELL
CONSTRUCTION DETAIL

MUREX environmental, inc

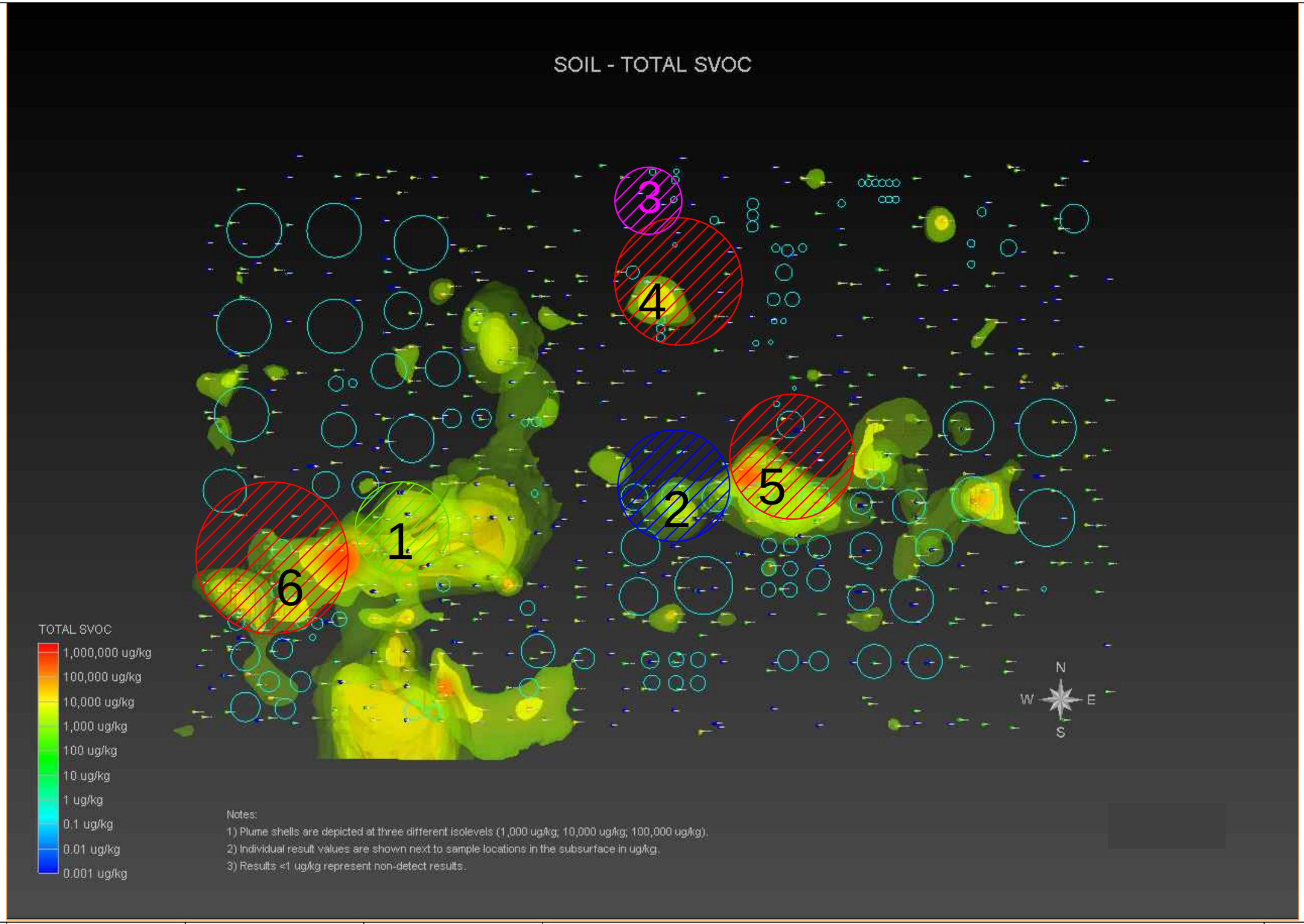
FIGURE
19




| | | | | | |
|---|---|---|---|---|---|
| MUREX environmental, inc | FORMER CENCO REFINERY<br>12345 LAKELAND ROAD<br>SANTA FE SPRINGS, CALIFORNIA | IMAGE SOURCE:<br>ARCADIS, 2009 | DRAWN BY: BR DATE: 10/18/2011<br>REVISED BY: BR DATE: 11/04/2011 | SITE PLAN SHOWING TPH IN SOIL | FIGURE<br>20 |




| | | | | | |
|---|---|---|---|---|---|
| MUREX environmental, inc | FORMER CENCO REFINERY<br>12345 LAKELAND ROAD<br>SANTA FE SPRINGS, CALIFORNIA | IMAGE SOURCE:<br>ARCADIS, 2009 | DRAWN BY: BR DATE: 10/18/2011<br>REVISED BY: BR DATE: 11/04/2011 | SITE PLAN SHOWING TOTAL VOC IN SOIL | FIGURE<br>21 |




| | | | | | |
|---|---|---|---|---|---|
| MUREX environmental, inc | FORMER CENCO REFINERY<br>12345 LAKELAND ROAD<br>SANTA FE SPRINGS, CALIFORNIA | IMAGE SOURCE:<br>ARCADIS, 2009 | DRAWN BY: BR DATE: 10/18/2011<br>REVISED BY: BR DATE: 11/04/2011 | SITE PLAN SHOWING sVOC IN SOIL | FIGURE<br>22 |

# Appendix A

# California Regional Water Quality Control Board
## Los Angeles Region

320 West Fourth Street, Suite 200, Los Angeles, California 90013
(213) 576-6600 • Fax (213) 576-6640
http://www.waterboards.ca.gov/losangeles

**Linda S. Adams**
*Acting Secretary for Environmental Protection*

**Edmund G. Brown Jr.**
*Governor*


March 11, 2011

Mr. Mike Barranco
Lakeland Development Company
12345 Lakeland Road
Santa Fe Springs, California 90670

**SUBJECT: APPROVAL OF WORK PLAN FOR PILOT TESTING, PURSUANT TO CALIFORNIA WATER CODE SECTION 13304 CLEANUP AND ABATEMENT ORDER NO. 97-118**

**SITE: FORMER POWERINE / CENCO REFINERY, 12345 LAKELAND ROAD, SANTA FE SPRINGS, CALIFORNIA, (SCP NO. 0318A, SITE ID NO. 2040071)**

Dear Mr. Barranco:

Regional Board staff have received and reviewed the *Pilot Testing Workplan* (Work Plan) for the Site. The Work Plan was prepared and submitted on your behalf by Murex Environmental, and was received by the Regional Board on September 20, 2010. The Work Plan is in response to the Regional Board's July 20, 2010 directive letter pursuant to California Water Code (CWC) section 13304 Cleanup and Abatement Order (CAO) No. 97-118.

An oil refinery was operated at the Site from the 1930's until 1995 and the surrounding properties are currently used for commercial and industrial purposes. The refinery operations resulted in impact to the subsurface; primarily with petroleum hydrocarbons. The Work Plan presents a scope of work and protocols for pilot testing of potential remedial technologies to evaluate their effectiveness for the reduction of contaminant concentrations at the Site and allow design of a Remedial Action Plan. The technologies to be evaluated include excavation of shallow soil (less than 10 feet), bioventing of deeper soil, treatment of vapor extracted from the soil, and air sparging of groundwater. The Work Plan is hereby approved as proposed.

Pursuant to section 13304 of the CWC and CAO No. 97-118, you are required to submit to the Regional Board a progress report of pilot test activities by **June 22, 2011** and a final report of pilot test activities and results by **October 21, 2011**. These required submittals and their due dates are an amendment of the existing CAO No. 97-118.

The Regional Board requires you to include a perjury statement in all work plans and reports submitted under Cleanup and Abatement Orders. The perjury statement shall be signed by a senior authorized representative at your company (and not by a consultant). The statement shall be in the following format:

*"I [NAME], do hereby declare, under penalty of perjury under the laws of the State of California, that I am [JOB TITLE] for [NAME OF RESPONSIBLE PARTY\DISCHARGER], that I am authorized to attest to the veracity of the information contained in the report(s) described herein, and that the information contained in [NAME AND DATE OF REPORT] is true and correct, and that this declaration was executed at [PLACE], [STATE], on [DATE]."*

Pursuant to section 13350 of the CWC, failure to submit the required progress report by **June 22, 2011** and final technical report by **October 21, 2011**, or failure to comply with provisions of Cleanup and Abatement Order No. 97-118, may result in civil liability penalties administratively imposed by the Regional Board in an amount up to five thousand dollars ($5,000) for each day the technical reports are not received and without further warning.
**Should you have any questions related to this project, please telephone Don Indermill, of my staff, at (213) 576-6811, or email him at dindermill@waterboards.ca.gov.**

Sincerely,

for Samuel Unger, P.E.
Executive Officer

cc: Jeremy Squire, Murex Environmental
Jeff Hawkins, Isola Law Group

# Appendix B

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-1**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/25/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/25/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 13/15/15 | | | 653 | SM | Greenish dark gray silty sand, moist, strong odor | | | | | 85 | 15 | | | | |
| 10 | 95% | 8/12/14 | | | 1932 | SP-SM | Brownish gray poorly graded sand with silt w/olive gray staining throughout core, moist, strong odor | | | | | 90 | 10 | | | | |
| 15 | 90% | 15/15/20 | 15 | | 717 | SP | Greenish gray poorly graded sand, moist, strong odor | | | | 5 | 90 | 5 | | | | |
| 20 | 85% | 10/10/12 | | | 279 | SP-SM | Brownish gray poorly graded sand with silt, moist, strong odor | | | | | 90 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 4 |

**BORING NO.** **MP-1**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**MP-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 85% | 10/10/12 | | | 279 | SP-SM | Brownish gray poorly graded sand with silt, moist, strong odor | | | | | 90 | 10 | | | | |
| 25 | 100% | 14/17/21 | | | 451 | SP-SM | Dark olive gray poorly graded sand with silt, moist, strong odor | | | | | 90 | 10 | | | | |
| 30 | 100% | 20/20/20 | | | 972 | SM | Brown silty sand w/gray stains, moist, strong odor | | | 5 | 10 | 70 | 15 | | | | |
| 35 | 95% | 23/27/29 | | | 636 | SM | Orange brown silty sand w/heavy dark gray stains throughout core, moist, strong odor | | | | 5 | 75 | 20 | | | | |
| 40 | 90% | 18/22/25 | | | 589 | SP-SM | Olive gray poorly graded sand with silt w/heavy gray and brown stains throughout core, moist, strong odor | | | | | 90 | 10 | | | | |
| 45 | 75% | 23/28/30 | 45 | | 167 | SW | Light gray well graded sand, moist, strong odor | | | 10 | 50 | 35 | 5 | | | | |
| 50 | 90% | 22/24/26 | | | 1374 | SP-SM | Brownish gray poorly graded sand with silt w/dark gray staining throughout core, moist, strong odor | | | | | 90 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 90% | 22/24/26 | | | 1374 | SP-SM | Brownish gray poorly graded sand with silt w/dark gray staining throughout core, moist, strong odor | | | | | 90 | 10 | | | | |
| 55 | 90% | 12/14/18 | | | 490 | **SM** | Greenish gray silty sand w/rusty brown and dark gray staining throughout core, moist, strong odor | | | | | 85 | 15 | | | | |
| 60 | 35% | 40/50 | | | 1251 | **SP-SM** | Gray poorly graded sand with silt w/yellowish brown staining, moist, storng odor | | | | | 90 | 10 | | | | |
| 65 | 75% | 20/30/35 | | | 1430 | **SP-SM** | SAA w/out staining | | | | | 90 | 10 | | | | |
| 70 | 35% | 35/50 | 70 | | 975 | **SP** | Gray poorly graded sand, moist, strong odor | | 5 | 10 | 60 | 20 | 5 | | | | |
| 75 | 40% | 35/50 | 75 | | 1814 | **SP** | SAA | | | 10 | 70 | 15 | 5 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-2**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/25/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/25/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 15/18/21 | | | 484 | SP-SM | Greenish gray poorly graded sand with silt, saturated with product, moist, strong odor | | | | | 90 | 10 | | | | |
| 10 | 90% | 12/14/15 | | | 290 | SP | Dark gray poorly graded sand, moist, strong odor | | | | 15 | 80 | 5 | | | | |
| 15 | 70% | 15/16/20 | 15 | | 947 | SP | Greenish gray poorly graded sand, moist, strong odor | | 2 | 8 | 10 | 75 | 5 | | | | |
| 20 | 85% | 13/14/19 | | | 10000+ | SW | Light brown well graded sand, moist, strong odor | | 5 | 5 | 30 | 55 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |

**BORING NO.** **MP-2**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**MP-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 85% | 13/14/19 | | | 10000 | SW | Light brown well graded sand, moist, strong odor | | 5 | 5 | 30 | 55 | 5 | | | | |
| | | | | | | | Product at 25 feet, oily brown, very strong odor | | | | | | | | | | |
| 25 | 95% | 23/28/30 | | | 10000+ | SP | Olive gray poorly graded sand, saturated with gasoline, very strong odor | | | | 5 | 90 | 5 | | | | |
| 30 | 100% | 23/27/35 | | | 1512 | SM | Yellowish brown silty sand, dark gray staining throughout core, moist, strong odor | | | | 5 | 80 | 15 | | | | |
| 35 | 100% | 12/17/23 | | | 1070 | SM | Light brown silty sand with tree roots, mottled, black and gray stains, moist, strong odor | | | | | 85 | 15 | | | | |
| 40 | 90% | 15/20/20 | | | 4003 | SP-SM | Olive gray poorly graded sand with silt w/brown stains throughout core, moist, strong odor | | | | | 90 | 10 | | | | |
| 45 | 75% | 23/23/27 | 45 | | 1065 | SW | Gray well graded sand, moist, strong odor | | | 10 | 50 | 35 | 5 | | | | |
| 50 | 50% | 35/50 | | | 1585 | SW | Yellowish brown poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 50% | 35/50 | | | 1585 | SP | Yellowish brown poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| 55 | 100% | 10/50 | | | 1452 | | Dark greenish gray poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| 60 | 40% | 33/50 | | | 9467 | | SAA | | | | | 95 | 5 | | | | |
| 65 | 65% | 25/50 | | | 1968 | **SW** | Gray well graded sand w/brown staining bands ~1.5" thick, moist, strong odor | | | 5 | 60 | 25 | 5 | | | | |
| 70 | 55% | 40/50 | | | 1621 | **SW** | Greenish gray well graded sand, moist, strong odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| 75 | 60% | 30/50 | 75 | | 3540 | **SW** | SAA | | | 10 | 60 | 25 | 5 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-3**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/24/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/24/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 12/14/2017 | | | 10000+ | SP | Dark greenish gray poorly graded sand, damp, strong odor, entire core saturated by heavy product, vigorous rxn to HCl | | | | 5 | 90 | 5 | | | | |
| 10 | 80% | 9/16/20 | | | 10000+ | SP-SM | Greenish gray poorly graded sand with silt w/heavy staining throughout core, damp, strong odor | | | | | 90 | 10 | | | | |
| 15 | 95% | 10/15/20 | 15 | | 10000+ | SP | Olive gray poorly graded sand w/trace gravel, heavily stained/saturated with heavy product, moist, strong odor | 5 | | | | 90 | 5 | | | | |
| 20 | 100% | 14/17/18 | | | 10000+ | SM | Light brown silty sand w/dark gray staining throughout core, damp, strong odor | | 2 | 3 | 15 | 55 | 15 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | |

**BORING NO.** **MP-3**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-3**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 100% | 14/17/18 | | | 10000+ | SM | Light brown silty sand w/dark gray staining throughout core, damp, strong odor | | 2 | 3 | 15 | 55 | 15 | | | | |
| 25 | 95% | 15/20/25 | | | 10000+ | SW | Olive green/gray well graded sand heavily saturated with HC, moist, strong odor | | | | 55 | 40 | 5 | | | | |
| 30 | 95% | 20/23/25 | | | 10000+ | SP | Reddish brown poorly graded sand w/greenish gray and dark gray staining, moist, strong odor | | | | 10 | 85 | 5 | | | | |
| 35 | 100% | 12/15/18 | | | 10000+ | SP-SM | Light brown poorly graded sand with silt w/tree roots, mottled, light gray staining, moist, strong odor | | | 5 | 10 | 75 | 10 | | | | |
| 40 | 100% | 15/20/23 | | | 10000+ | SP | Brown poorly graded sand, moist, strong odor | | | | 5 | 90 | 5 | | | | |
| 45 | 85% | 18/25/30 | 45 | | 3872 | SW | Greenish gray well graded sand, moist, strong odor | | | 5 | 60 | 30 | 5 | | | | |
| 50 | 75% | 14/17/21 | | | 10000+ | | Olive green poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-3**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 75% | 14/17/21 | | | 10000+ | SP | Olive green poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| 55 | 90% | 15/20/20 | | | 10000+ | **SP** | SAA | | | | | 95 | 5 | | | | |
| 60 | 65% | 40/50 | | | 10000+ | **SW** | Gray well graded sand, moist, strong odor | | | 5 | 60 | 30 | 5 | | | | |
| 65 | 75% | 35/50 | | | 673 | **SP** | Light greenish gray poorly graded sand, moist, strong odor | | | | 10 | 85 | 5 | | | | |
| 70 | 50% | 30/50 | | | 10000+ | **SW** | Gray well graded sand, moist, strong odor | | | 10 | 60 | 25 | 5 | | | | |
| 75 | 70% | 35/50 | 75 | | 2067 | **SW** | SAA | | | | 60 | 35 | 5 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-4**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/23/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/24/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 14/14/16 | | | 649 | SP-SM | Olive brown poorly graded sand with silt w/gray staining throughout core, moist, strong HC odor | | | | | 90 | 10 | | | | |
| 10 | 95% | 18/20/20 | | | 105 | SP | greenish gray poorly graded sand, moist, HC odor, weak rxn to HCl | | | | 5 | 90 | 5 | | | | |
| 15 | 90% | 20/25/30 | 15 | | 760 | SP-SM | Olive green poorly graded sand with silt w/gray and dark gray staining throughout core, moist, HC odor, weak rxn to HCl | | | | 5 | 85 | 10 | | | | |
| 20 | 100% | 10/15/20 | | | 354 | SP-SM | Greenish brown poorly graded sand with silt w/dark gray and dark brown staining, moist, HC odor | | | | 10 | 80 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |
| **BORING NO.** | **MP-4** |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**MP-4**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 100% | 10/15/20 | | | 354 | SP-SM | Greenish brown poorly graded sand with silt w/dark gray and dark brown staining, moist, HC odor | | | | | | | | | | |
| 25 | 90% | 20/20/20 | | | 4571 | SP | Greenish gray poorly graded sand, moist, strong odor | | | | 5 | 90 | 5 | | | | |
| 30 | 100% | 14/17/22 | | | 397 | SP-SM | Brownish gray poorly graded sand with silt, mottled, dark gray stains, moist, strong odor, strong rxn to HCl | | 3 | 2 | 5 | 80 | 10 | | | | |
| 35 | 100% | 15/20/20 | | | 719 | SM | Brown silty sand w/light and dark gray staining, moist, strong sour odor | | | | 5 | 80 | 15 | | | | |
| 40 | 100% | 14/17/21 | | | 346 | SP | Olive gray poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| 45 | 80% | 12/23/28 | 45 | | 73 | SW | Gray well graded sand w/rusty brown staining bands ~1" thick throughout core, moist, strong odor | | | 5 | 40 | 50 | 5 | | | | |
| 50 | 95% | 17/20/30 | | | 1653 | SP-SM | Dark gray poorly graded sand with silt, moist, strong odor, some rusty staining | | | | | 90 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-4**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 95% | 17/20/30 | | | 1653 | SP-SM | Dark gray poorly graded sand with silt, moist, strong odor, some rusty staining | | | | | 90 | 10 | | | | |
| 55 | 95% | 12/20/20 | | | 2795 | **SM** | Olive green silty sand w/heavy dark gray staining, very moist, very strong odor | | | | 5 | 80 | 15 | | | | |
| 60 | 50% | 10/14/26 | | | 95 | **SP** | Yellow brownish gray poorly graded sand, very moist, HC odor | | | | 65 | 30 | 5 | | | | |
| 65 | 100% | 20/25/25 | | | 2607 | **SW-SM** | Dark gray well graded sand with silt, moist, strong odor | | | 10 | 50 | 30 | 10 | | | | |
| 70 | 40% | 30/50 | | | 1122 | **SW** | Dark gray well graded sand, moist, strong odor | | 3 | 12 | 50 | 30 | 5 | | | | |
| 75 | 75% | 40/50 | 75 | | 3267 | **SW** | SAA | | 5 | 20 | 50 | 20 | 5 | | | | |
| | | | | | | | Total depth 76 feet | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

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# BORING LOG

BORING NO. **MP-5**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/23/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/23/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 10/12/2014 | | | 275 | SP | Greenish gray poorly graded sand w/olive gray-dark gray staining throughout core, moist, strong HC odor, strong rxn to HCl | | | | | 95 | 5 | | | | |
| 10 | 100% | 14/16/18 | | | 2156 | SP-SM | Dark gray poorly graded sand with silt, saturated with HC, moist, very strong HC odor, strong rxn to HCl | | | | | 90 | 10 | | | | |
| 15 | 70% | 20/50 | 15 | | 9927 | SP-SM | SAA | | | | | 90 | 10 | | | | |
| 20 | 95% | 20/20/28 | | | 10000+ | SP | Dark gray poorly graded sand w/olive staining, very strong HC odor, strong rxn to HCl | | | 5 | 15 | 75 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |
| **BORING NO.** | **MP-5** |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**MP-5**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 95% | 20/20/28 | | | 10000+ | SP | Dark gray poorly graded sand w/olive staining, very strong HC odor, strong rxn to HCl | | | 5 | 15 | 75 | 5 | | | | |
| 25 | 85% | 30/50 | | | 3830 | SP | Gray poorly sorted sand w/gray and dark gray staining, miost, strong HC odor | | | | 10 | 85 | 5 | | | | |
| 30 | 100% | 20/37/40 | | | 10000+ | SM | Olive brown silty sand w/dark gray staining mottled throughout, strong HC odor, slight rxn to HCl | | | | 5 | 80 | 15 | | | | |
| 35 | 100% | 18/21/24 | | | 10000+ | SP | Light olive gray poorly graded sand w/staining throughout core, strong HC odor | | 2 | 3 | 5 | 85 | 5 | | | | |
| 40 | 100% | 30/43/45 | | | 10000+ | SP | Greenish dark gray poorly graded sand, strong HC odor | | | | 5 | 90 | 5 | | | | |
| 45 | 50% | 40/50 | 45 | | 1656 | SP | Light gray poorly graded sand w/ rusty staining bands (one that is 2" thick at ~44.75' bgs), moist, HC odor | | | | 10 | 90 | | | | | |
| 50 | 95% | 27/30/35 | | | 10000+ | | Greenish gray poorly graded sand, moist, strong HC odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-5**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 95% | 27/30/35 | | | 10000+ | | Greenish gray poorly graded sand, moist, strong HC odor | | | | | 95 | 5 | | | | |
| 55 | 100% | 37/40/50 | | | 1217 | SP-SM | Greenish olive gray poorly graded sand with silt, dark gray and light olive gray staining, moist, HC odor | | | | | 90 | 10 | | | | |
| 60 | 85% | 40/50 | | | 173 | SP | Yellowish gray poorly graded sand with brown staining bands throughout core, moist, HC odor | | 2 | 3 | 30 | 60 | 5 | | | | |
| 65 | 90% | 40/43/50 | | | 44 | SP | Dark gray poorly graded sand, moist, HC odor | | | | | 95 | 5 | | | | |
| 70 | 75% | 40/50+ | | | 365 | SW-SM | Gray well graded sand with silt, moist, HC odor | | 5 | 10 | 50 | 25 | 10 | | | | |
| 75 | 55% | 45/50+ | 75 | | 738 | | SAA | | 2 | 8 | 50 | 30 | 10 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

**BORING NO.** **MP-6**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/18/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/18/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand auger first 5 feet | | | | | | | | | | |
| 5 | 90% | 10/14/2017 | | | 79 | SP-SM | Reddish brown poorly graded sand with silt w/olive gray staining, gray mottling, tree roots, moist, odor | | | | | 90 | 10 | | | | |
| 10 | 70% | 14/20/25 | | | 144 | SP-SM | Olive brown poorly graded sand with silt w/dark gray staining, damp, hydrocarbon odor | | | | 10 | 80 | 10 | | | | |
| 15 | 60% | 20/25/28 | 15 | | 400 | SW-SM | Light gray well graded sand with silt w/yellowish staining, moist, strong odor | | | 5 | 65 | 25 | 10 | | | | |
| 20 | 95% | 14/17/21 | | | 346 | SP | Olive grayish brown poorly graded sand w/gray stains, moist, strange odor (bitter), subangular gravel | | 5 | 5 | | 85 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |

**BORING NO.** **MP-6**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-6**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 95% | 14/17/21 | | | 346 | SP | Olive grayish brown poorly graded sand w/gray stains, moist, strange odor (bitter), subangular gravel | | 5 | 5 | | 85 | 5 | | | | |
| 25 | 100% | 25/28/30 | | | 1683 | SM | Olive brown silty sand w/dark gray staining, moist, strong odor | | | | | 85 | 15 | | | | |
| 30 | 100% | 18/18/18 | | | 354 | SP-SM | Reddish brown poorly graded sand with silt w/CaCO3 (weak HCl rxn) and rusty staining, moist, strong odor | | | | | 90 | 10 | | | | |
| 35 | 95% | 18/25/23 | | | 905 | SP | Olive brown poorly graded sand, moist, strong odor, signs of yellow-orange staining | | | | | 95 | 5 | | | | |
| 40 | 75% | 20/20/20 | | | 699 | SP | Yellowish gray poorly graded sand, moist, strong odor | | | | 5 | 90 | 5 | | | | |
| 45 | 70% | 30/50 | 45 | | 100 | SW_SP | Yellowish gray well graded sand with silt, moist, minor odor | | 5 | 10 | 25 | 50 | 10 | | | | |
| 50 | 40% | 20/50 | | | 357 | SW-SP | Yellow greenish gray well graded sand with silt w/dark gray stains, moist, strong odor, subrounded gravel | | 5 | 15 | 30 | 40 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-6**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 40% | 20/50 | | | 357 | SW-SP | Yellow greenish gray well graded sand with silt w/dark gray stains, moist, strong odor, subrounded gravel | | 5 | 15 | 30 | 40 | 10 | | | | |
| 55 | 60% | 35/50 | | | 417 | **SP** | Yellowish gray poorly graded sand w/olive gray staining, moist, strong odor | | | 5 | 80 | 10 | 5 | | | | |
| 60 | 55% | 33/50 | | | 1092 | **SP** | Olive gray poorly graded sand, moist, strong odor | | | 5 | 85 | 5 | | | | | |
| 65 | 70% | 35/50 | | | 191 | **SP** | Light gray poorly graded sand w/dark gray mottling, moist, odor | | | 5 | 80 | 10 | 5 | | | | |
| 70 | 55% | 30/50 | | | 308 | **SP-SM** | Olive gray poorly graded sand with silt w/dark gray mottling, moist, odor | | | | 75 | 15 | 10 | | | | |
| 75 | 80% | 35/50 | 75 | | 135 | **SP-SM** | SAA | | | | 80 | 10 | 10 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

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# BORING LOG

BORING NO. **MP-7**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/19/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/19/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 12/15/2020 | | | 84 | SP-SM | Greenish brown poorly graded sand with silt w/tree roots, orange and brown mottling, moist, slight odor | | | | 10 | 80 | 10 | | | | |
| 10 | 95% | 18/20/20 | | | 2227 | SP | Dark gray poorly graded sand w/light gray and rusty staining, moist, strong odor | | | | 15 | 80 | 5 | | | | |
| 15 | 60% | 23/25/30 | 15 | | 319 | SW | Yellowish gray well graded sand, moist, strong odor | | | 10 | 50 | 35 | 5 | | | | |
| 20 | | 20/20/20 | | | 5523 | SP | Light brown poorly graded sand w/gray staining, moist, strong odor | | | | 10 | 85 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | |

**BORING NO.** **MP-7**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-7**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | | 20/20/20 | | | 5523 | SP | Light brown poorly graded sand w/gray staining, moist, strong odor | | | | 10 | 85 | 5 | | | | |
| 25 | 100% | 16/23/25 | | | 110 | SP-SM | Light brown poorly graded sand with silt w/gray staining, moist, strong odor | | | | | 90 | 10 | | | | |
| 30 | 100% | 14/18/23 | | | 561 | SP-SM | Reddish brown poorly graded sand with silt w/gray and rusty staining, moist, strong odor | | | | 10 | 80 | 10 | | | | |
| 35 | 100% | 13/17/24 | | | 409 | SP-SM | Grayish brown poorly graded sand with silt w/'tar', dark gray and rusty staining throughout, moist, strong odor | | | | | 90 | 10 | | | | |
| 40 | 95% | 18/20/23 | | | 300 | SP | Light gray poorly graded sand w/rusty staining bands throughout core moist, strong odor, | | | | | 95 | 5 | | | | |
| 45 | 50% | 40/50 | 45 | | 156 | SW-SM | Yellowish gray well graded sand with silt, moist, HC odor | | | 10 | 40 | 40 | 10 | | | | |
| 50 | 60% | 45/50+ | | | 150 | SP | Yellowish brown poorly graded sand, moist, HC odor | | | | 15 | 80 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-7**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 60% | 45/50+ | | | 150 | SP | Yellowish brown poorly graded sand, moist, HC odor | | | | 15 | 80 | 5 | | | | |
| 55 | 70% | 40/50+ | | | 197 | **SP** | Light brownish gray poorly graded sand, moist, HC odor | | | | 5 | 90 | 5 | | | | |
| 60 | 85% | 40/50+ | | | 84 | **SP** | Greenish gray poorly graded sand, moist, HC odor | | | | 20 | 75 | 5 | | | | |
| 65 | 55% | 40/50+ | | | 35 | **SP** | Light gray poorly graded sand, moist, slight HC odor | | | | 20 | 75 | 5 | | | | |
| 70 | 70% | 43/50+ | | | 161 | **SW** | Dark gray well graded sand, moist, HC odor, subangular to subrounded gravel | 5 | 5 | 10 | 50 | 25 | 5 | | | | |
| 75 | 40% | 40/50 | 75 | | 32 | **SP** | Light gray poorly graded sand, moist, HC odor | | | | | 95 | 5 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

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# BORING LOG

BORING NO. **MP-8**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/19/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/20/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**
- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**
- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 95% | 7/9/2011 | | | 4267 | SP-SM | Dark brown poorly graded sand with silt w/dark gray staining, moist, sharp HC odor | | | | 5 | 85 | 10 | | | | |
| 10 | 100% | 10/15/20 | | | 128 | SP-SM | Olive gray poorly graded sand with silt w/product stains and smears throughout entire core, moist, strong odor | | | | | 90 | 10 | | | | |
| 15 | 90% | 18/23/27 | 15 | | 132 | SP | Yellowish olive gray poorly graded sand, moist, strong gasoline odor, subrounded to subangular gravel | 5 | 10 | 10 | 50 | 20 | 5 | | | | |
| 20 | 75% | | | | 36 | SP | SAA | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |
| **BORING NO.** | **MP-8** |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-8**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 75% | | | | 36 | SP | SAA | | | | | | | | | | |
| | | | | | | | Lithology change at 24 feet | | | | | 95 | 5 | | | | |
| 25 | 95% | 25/25/30 | | | 251 | SM | Reddish brown silty sand w/olive green and gray staining, moist, HC odor | | | | 5 | 80 | 15 | | | | |
| 30 | 100% | 35/50 | | | 317 | SP-SM | Reddish gray poorly graded sand with silt, moist, HC odor, trace coarse sand and fine gravel | | 2 | 3 | 5 | 80 | 10 | | | | |
| 35 | 90% | 26/29/31 | | | 236 | SP | Greenish brown poorly graded sand, moist, HC odor | | | | 25 | 70 | 5 | | | | |
| 40 | 95% | 27/32/34 | | | 1409 | SP-SM | Olive brown poorly graded sand with silt, moist, strong HC odor | | | | 20 | 70 | 10 | | | | |
| 45 | 100% | 30/35/40 | 45 | | 82 | SW | Light gray well graded sand, moist, HC odor | | | 5 | 25 | 65 | 5 | | | | |
| 50 | 70% | 40/50 | | | 284 | SW | Yellowish light gray well graded sand, moist, HC odor | | | 3 | 27 | 70 | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-8**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 70% | 40/50 | | | 284 | SW | Yellowish light gray, moist, HC odor | | | 3 | 27 | 70 | | | | | |
| 55 | 75% | 45/50 | | | 248 | **SW** | Light gray well graded sand, moist, HC odor | | | 5 | 45 | 45 | 5 | | | | |
| 60 | 75% | 38/50 | | | 154 | **SP** | Gray poorly graded sand, moist, odor, some rusty staining, trace coarse and fine subrounded gravel | 2 | 3 | 10 | 15 | 65 | 5 | | | | |
| 65 | 70% | 35/50+ | | | 97 | **SP** | SAA w/visible 1" thick rusty brown staining bands | | | | | | | | | | |
| 70 | 55% | 30/50 | | | 172 | **SW** | Olive gray well graded sand, moist, HC odor | | 5 | 10 | 55 | 25 | 5 | | | | |
| 75 | 60% | 35/50 | 75 | | 620 | **SW** | SAA w/stronger HC odor | | 3 | 12 | 30 | 50 | 5 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

**BORING NO.** **MP-9**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/17/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/18/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**
- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**
- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand auger first 5 feet | | | | | | | | | | |
| 5 | 85% | 20/70/20 | | | 4213 | SM | Orangish brown silty sand w/light gray mottling, damp, strong hydrocarbon odor | | | | 5 | 75 | 20 | | | | |
| 10 | 90% | 18/23/25 | | | 6326 | SP | Yellowish gray poorly graded sand, damp, strong odor | | | | 5 | 90 | 5 | | | | |
| 15 | 95% | 25/30/33 | 15 | | 4017 | SP-SM | Yellowish gray poorly graded sand with silt w/light gray staining bands apx 1"-2" thick, damp, strong odor | | | | | 90 | 10 | | | | |
| 20 | 80% | 30/50+ | | | 6168 | SW | Yellowish gray well graded sand, moist, strong odor, crushed rock and coarse sand | | 5 | 5 | 50 | 40 | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |
| **BORING NO.** | **MP-9** |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**MP-9**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 80% | 30/50+ | | | 6168 | SW | Yellowish gray well graded sand, moist, strong odor, crushed rock and coarse sand | | 5 | 5 | 50 | 40 | | | | | |
| 25 | 100% | 27/20/20 | | | 7579 | SM | Orangish brown silty sand w/dark brown staining, moist, strong odor | | | 3 | 7 | 60 | 30 | | | | |
| 30 | 100% | 20/25/25 | | | 4948 | SP | Reddish brown poorly graded sand w/light and dark gray staining, moist, strong odor, mottled w/calcium carbonate residue-strong HCl rxn | | | 5 | 15 | 70 | 10 | | | | |
| 35 | 95% | 27/30/35 | | | 10000+ | SP-SM | Grayish brown poorly graded sand with silt w/rusty orange and olive gray staining, moist, very strong odor | | | 5 | 10 | 75 | 10 | | | | |
| 40 | 85% | 22/25/28 | | | 10000+ | SP | Yellowish gray poorly graded sand, damp, very strong odor | | | | 5 | 90 | 5 | | | | |
| 45 | 40% | 35/50 | 45 | | 10000+ | SP | Yellowish brown poorly graded sand, damp, very strong odor | | | | 5 | 90 | 5 | | | | |
| 50 | 55% | 30/40/50 | | | 10000+ | SW | Light brown well graded sand w/rusty and light gray staining, moist, very strong odor | | | 5 | 25 | 65 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-9**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 55% | 30/40/50 | | | 10000+ | SW | Light brown well graded sand w/rusty and light gray staining, moist, very strong odor | | | 5 | 25 | 65 | 5 | | | | |
| 55 | 45% | 35/50 | | | 10000+ | **SW** | Grayish brown well graded sand w/rusty and gray staining bands apx 1" thick, moist, very strong odor | | | | 35 | 60 | 5 | | | | |
| 60 | 70% | 45/50 | | | 5097 | **SP_SM** | Yellowish gray poorly graded sand with silt, moist, strong odor, rounded to subangular gravel | 5 | 10 | 10 | 20 | 45 | 10 | | | | |
| 65 | 60% | 40/50+ | | | 1582 | **SW-SM** | Dark yellowish gray well graded sand with silt, moist, strong odor | | | 10 | 35 | 45 | 10 | | | | |
| 70 | 75% | 35/50 | | | 3007 | **SP** | Light gray poorly graded sand w/dark gray staining, moist, strong odor | | | | 10 | 85 | 5 | | | | |
| 75 | 65% | 35/50 | 75 | | 921 | **SP** | Light gray poorly graded sand, moist, some HC odor, | | | 3 | 12 | 80 | 5 | | | | |
| | | | | | | | Total depth 76 feet bgs | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **MP-10**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/20/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/20/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 76'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 80% | 10/15/2020 | | | 1917 | SM | Dark brown silty sand w/dark gray and olive gray staining throughout the core, moist, strong odor | | | | 5 | 80 | 15 | | | | |
| 10 | 90% | 14/18/23 | | | 1923 | SP | Olive gray poorly graded sand, moist, strong HC odor | | | 3 | 7 | 85 | 5 | | | | |
| 15 | 95% | 20/25/30 | 15 | | 438 | SP-SM | Greenish gray poorly graded sand with silt w/evident staining throughout, moist, strong 'sweet and sharp' odor | | | | | 90 | 10 | | | | |
| 20 | 75% | 25/50 | | | 142 | SW-SM | Light gray well graded sand with silt, moist, slight HC odor | | | 10 | 25 | 55 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 76' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |
| **BORING NO.** | **MP-10** |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**MP-10**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 75% | 25/50 | | | 142 | SW-SM | Light gray well graded sand with silt, moist, slight HC odor | | | 10 | 25 | 55 | 10 | | | | |
| 25 | 75% | 33/50 | | | 173 | SP | Light yellowish gray poorly graded sand, w/subangular fine gravel, moist, slight HC odor | | 5 | 15 | 55 | 20 | 5 | | | | |
| 30 | 100% | 11/13/15 | | | 62 | SM | Dark reddish brown silty sand w/some light gray and greenish gray staining, moist, slight HC odor | | | | | 75 | 25 | | | | |
| 35 | 90% | 20/25/28 | | | 368 | SP-SM | Greenish gray poorly graded sand with silt w/heavy staining, moist, strong HC odor | | | | | 90 | 10 | | | | |
| 40 | 80% | 25/27/30 | | | 141 | SP-SM | Brownish gray poorly graded sand with silt, moist, slight HC odor | | | 5 | 5 | 80 | 10 | | | | |
| 45 | 75% | 30/50 | 45 | | 25 | SP-SM | Brownish gray poorly graded sand with silt, moist, slight HC odor | | | | 5 | 85 | 10 | | | | |
| 50 | 85% | 23/25/30 | | | 62 | SP-SM | Greenish gray poorly graded sand with silt, moist, slight HC odor | | | | | 90 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**MP-10**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 85% | 23/25/30 | | | 62 | SP-SM | Greenish gray poorly graded sand with silt, moist, slight HC odor | | | | | 90 | 10 | | | | |
| 55 | 70% | 30/50 | | | 10 | **SP** | Yellowish brown poorly graded sand, moist, slight odor | | | | | 95 | 5 | | | | |
| 60 | 60% | 40/50 | | | 33 | **SP** | Yellowish olive gray poorly graded sand, some staining, moist, slight HC odor | | | 5 | 70 | 20 | 5 | | | | |
| 65 | 65% | 30/50 | | | 6 | **SP-SM** | Very light gray poorly graded sand with silt, moist, faint odor | | | 10 | 60 | 20 | 10 | | | | |
| 70 | 45% | 35/50 | | | 6 | **SP** | Very light gray poorly graded sand, moist, faint odor | | 5 | 10 | 65 | 15 | 5 | | | | |
| 75 | 35% | 33/50 | 75 | | 13 | **SP** | Yellowish olive gray poorly graded sand, moist, faint odor | | | 5 | 70 | 20 | 5 | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **SVE-1/MP-11**



| | | | |
|---|---|---|---|
| **PROJECT** | Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Jeremy Squire/Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/31/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/31/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 121'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand auger first 5 feet | | | | | | | | | | |
| 5 | 95% | 18/23/25 | | | 69 | SM | Brown silty sand, damp, weak odor | | | | 5 | 75 | 20 | | | | |
| 10 | 100% | 20/23/25 | | | 100 | SP-SM | Grayish brown poorly graded sand with silt w/gray and rusty brown staining, moist, slight odor | | | | | 90 | 10 | | | | |
| 15 | 95% | 15/17/20 | | | 122 | SP | Brownish gray poorly graded sand w/light brown staining, damp, slight odor | | | | 15 | 80 | 5 | | | | |
| 20 | 75% | 23/27/30 | 20 | | 29 | SP-SM | Gray poorly graded sand with silt, moist, slight odor | | | | 70 | 20 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 121' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | |

**BORING NO.** **SVE-1/MP-11**

**Field Tests** Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High

Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**SVE-1/MP-11**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 75% | 23/27/30 | | | 29 | SP-SM | Gray poorly graded sand with silt, moist, slight odor | | | | 70 | 20 | 10 | | | | |
| 25 | 60% | 30/50 | | | 25 | SW-SM | Dark gray well graded sand with silt, moist, slight odor | | 5 | 10 | 50 | 25 | 10 | | | | |
| 30 | 85% | 13/15/17 | | | 106 | SP-SM | Grayish olive green poorly graded sand with silt, moist, slight odor | | | | 5 | 85 | 10 | | | | |
| 35 | 90% | 17/20/23 | | | 143 | SP | Olive green poorly graded sand, moist, slight odor | | | | 10 | 90 | | | | | |
| 40 | 75% | 12/14/16 | 40 | | 116 | SP | Greenish gray poorly graded sand, moist, slight odor | | | | | 95 | 5 | | | | |
| 45 | 95% | 13/16/18 | | | 113 | SP-SM | Olive green poorly graded sand with silt, moist, slight odor | | | | | 90 | 10 | | | | |
| 50 | 80% | 20/20/20 | 50 | | 13 | SP | Light greenish gray poorly graded sand, moist, no odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**SVE-1/MP-11**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 80% | 20/20/20 | 50 | | 13 | SP | Light greenish gray poorly graded sand, moist, no odor | | | | | 95 | 5 | | | | |
| 55 | 70% | 32/50 | | | 34 | SW | Gray well graded sand, moist, slight odor | | | | 35 | 60 | 5 | | | | |
| 60 | 65% | 35/50 | | | 60 | SP-SM | Gray poorly graded sand with silt, moist, slight odor | 3 | 7 | 10 | 50 | 20 | 10 | | | | |
| 65 | 55% | 20/50 | | | 61 | SW | Gray well graded sand, moist, slight odor | | | 15 | 50 | 30 | 5 | | | | |
| 70 | 75% | 25/50 | | | 21 | SW-SM | Dark gray well graded sand with silt, miost, slight odor | | 5 | 10 | 45 | 30 | 10 | | | | |
| 75 | 45% | 30/50 | 75 | | 15 | SW | Gray well graded sand, moist, weakt odor | | | 5 | 60 | 30 | 5 | | | | |
| 80 | 85% | 33/35/40 | | | 84 | SP | Gray poorly graded sand, moist, slight odor | | 5 | 10 | 60 | 20 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**SVE-1/MP-11**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 85% | 33/35/40 | | | 84 | SP | Gray poorly graded sand, moist, slight odor | | 5 | 10 | 60 | 20 | 5 | | | | |
| 85 | 55% | 40/50 | | | **41** | **SP** | Dark gray poorly graded sand with gravel, moist, slight odor | 5 | 15 | 20 | 45 | 10 | 5 | | | | |
| 90 | 85% | 25/50 | | | **147** | **SP-SM** | Dark gray poorly graded sand with silt and gravel, mosit, slight odor | 5 | 10 | 15 | 50 | 10 | 10 | | | | |
| 95 | 20% | 30/50 | | | **1195** | SP-SM | Dark olive gray poorly graded sand with silt, moist, strong odor | 5 | 5 | 20 | 50 | 10 | 10 | | | | |
| 100 | 95% | 20/25/27 | 100 | | **10000+** | SP-SM | Dark olive gray poorly graded sand with silt, moist, very strong odor | | | | | 90 | 10 | | | | |
| 105 | 100% | 20/20/20 | | | **1638** | SP-SM | SAA | | | | | 90 | 10 | | | | |
| | | | | | | | First water at approximately 109 feet bgs | | | | | | | | | | |
| 110 | 100% | 13/20/25 | | | **1147** | SP | Dark gray poorly graded sand, wet, strong odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**SVE-1/MP-11**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 100% | 13/20/25 | | | **1147** | SP | Dark gray poorly graded sand, wet, strong odor | | | | | 95 | 5 | | | | |
| 115 | 70% | 25/27/30 | | | 995 | SP | Dark gray poorly graded sand, wet, strong odor | | 10 | 15 | 60 | 10 | 5 | | | | |
| 120 | 80% | 10/10/10 | 120 | | 1100 | SW | Dark gray well graded sand, wet, strong odor<br>Total depth 121 feet bgs | | 5 | 10 | 50 | 30 | 5 | | | | |
| 125 | | | | | | | | | | | | | | | | | |
| 130 | | | | | | | | | | | | | | | | | |
| 135 | | | | | | | | | | | | | | | | | |
| 140 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **VE-1**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/26/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/26/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 91'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 100% | 10/13/15 | | | 8127 | SM | Dark gray silty sand, staining throughout core, moist, strong odor | | | | | 85 | 15 | | | | |
| 10 | 85% | 13/18/21 | 10 | | 508 | SM | Light brown silty sand with gray staining, damp, strong odor | | 2 | 3 | | 80 | 15 | | | | |
| 15 | 95% | 15/18/23 | | | 522 | SP-SM | Light brown poorly graded sand with silt w/rusty brown and light gray staining layers, moist, strong odor | | | | 5 | 85 | 10 | | | | |
| 20 | 80% | 11/14/18 | 20 | | 651 | SM | Light brownish gray silty sand w/rusty brown and gray staining, moist, strong odor | | 5 | | 5 | 75 | 15 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 91' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 5 |
| **BORING NO.** | **VE-1** |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**VE-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 80% | 11/14/18 | 20 | | 651 | SM | Light brownish gray silty sand w/rusty brown and gray staining, moist, strong odor | | 5 | | 5 | 75 | 15 | | | | |
| 25 | 95% | 18/22/30 | | | 1067 | SP | Very dark olive gray poorly graded sand satuarated w/product throughout core, strong odor | | | | | 95 | 5 | | | | |
| | | | | | | | Top 6 inches of core vigorous rxn to HCl | | | | | | | | | | |
| 30 | 80% | 27/30/30 | | | 705 | SM | Reddish brown silty sand w/dark gray staining throughout core, moist, strong odor | | 3 | 5 | | 67 | 25 | | | | |
| 35 | 90% | 12/15/18 | | | 810 | SM | Brown silty sand mottled dark darkd gray and rusty brown, moist, strong odor | 5 | 5 | 10 | | 60 | 20 | | | | |
| 40 | 100% | 12/15/18 | 40 | | 1047 | SM | Greenish gray silty sand w/dark brown stains, moist, strong odor | | | | 5 | 70 | 25 | | | | |
| 45 | 70% | 18/23/27 | | | 1231 | SW | Gray well graded sand, moist, strong odor | | | 5 | 50 | 40 | 5 | | | | |
| 50 | 95% | 10/16/21 | 50 | | 998 | SP-SM | Gray poorly sorted sand with silt, moist, strong odor | | | | | 90 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**VE-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 95% | 10/16/21 | 50 | | 998 | SP-SM | Gray poorly sorted sand with silt, moist, strong odor | | | | | 90 | 10 | | | | |
| 55 | 100% | 18/20/21 | | | 3554 | **SP-SM** | SAA | | | | | 90 | 10 | | | | |
| 60 | 85% | 35/50 | | | 55 | **SP-SM** | Yellowish gray poorly graded sand with silt w/brown staining throughout core, moist, HC odor | | | | 20 | 70 | 10 | | | | |
| 65 | 60% | 30/50 | | | 155 | **SP-SM** | Light gray poorly graded sand with silt, moist, HC odor | | | | 10 | 80 | 10 | | | | |
| 70 | 75% | 40/50+ | | | 48 | **SW** | Gray well graded sand, moist, HC odor | | 5 | 15 | 45 | 30 | 5 | | | | |
| 75 | 50% | 35/50 | 75 | | 1683 | **SW-SM** | Gray well graded sand with silt, moist, strong odor | | | 10 | 50 | 30 | 10 | | | | |
| 80 | 85% | 45/50+ | | | 10000+ | **SW** | Gray well graded sand, very moist, very strong odor, saturated with product | | 3 | 12 | 50 | 30 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**VE-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 85% | 45/50+ | | | 10000+ | SW | Gray well graded sand, very moist, very strong odor, saturated with product | | 3 | 12 | 50 | 30 | 5 | | | | |
| 85 | 90% | 35/50+ | | | 10000+ | **SW** | SAA | | 3 | 10 | 55 | 25 | 5 | | | | |
| 90 | 95% | 35/50 | 90 | | 10000+ | **SP-SM** | Dark olive gray poorly graded sand with silt, moist, very strong odor | | | | 5 | 85 | 10 | | | | |
| | | | | | | | Total depth 91 feet bgs | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | | | | | |
| 105 | | | | | | | | | | | | | | | | | |
| 110 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **VE-2**



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/17/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/17/2011 |

**Elevation** 136.87 ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 91'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | | | | | | | | |
| 5 | 95% | 40/45/50+ | | | 3277.0 | | Light brown, dry, strong gasoline odor | | | 5 | 10 | 80 | 5 | | | | |
| 10 | 90% | 12/14/17 | | | 4966.0 | | Yellowish brown, moist, strong gasoline odor | | | | 50 | 40 | 10 | | | | |
| 15 | 50% | 20/25/80 | | | 1953.0 | | Light gray, damp, strong odor | | 2 | 3 | 70 | 20 | 5 | | | | |
| 20 | 60% | 18/23/25 | 20 | | 1774.0 | | Light gray, damp, strong odor, visible staining, sub-rounded qtz gravel | | 5 | 5 | 80 | 5 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 91' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | |

**BORING NO.** **VE-2**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **VE-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 60% | 18/23/25 | 20 | | 1774.0 | | Light gray, damp, strong odor, visible staining, sub-rounded qtz gravel | | 5 | 5 | 80 | 5 | 5 | | | | |
| 25 | 100% | 20/25/25 | | | 2375.0 | | Orange brown w/black 'tar' mottling, moist, odor | | | 3 | 12 | 65 | 20 | | | | |
| 30 | 100% | 10/12/14 | | | 4144.0 | | Orange brown, extensive calcium carbonate?-medium rxn to HCl, strong odor | | | | 10 | 60 | 30 | | | | |
| 35 | 85% | 24/30/40 | | | 3598.0 | | Light brown, moist, strong odor, visible staining | | | | 10 | 80 | 10 | | | | |
| 40 | 65% | 17/50+ | 40 | | 6081.0 | | Brown gray, moist, strong odor | | | | 50 | 40 | 10 | | | | |
| 45 | 50% | 25/50+ | | | 10000+ | | Light yellowish gray, moist, strong odor, crates hydrocarbon sheen on puddled water | | | | 70 | 25 | 5 | | | | |
| 50 | 70% | 23/50+ | | | 10000+ | | Orange brown w/hues of gray, moist, strong odor | | | | 5 | 85 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **VE-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 70% | 23/50+ | 50 | | 10000+ | | Orange brown w/hues of gray, moist, strong odor | | | | 5 | 85 | 10 | | | | |
| 55 | 70% | 35/50+ | | | 10000+ | | SAA | | | | 15 | 80 | 5 | | | | |
| 60 | 65% | 40/50 | | | 4306.0 | | Greenish gray, moist, strong odor | | | | 20 | 75 | 5 | | | | |
| 65 | 60% | 45/50+ | | | 4102.0 | | Olive gray, moist, strong odor, subrounded qtz gravel | | 5 | 20 | 50 | 20 | 5 | | | | |
| 70 | 40% | 35/50+ | | | 952.0 | | Greenish gray, moist, medium odor | | | 5 | 25 | 65 | 5 | | | | |
| 75 | 40% | 35/50+ | 75 | | 4811.0 | | Light gray, moist, strong odor | | | | 25 | 70 | 5 | | | | |
| 80 | 65% | 30/50+ | | | 688.0 | | Dark gray, mosit, medium odor | | | | 30 | 65 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **VE-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 65% | 30/50+ | | | 688.0 | | Dark gray, moist, medium odor | | | | 30 | 65 | 5 | | | | |
| 85 | 70% | 37/50+ | | | 1577.0 | | SAA, strong odor | | | | 20 | 75 | 5 | | | | |
| 90 | 65% | 40/50+ | 90 | | 670.0 | | Dark gray, moist, gasoline odor, sub-angular to sub-rounded gravel | 5 | 10 | 10 | 50 | 20 | 5 | | | | |
| | | | | | | | Total depth 91 feet bgs | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | | | | | |
| 105 | | | | | | | | | | | | | | | | | |
| 110 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**VE-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | | | 110'-111.5' | | 0.0 | | | | | | | | | | | | |
| 115 | | | 115'-116.5' | | 0.0 | | | | | | | | | | | | |
| 120 | | | 120'-121.5' | | 0.0 | | | | | | | | | | | | |
| 125 | | | 125'-126.5' | | 0.0 | | | | | | | | | | | | |
| 130 | | | 130'-131.5' | | 0.0 | | | | | | | | | | | | |
| 135 | | | | | | | | | | | | | | | | | |
| 140 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

**BORING NO.** AI-1



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/26/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/27/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 82'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand augered first 5 feet | | | | | | | | | | |
| 5 | 95% | 15/18/20 | | | 10000+ | SM | Dark brown silty sand w/heavy dark gray staining throughout core, moist, very strong odor | 2 | 3 | 5 | 10 | 60 | 20 | | | | |
| 10 | 100% | 7/9/11 | | | 10000+ | SP | Grayish brown poorly graded sand, moist, very strong odor | | | | 5 | 90 | 5 | | | | |
| 15 | 85% | 15/15/20 | | | 10000+ | SP-SM | Greenish gray poorly sorted sand with silt, moist, very strong odor | | | | | 90 | 10 | | | | |
| 20 | 95% | 10/10/22 | | | 10000+ | SM | Dark gray silty sand, moist, very strong odor | | | | | 85 | 15 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 82' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 0 |

**BORING NO.** AI-1

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AI-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 95% | 10/10/22 | | | 10000+ | SM | Dark gray silty sand, moist, very strong odor | | | | | 85 | 15 | | | | |
| 25 | 100% | 10/15/20 | | | 10000+ | SP | Light gray poorly graded sand w/dark gray and brown staining, moist, very strong odor | | | | | 95 | 5 | | | | |
| 30 | 100% | 13/18/26 | | | 10000+ | SM | Grayish brown silty sand w/heavy dark brown and black staining | | 5 | 5 | | 70 | 20 | | | | |
| 35 | 95% | 14/18/20 | | | 9816 | SP-SM | Reddish brown poorly graded sand with silt w/light gray staining, moist, very strong odor | 5 | | 5 | | 80 | 10 | | | | |
| 40 | 95% | 13/13/20 | | | 8736 | SP | Grayish olive green poorly graded sand w/heavy rusty brown and dark gray staining, moist, very strong odor | | | | 5 | 90 | 5 | | | | |
| 45 | 65% | 23/25/33 | | | 10000+ | SW | Olive gray well graded sand w/yellowish brown staining throughout core, moist, very strong odor | | | 5 | 60 | 30 | 5 | | | | |
| 50 | 80% | 22/25/30 | | | 10000+ | SP-SM | Dark gray poorly sorted sand with silt, moist, very strong odor | | | | 5 | 85 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AI-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 80% | 20/25/30 | | | 10000+ | SP-SM | Dark gray poorly sorted sand with silt, moist, very strong odor | | | | 5 | 85 | 10 | | | | |
| 55 | 90% | 22/25/27 | | | 10000+ | **SM** | Dark gray-black silty sand, highly stained/saturated, moist, very strong odor | | | | | 85 | 15 | | | | |
| 60 | 75% | 45/50 | | | 10000+ | **SW** | Greenish gray well graded sand, moist, very strong odor | | | 5 | 60 | 30 | 5 | | | | |
| 65 | 85% | 40/50 | | | 10000+ | **SW** | SAA | | | | | | | | | | |
| 70 | 70% | 35/50 | | | 10000+ | **SP** | Gray poorly graded sand w/yellow-brown staining bands (0.75") throughout core, moist, very strong odor | | 5 | 10 | 60 | 20 | 5 | | | | |
| 75 | 55% | 45/50 | | | 10000+ | **SP** | SAA | | | | | | | | | | |
| 80 | 100% | 25/30/35 | | | 10000+ | **SP-SM** | Dark greenish gray-black poorly graded sand with silt, moist, very strong odor<br><br>Total depth 82 feet bgs | | | | | 90 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

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# BORING LOG

**BORING NO.** AI-2



| | | | |
|---|---|---|---|
| **PROJECT** | Pilot Test Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 5/16/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 5/16/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Hand Auger___
- [x] Cat-Head
- [ ] Winch
- [ ] Roller Bit
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 82'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | | | | | | | | |
| 5 | 90% | 8/10/12 | | | 327 | SP-SM | Brown poorly graded sand with silt, damp, slight gasoline odor | | | | 20 | 70 | 10 | | | | |
| 10 | 85% | 14/17/26 | 10 | | 178 | SP-SM | Light gray poorly graded sand with silt, moist, gasoline odor, crushed qtz gravel | | 5 | 5 | 5 | 80 | 10 | | | | |
| 15 | 80% | 15/18/23 | | | 197 | SP | Light gray poorly graded sand, moist, gasoline odor | | 5 | 10 | 65 | 15 | 5 | | | | |
| 20 | 90% | 12/16/25 | 20 | | 467 | SM | Dark brown silty sand, damp, gasoline odor | | | | 10 | 75 | 15 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 82' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | |

**BORING NO.** AI-2

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AI-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 90% | 12/16/25 | 20 | | 467 | SM | Dark brown silty sand, damp, gasoline odor | | | | 10 | 75 | 15 | | | | |
| 25 | 95% | 20/20/25 | | | 205 | SM | Dark brown silty sand, moist, gasoline odor | | | | 10 | 70 | 20 | | | | |
| 30 | 100% | 14/16/18 | | | 156 | SP-SM | Orange brown poorly graded sand with silt w/rusty mottling, moist, gasoline odor | | | | 5 | 85 | 10 | | | | |
| 35 | 100% | 10/13/15 | 35 | | 202 | SP-SM | Olive brown poorly graded sand with silt w/light gray and orange mottling, trace medium sand | | | | 5 | 85 | 10 | | | | |
| 40 | 75% | 20/23/25 | | | 148 | SP | Yellow brownish gray poorly graded sand, moist, gasoline odor | | | | | 95 | 5 | | | | |
| 45 | 70% | 27/30/35 | | | 279 | SW | Gray well graded sand, moist, gasoline odor | | | 5 | 60 | 30 | 5 | | | | |
| 50 | 60% | 25/50+ | | | 300 | SP | Brownish gray poorly graded sand, moist, gasoline odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AI-2**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 60% | 25/50+ | | | 300 | SP | Brownish gray poorly graded sand, moist, gasoline odor | | | | | 95 | 5 | | | | |
| 55 | 65% | 28/50+ | | | 244 | **SW** | Light brownish gray well graded sand, moist, gasoline odor | | | 10 | 50 | 35 | 5 | | | | |
| 60 | 75% | 35/50+ | 60 | | 306 | **SW** | Light gray well graded sand, moist, strong hydrocarbon odor | | | 25 | 50 | 20 | 5 | | | | |
| 65 | 20% | 30/50+ | | | 47 | **SW** | Olive gray well graded sand, moist, hydrocarbon odor, | | | 10 | 50 | 35 | 5 | | | | |
| 70 | 15% | 40/50+ | | | 123 | **SW** | Gray well graded sand, moist, hydrocarbon odor, sub-rounded to sub-angular qtz gravels | 5 | 10 | 20 | 40 | 20 | 5 | | | | |
| 75 | 15% | 45/50+ | | | 53 | **SW** | Light gray well graded sand, moist, hydrocarbon odor | | | | 40 | 50 | 10 | | | | |
| 80 | 20% | 50+ | 80'-81.5' | | 31 | | Light gray well graded sand, moist, hydrocarbon odor | | | 10 | 50 | 35 | 5 | | | | |
| | | | | | | | Total depth 82 feet bgs | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **AS-1**



| | | | |
|---|---|---|---|
| **PROJECT** | Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Jeremy Squire/Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 6/1/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 6/1/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**

- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**

- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 128.5'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand auger first 5 feet | | | | | | | | | | |
| 5 | 100% | 13/14/17 | | | 16 | SM | Dark brown silty sand w/occ tree roots, damp, slight odor | | | | | 75 | 25 | | | | |
| 10 | 95% | 14/15/16 | | | 27 | SP-SM | Olive green poorly graded sand with silt w/gray and brown staining throughout core, moist, slight odor | | | | | 90 | 10 | | | | |
| 15 | 85% | 50/20/20 | | | 14 | SW | Greenish gray well graded sand, moist, slight odor | | | | 30 | 65 | 5 | | | | |
| 20 | 65% | 20/20/30 | | | 12 | SW | Gray well graded sand, moist, weak odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

- CC Cont. Core
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 128.5' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 8 |

**BORING NO.** **AS-1**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 65% | 20/20/30 | | | 12 | SW | Gray well graded sand, moist, weak odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| 25 | 70% | 30/50 | | | 19 | SP | Gray with yellow hues poorly graded sand with gravel, moist, slight odor | 5 | 10 | 20 | 50 | 10 | 5 | | | | |
| 30 | 90% | 23/25/27 | 30 | | 12 | SP | Brown poorly graded sand, moist, no odor | | | | 5 | 90 | 5 | | | | |
| 35 | 100% | 28/35/35 | | | 8 | SP | Olive green poorly graded sand, moist, weak odor | | | | | 95 | 5 | | | | |
| 40 | 85% | 35/35/40 | | | 64 | SP | Gray poorly graded sand, moist, slight odor | | | | | 95 | 5 | | | | |
| 45 | 75% | 40/50 | | | 55 | SW-SM | Dark gray well graded sand with silt, moist, slight odor | | | | 40 | 50 | 10 | | | | |
| 50 | 60% | 35/50 | | | 15 | SP | Greenish gray poorly graded sand, moist, slight odor | | | | | 95 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 60% | 35/50 | | | 15 | SP | Greenish gray poorly graded sand, moist, slight odor | | | | | 95 | 5 | | | | |
| 55 | 70% | 40/50 | | | 3 | SW | Light gray well graded sand, moist, no odor | | 5 | 5 | 30 | 55 | 5 | | | | |
| 60 | 45% | 45/50 | 60 | | 17 | SW | Gray well graded sand, moist, slight odor | | | 10 | 50 | 35 | 5 | | | | |
| 65 | 60% | 27/50 | | | 20 | SP | Dark gray poorly graded sand with gravel, moist, slight odor | 5 | 10 | 20 | 40 | 20 | 5 | | | | |
| 70 | 40% | 35/50 | | | 8 | SW | Dark gray well graded sand, moist, no odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| 75 | 50% | 40/50 | | | 21 | SW | SAA | | 5 | 10 | 40 | 40 | 5 | | | | |
| 80 | 55% | 30/50 | 80 | | 9 | SW | SAA | | 5 | 5 | 50 | 35 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**AS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 55% | 30/50 | 80 | | 9 | SW | SAA | | 5 | 5 | 50 | 35 | 5 | | | | |
| 85 | 50% | 35/50 | | | **45** | **SP** | Gray poorly graded sand with gravel, moist, slight odor | 5 | 10 | 20 | 50 | 10 | 5 | | | | |
| 90 | 10% | 35/50+ | | | **437** | **SP** | SAA w/gravel | 10 | 10 | 20 | 40 | 15 | 5 | | | | |
| 95 | 45% | 50+ | 95 | | **2686** | SP | Yellowish gray poorly graded sand with gravel, moist, strong odor | 10 | 10 | 10 | 45 | 20 | 5 | | | | |
| 100 | 40% | 30/50 | | | **5882** | SP | Dark gray poorly graded sand, moist, strong odor | | | | | 95 | 5 | | | | |
| 105 | 50% | 45/50 | 105 | | **1195** | SP | SAA | | | | 10 | 85 | 5 | | | | |
| | | | | | | | First water at approximately 110 feet bgs | | | | | | | | | | |
| 110 | 60% | 40/50 | 110 | | **341** | SP-SM | SAA w/silt, wet | | | | 10 | 80 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.
**AS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 60% | 40/50 | 110 | | **341** | SP-SM | SAA w/silt, wet | | | | 10 | 80 | 10 | | | | |
| 115 | 80% | 23/25/27 | 115 | | 155 | SP | Greenish gray poorly graded sand with gravel, wet, HC odor | 5 | 10 | 14 | 45 | 20 | 5 | | | | |
| 120 | 95% | 30/50 | | | 414 | SW-SM | Dark gray well graded sand with silt, wet, strong odor | | | | 50 | 40 | 10 | | | | |
| 125 | 95% | 20/20/20 | 125 | | 392 | SW-SP | SAA | | | | 60 | 30 | 10 | | | | |
| | | | | | | | Total depth 128.5 feet bgs | | | | | | | | | | |
| 130 | | | | | | | | | | | | | | | | | |
| 135 | | | | | | | | | | | | | | | | | |
| 140 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**
Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Meduim H - High V - Very High

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO. **IAS-1**



| | | | |
|---|---|---|---|
| **PROJECT** | Well Installation | **MEI FILE NO.** | 1003-001-200 |
| **LOCATION** | 12345 Lakeland Rd, Santa Fe Springs, CA | **PROJECT MGR.** | Jeremy Squire |
| **CLIENT** | Lakeland Development Corp. | **FIELD REP.** | Jeremy Squire/Frane Sosic |
| **CONTRACTOR** | WDC, Montclair, CA | **DATE STARTED** | 6/2/2011 |
| **DRILLER** | Lead driller: Earnie; Helpers: Ricardo, Bobby | **DATE FINISHED** | 6/2/2011 |

**Elevation** ft. **Datum** **Boring Location**

| Item | Casing | Sampler | Core Barrel |
|---|---|---|---|
| Type | CFA | S | NA |
| Inside Diameter (in.) | 5-3/4" | 2" | NA |
| Hammer Weight (lb.) | NA | 140 | |
| Hammer Fall (in.) | NA | 30 | |

**Rig Make & Model** CME 95

- [x] Truck
- [ ] Tripod
- [x] Cat-Head
- [ ] ATV
- [ ] Geoprobe
- [ ] Winch
- [ ] Track
- [ ] Air Track
- [ ] Roller Bit
- [ ] Skid
- [ ] Hand Auger___
- [x] Cutting Head

**Hammer Type**
- [ ] Safety
- [ ] Doughnut
- [x] Automatic

**Drilling Mud**
- [ ] Bentonite
- [ ] Polymer
- [x] None

**Total Depth** 130'

**Drilling Notes:** Samples for visual-manual ID only

| Depth (ft.) | Recovery % | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Hand auger first 5 feet | | | | | | | | | | |
| 5 | 100% | 10/12/2014 | | | 158 | SM | Brown silty sand w/dark brown mottling, occ tree root, moist, slight odor | | | | | 80 | 20 | | | | |
| 10 | 100% | 14/18/22 | | | 90 | SP | Grayish olive green poorly graded sand, moist, slight odor | | | | | 95 | 5 | | | | |
| 15 | 85% | 20/20/20 | | | 26 | SP | Light gray poorly graded sand, moist, no odor | | | | 5 | 85 | 5 | | | | |
| 20 | 70% | 20/25/28 | | | 44 | SW | Gray well graded sand, moist, slight odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Water Level Data**

| Date | Time | Elapsed Time (hr.) | Depth in feet to: First Water | Depth in feet to: Stabilized Water |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**Sample ID**

| | |
|---|---|
| CC | Cont. Core |
| T | Thin Wall Tube |
| U | Undisturbed Sample |
| S | Split Spoon Sample |
| G | Geoprobe |

**Well Diagram**

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

**Summary**

| | |
|---|---|
| Boring Depth (Linear ft.) | 130' |
| Sample Method | Cal Mod Split Spoon |
| Number of Samples | 3 |

**BORING NO.** **IAS-1**

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**IAS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 70% | 20/25/28 | | | 44 | SW | Gray well graded sand, moist, slight odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| 25 | 100% | 12/13/16 | | | 44 | SP-SM | Olive gray poorly graded sand with silt w/dark gray staining, moist, slight odor | | | | 10 | 80 | 10 | | | | |
| 30 | 95% | 15/18/19 | | | 186 | SP | Olive gray poorly graded sand w/dark gray staining, moist, HC odor | | | | 10 | 85 | 5 | | | | |
| 35 | 95% | 20/23/28 | | | 115 | SP | Olive green poorly graded sand w/gray staining bands ~0.5" - 1" thick thoughout core, moist, slight odor | | | | 5 | 90 | 5 | | | | |
| 40 | 80% | 25/30/30 | | | 452 | SP | SAA | | | | | 95 | 5 | | | | |
| 45 | 90% | 24/27/29 | | | 13 | SW | Gray well graded sand, moist, slight odor | | | 5 | 25 | 65 | 5 | | | | |
| 50 | 95% | 25/30/35 | | | 57 | SP | Dark gray poorly graded sand, moist, slight odor | | | | 5 | 90 | 5 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**IAS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 95% | 25/30/35 | | | 57 | SP | Dark gray poorly graded sand, moist, slight odor | | | | 5 | 90 | 5 | | | | |
| 55 | 50% | 30/50+ | | | 197 | SW | Gray well graded sand, moist, slight odor | | | 10 | 45 | 40 | 5 | | | | |
| 60 | 55% | 40/50 | | | 90 | SW | Dark gray well graded sand, moist, slight odor, subrounded gravel | | 5 | 10 | 50 | 30 | 5 | | | | |
| 65 | 85% | 30/50 | | | 48 | SP | Dark greenish gray poorly graded sand, moist, slight odor, subangular to subrounded gravel | | 10 | 15 | 50 | 20 | 5 | | | | |
| 70 | 90% | 40/50 | | | 72 | SP | Olive gray poorly graded sand, moist, slight odor | | | 5 | 5 | 85 | 5 | | | | |
| 75 | 100% | 37/43/50 | | | 47 | SW | Dark gray well graded sand, moist, slight odor | | | 10 | 50 | 35 | 5 | | | | |
| 80 | 95% | 33/35/40 | | | 35 | SW-SM | Dark greenish gray well graded sand with silt, moist, slight odor | | 5 | 5 | 50 | 30 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**IAS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 95% | 33/35/40 | | | 35 | SW-SM | Dark greenish gray well graded sand with silt, moist, slight odor | | 5 | 5 | 50 | 30 | 10 | | | | |
| 85 | 50% | 45/50 | | | **90** | **SW** | Greenish gray well graded sand, moist, slight odor | 5 | 5 | 20 | 40 | 25 | 5 | | | | |
| 90 | 60% | 40/50 | | | **86** | **SW-SM** | Dark olive gray well graded sand with silt, moist, slight odor | 5 | 5 | 10 | 40 | 30 | 10 | | | | |
| 95 | 65% | 38/50 | 95 | | **NA** | SW | Dark olive gray well graded sand, moist, strong odor | | | 5 | 50 | 40 | 5 | | | | |
| 100 | 70% | 27/50 | | | **10000+** | SW | Dark gray well graded sand, moist, very strong odor | | | 5 | 60 | 30 | 5 | | | | |
| 105 | 45% | 43/50 | | | **7397** | SP | Dark gray poorly graded sand, very moist, very strong gasoline odor | | | | 5 | 90 | 5 | | | | |
| | | | | | | | First water at approximately 110 feet bgs | | | | | | | | | | |
| 110 | 75% | 15/20/20 | | | **10000+** | SP-SM | Dark gray poorly graded sand with silt w/olive brown staining throughout core, wet, very strong odor | | | | 5 | 85 | 10 | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

**NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

MUREX environmental, inc

# BORING LOG

BORING NO.

**IAS-1**



| Depth (ft.) | Recovery (%) | Blow Counts | Sample Depth (ft.) | Well Diagram | PID (ppm) | USCS Symbol | Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation) | Gravel % Coarse | Gravel % Fine | Sand % Coarse | Sand % Medium | Sand % Fine | % Fines | Field Test Dilatancy | Field Test Toughness | Field Test Plasticity | Field Test Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 75% | 15/20/20 | | | **10000+** | SP-SM | Dark gray poorly graded sand with silt w/olive brown staining throughout core, wet, very strong odor | | | | 5 | 85 | 10 | | | | |
| 115 | 75% | 14/15/20 | 115 | | 10000+ | SP | Dark gray poorly graded sand, wet, very strong odor | | | | 10 | 85 | 5 | | | | |
| 120 | 80% | 15/18/20 | | | 10000+ | SW-SM | Dark olive gray well graded sand with silt, wet, very strong odor, trace rounded gravel | 2 | 3 | | 50 | 35 | 10 | | | | |
| 125 | 85% | 20/20/20 | 125 | | 10000+ | SP | Dark olive gray poorly graded sand, wet, very strong odor | | | 5 | 10 | 80 | 5 | | | | |
| 130 | 90% | 16/18/21 | | | 10000+ | SW | Dark gray well graded sand w/olive brown staining throughout core, wet, very strong/pungent gasoline odor | | 5 | 10 | 50 | 30 | 5 | | | | |
| | | | | | | | Total depth 130 feet bgs | | | | | | | | | | |
| 135 | | | | | | | | | | | | | | | | | |
| 140 | | | | | | | | | | | | | | | | | |
| | | | | | | | | C | F | C | M | F | FS | D | T | P | S |

**Field Tests**

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

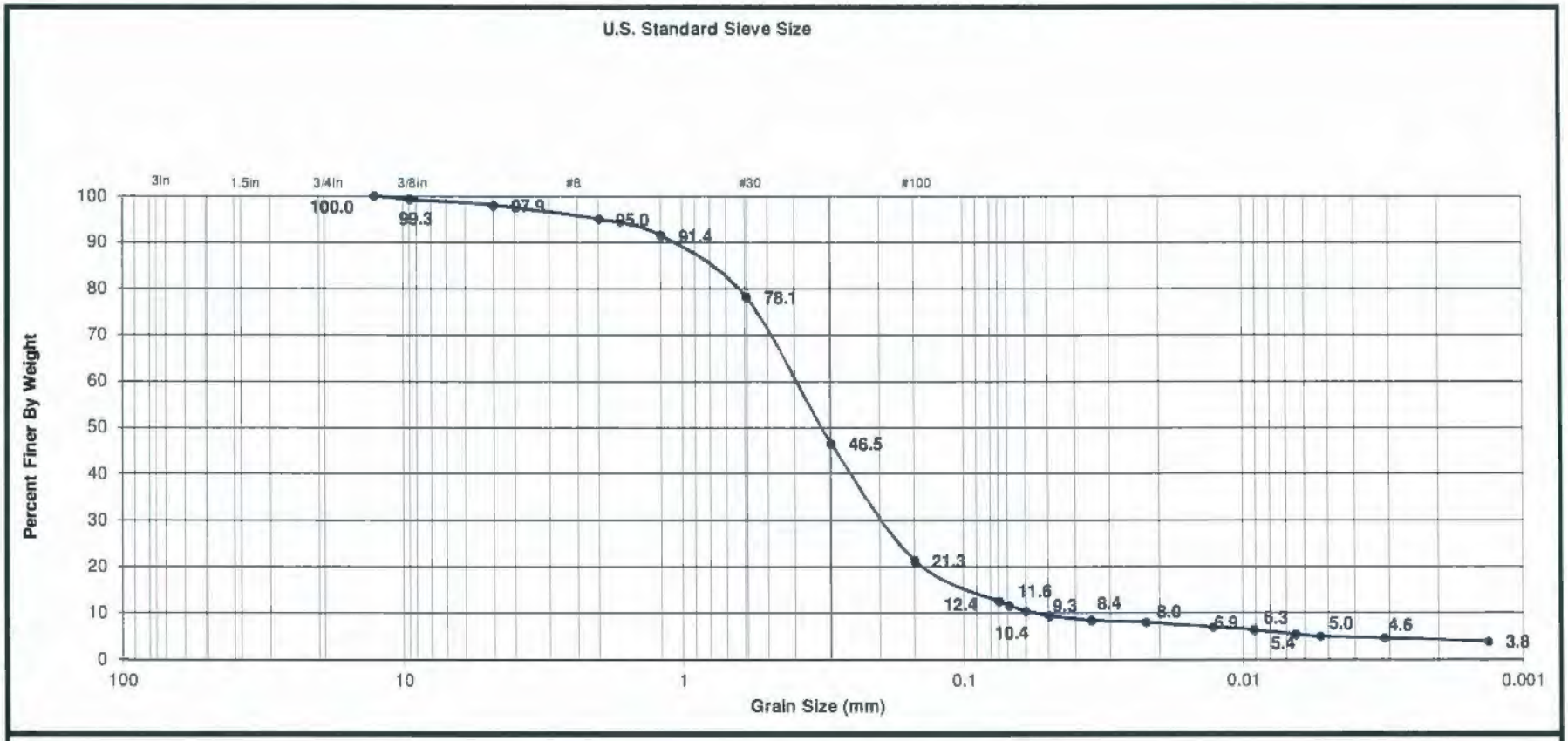
Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Meduim H - High V - Very High

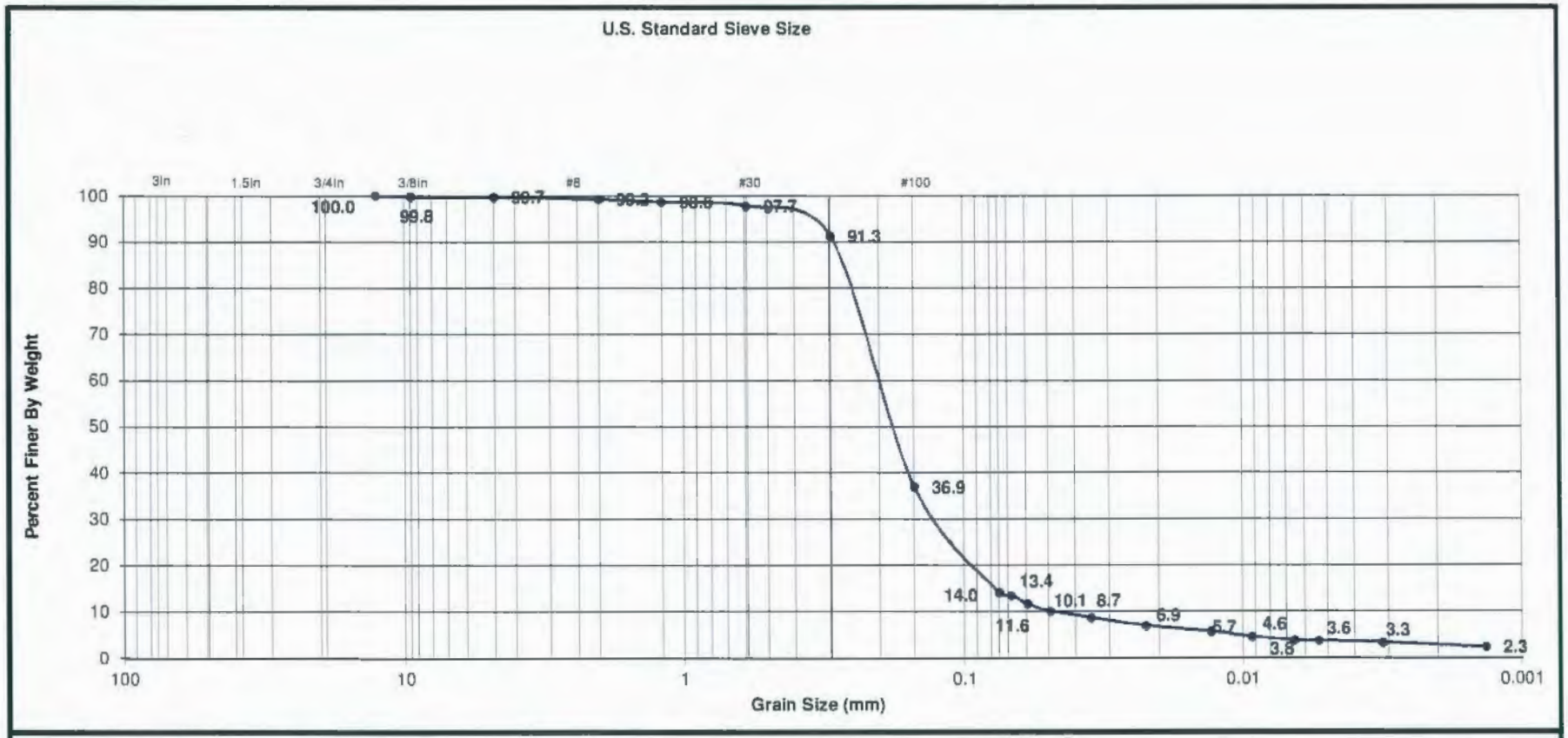
***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

**NOTE: Soil identifications based on ASTM Method D2248 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"**

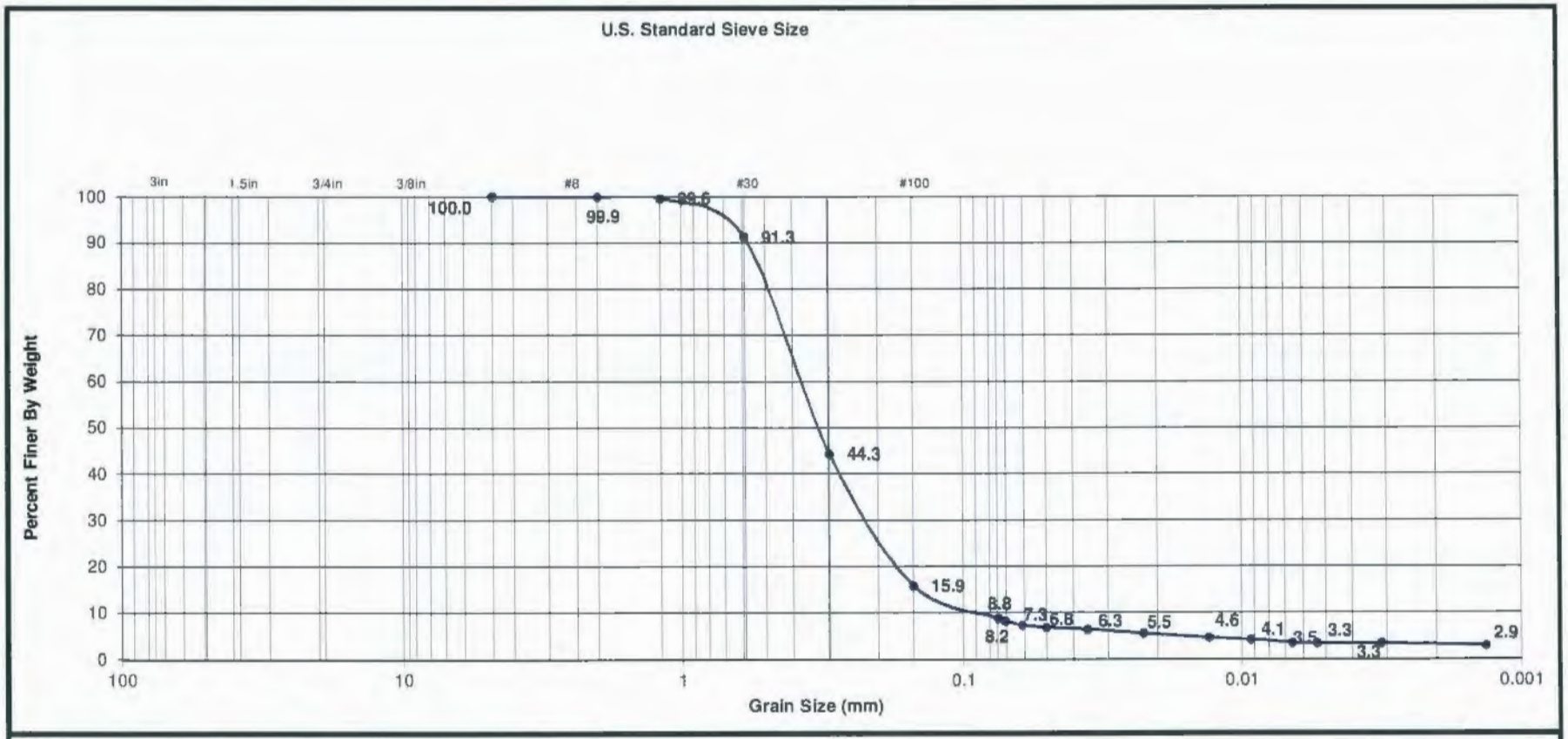
# Appendix C




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110659-01 | | | | | | | | | SM | MP8 @ 15' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110659-02 | | | | | | | | | SM | MP8 @ 45' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110659-03 | | | | | | | | | SM | MP8 @ 75' |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| JOB NAME: | SunStar Lab # T110659 MP-8 | DATE: | 5/23/2011 |
| JOB NO.: | 2011-0047 | BY: | LD |

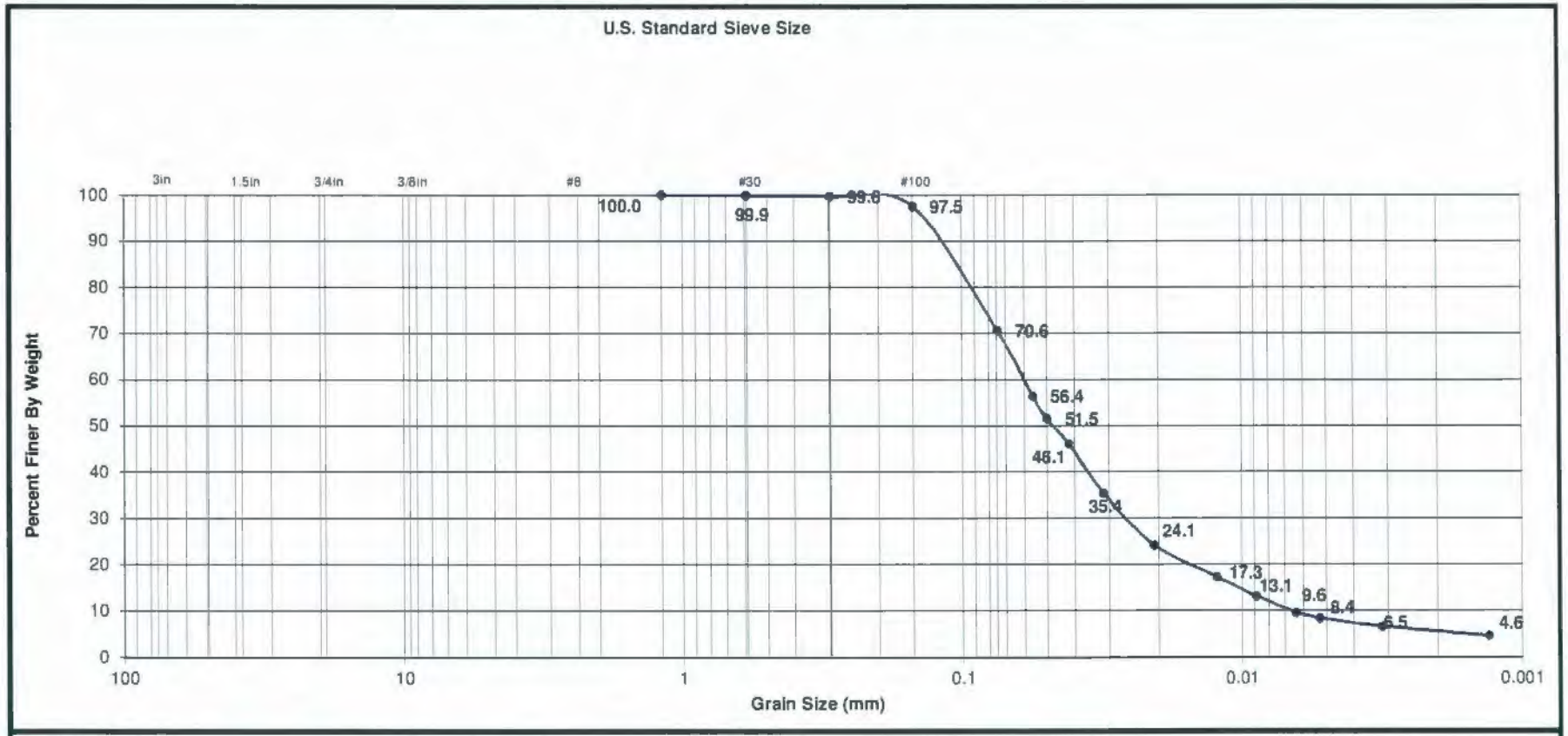
**ORGANIC MATTER - ASTM D2974**

| | MP8 @15 | @45 | @75 | |
|---|---|---|---|---|
| Sample No. | T110659-01 | T110659-02 | T110659-03 | |
| Soil Type | Silty Sand | Silty Sand | Silty Sand | |
| Tare (grms) | 174.8 | 174.82 | 354.95 | |
| Soil (grms) | | | | |
| Wet Soil + Tare | | | | |
| Dry Soil + Tare | 253.82 | 230.35 | 432.43 | |
| Dry Soil (grms), **B** | 79.02 | 55.53 | 77.48 | |
| Water Content (%) | **3.1** | **5.4** | **4.5** | |
| Ashed Soil + Tare (grms) | 253.38 | 229.96 | 432.06 | |
| Ash (grms), **C** | 78.58 | 55.14 | 77.11 | |
| Ash Content (%), **D** | 99.4 | 99.3 | 99.5 | |
| Organic Matter (%) | **0.56** | **0.70** | **0.48** | |
| Fraction Organic Carbon (%) | **0.32** | **0.41** | **0.28** | |

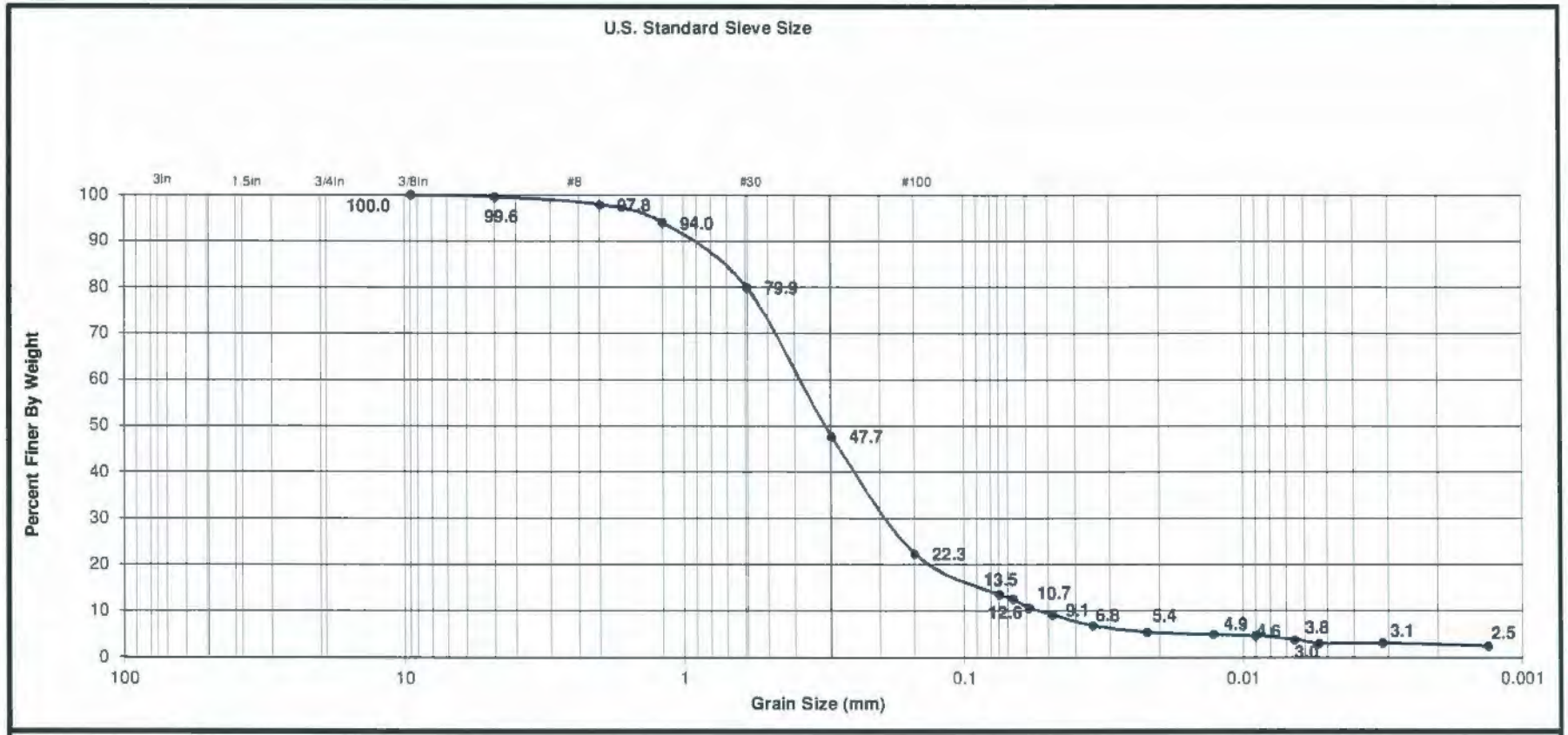
Ash Content, % = (C x 100) / B

Organic Matter, % = 100.0 - D

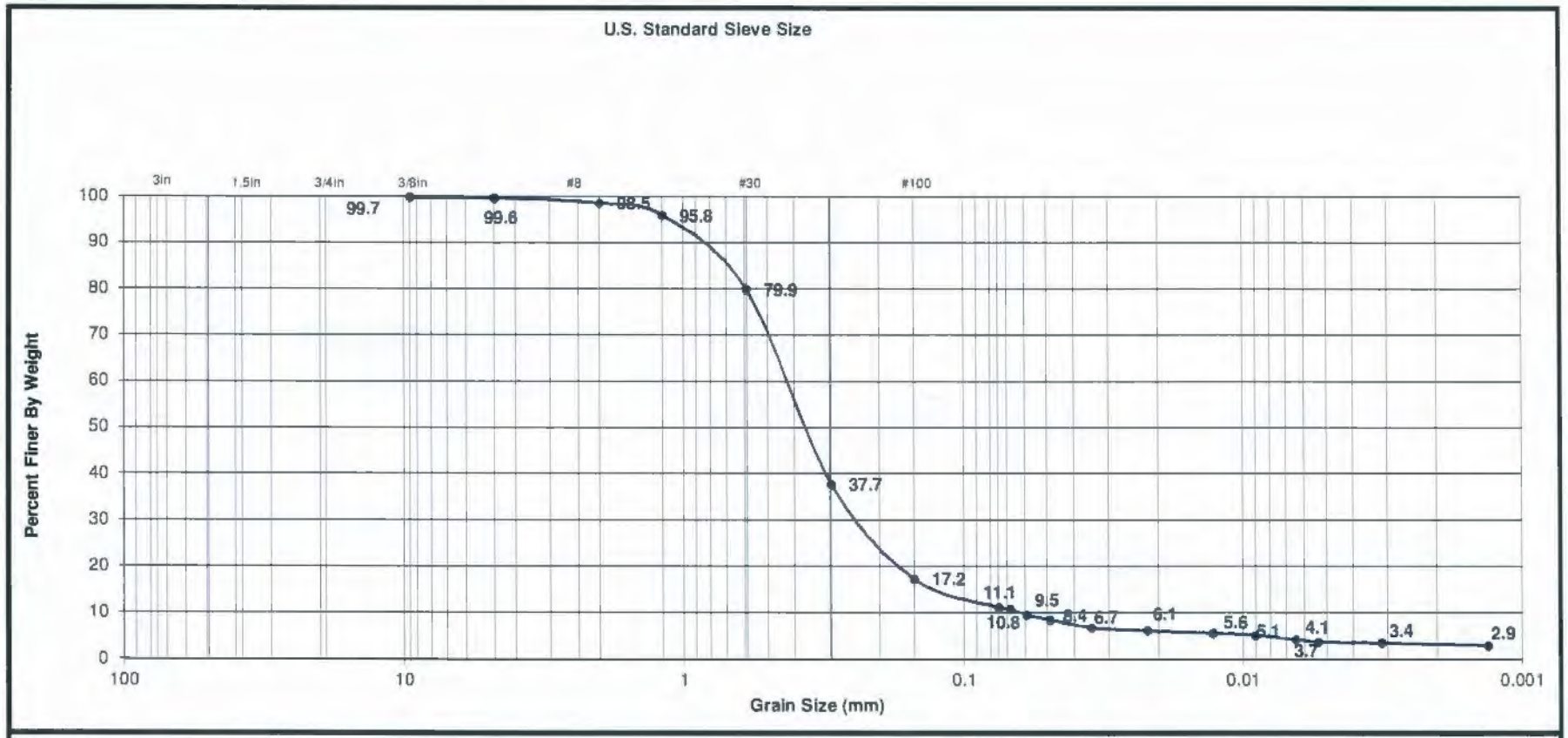
Organic Matter (%) = Organic Carbon (%) x 1.72




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110673-01 | | | | | | | | | ML | MP10 @ 15 |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110673-02 | | | | | | | | | SM | MP 10 @ 45 |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110673-03 | | | | | | | | | SM | MP 10 @ 75' |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| JOB NAME: | SunStar Lab # T110673 MP-10 | DATE: | 5/27/2011 |
| JOB NO.: | 2011-0047 | BY: | LD |

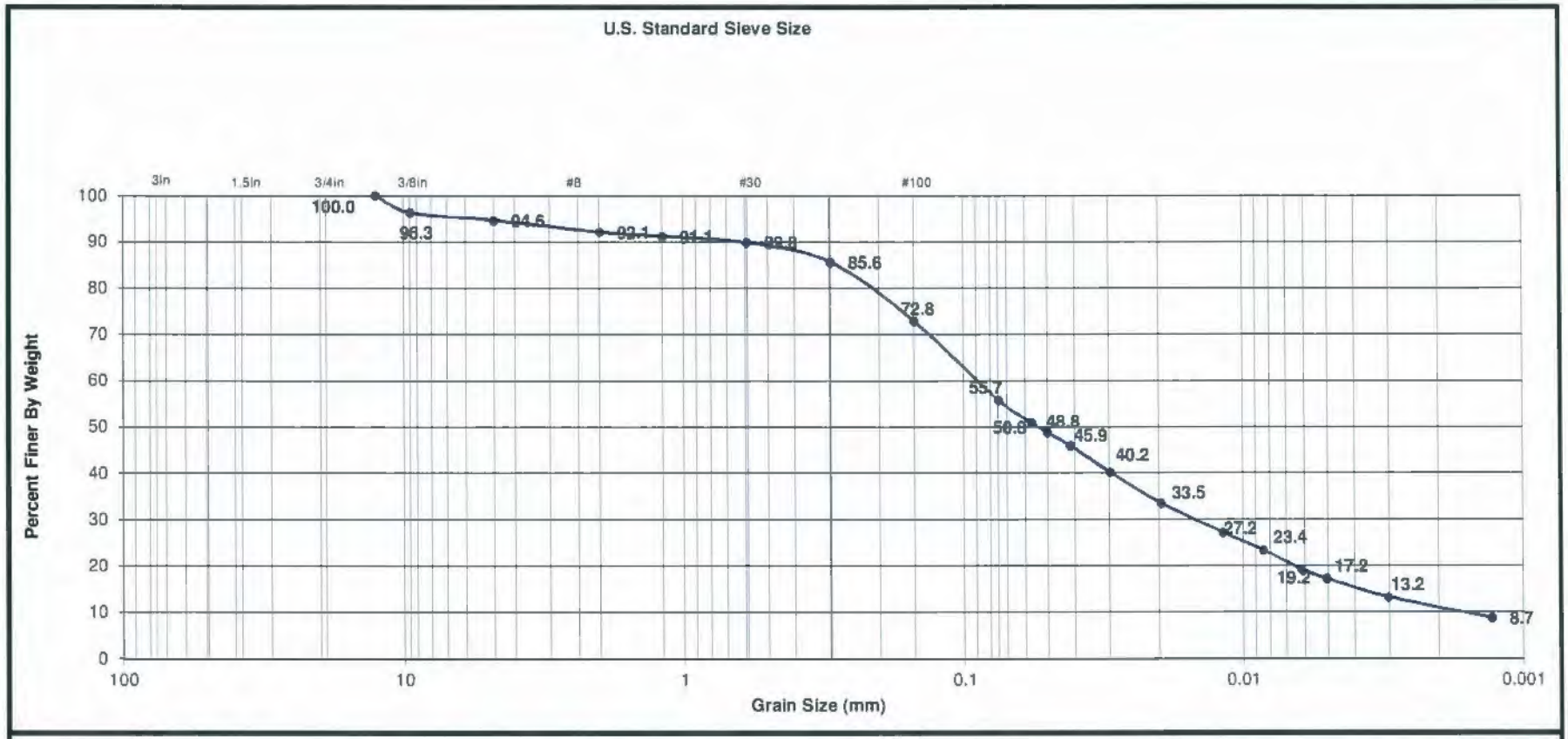
**ORGANIC MATTER - ASTM D2974**

| | MP10@15' | @45' | @75' | |
|---|---|---|---|---|
| Sample No. | T110678-01 | T110678-02 | T110678-03 | |
| Soil Type | Sandy Silt | Silty Sand | Silty Sand | |
| Tare (grms) | 174.78 | 174.78 | 354.94 | |
| Soil (grms) | | | | |
| Wet Soil + Tare | | | | |
| Dry Soil + Tare | 223.82 | 243.92 | 395.93 | |
| Dry Soil (grms), **B** | 49.04 | 69.14 | 40.99 | |
| Water Content (%) | **20.7** | **4.1** | **4.9** | |
| Ashed Soil + Tare (grms) | 223.13 | 243.65 | 395.75 | |
| Ash (grms), **C** | 48.35 | 68.87 | 40.81 | |
| Ash Content (%), **D** | 98.6 | 99.6 | 99.6 | |
| Organic Matter (%) | **1.41** | **0.39** | **0.44** | |
| Fraction Organic Carbon (%) | **0.82** | **0.23** | **0.26** | |

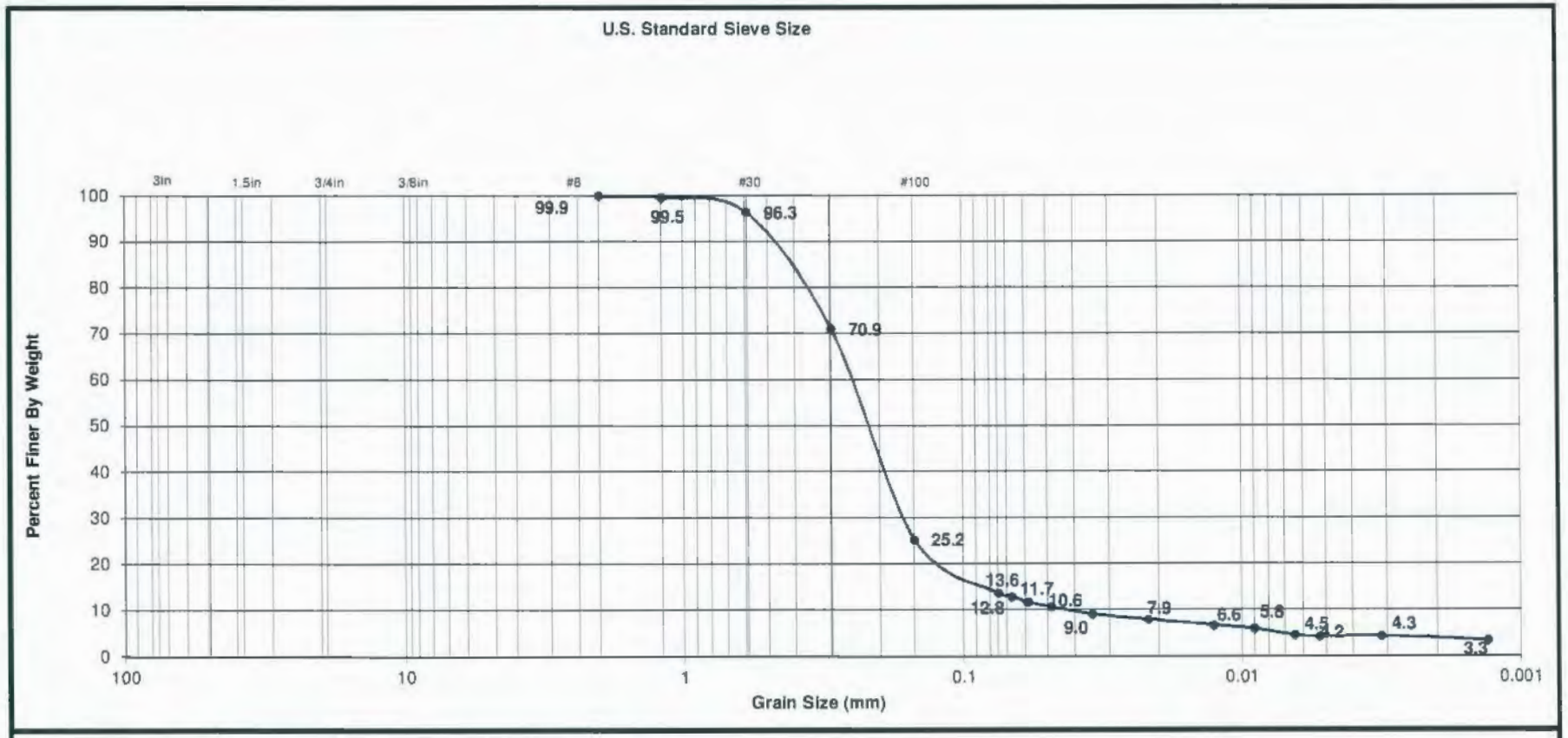
Ash Content, % = (C x 100) / B

Organic Matter, % = 100.0 - D

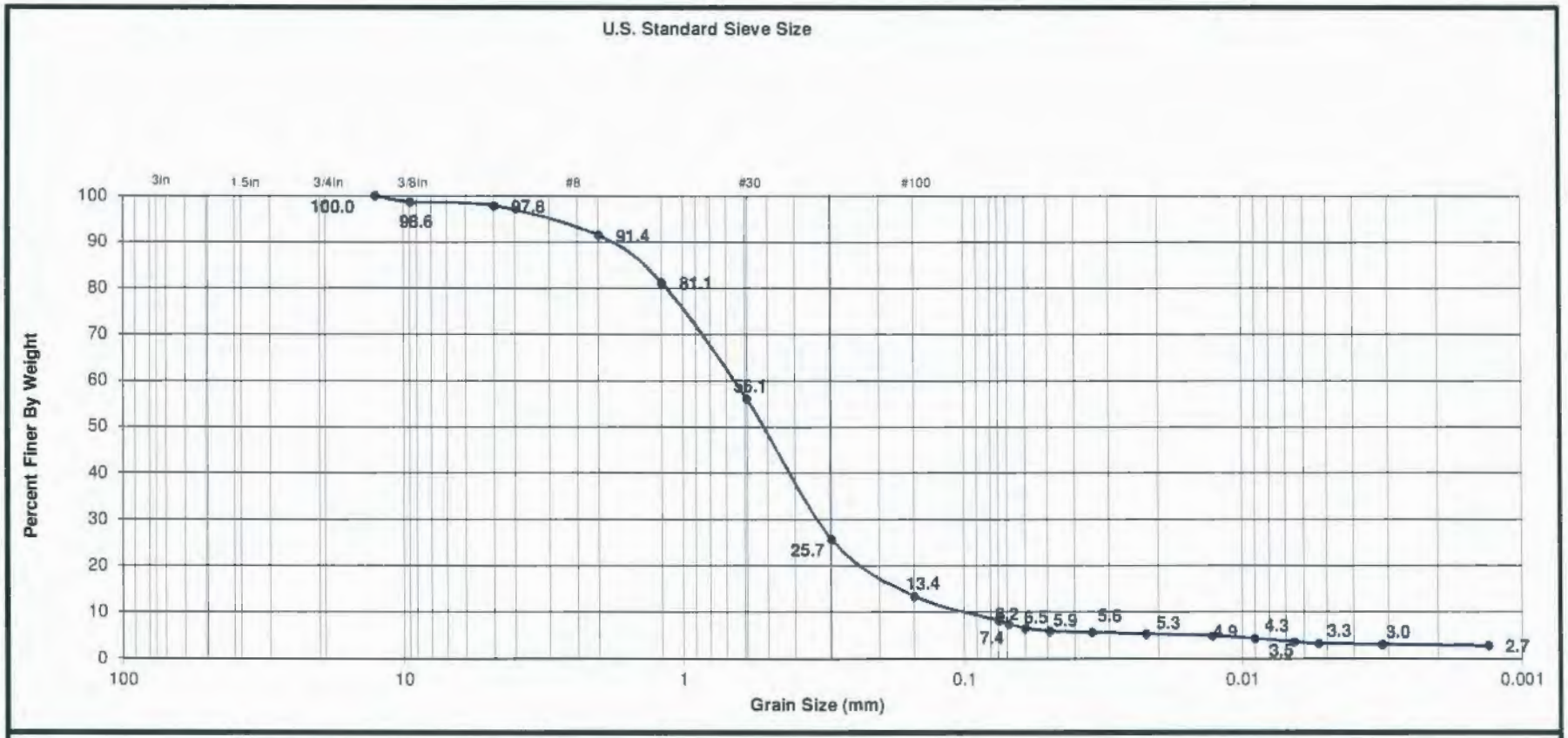
Organic Matter (%) = Organic Carbon (%) x 1.72



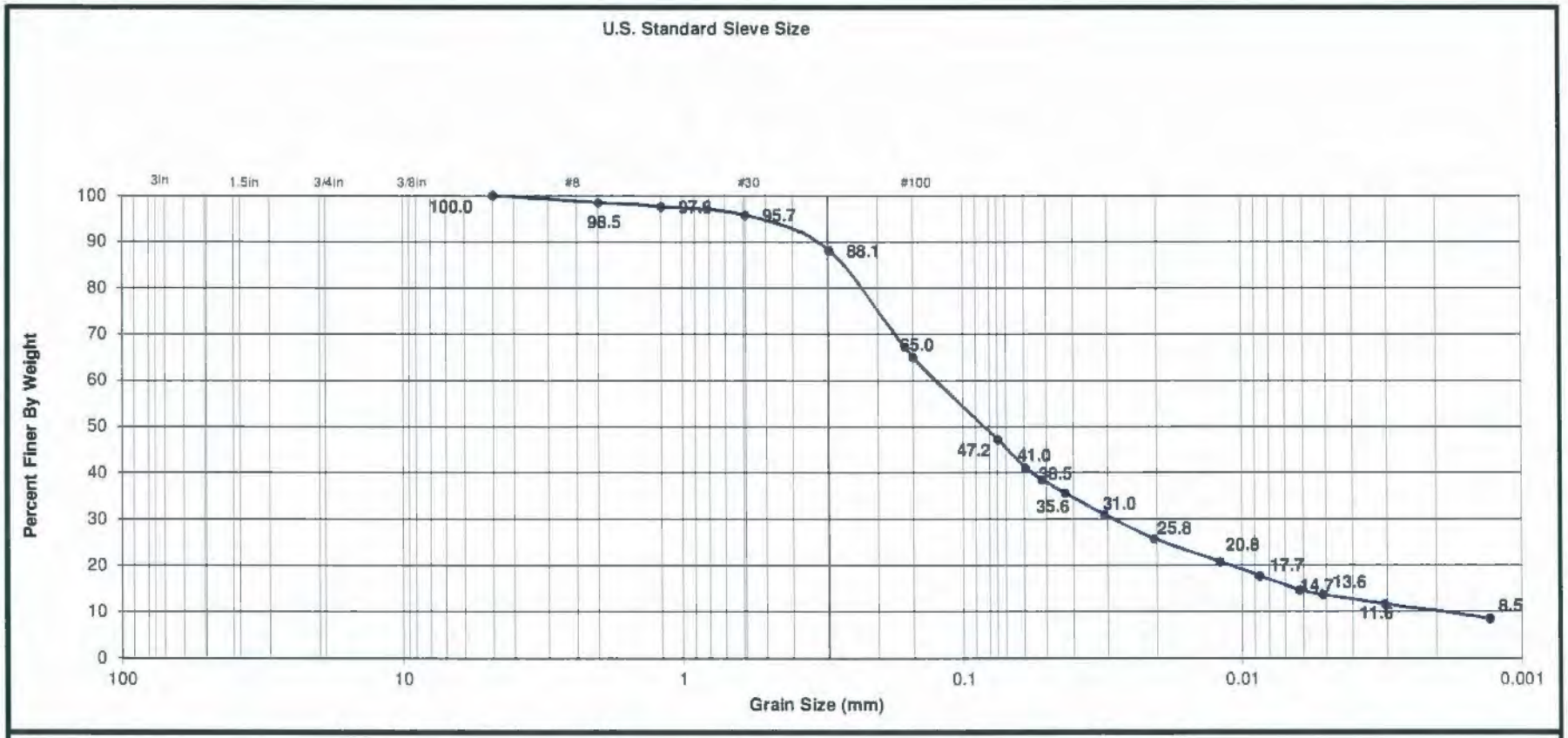

| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110677-01 | | | | | | | | | ML | MP5 @ 15' |
| | | | | | | | | | | |
| | | | | | | | | | | |



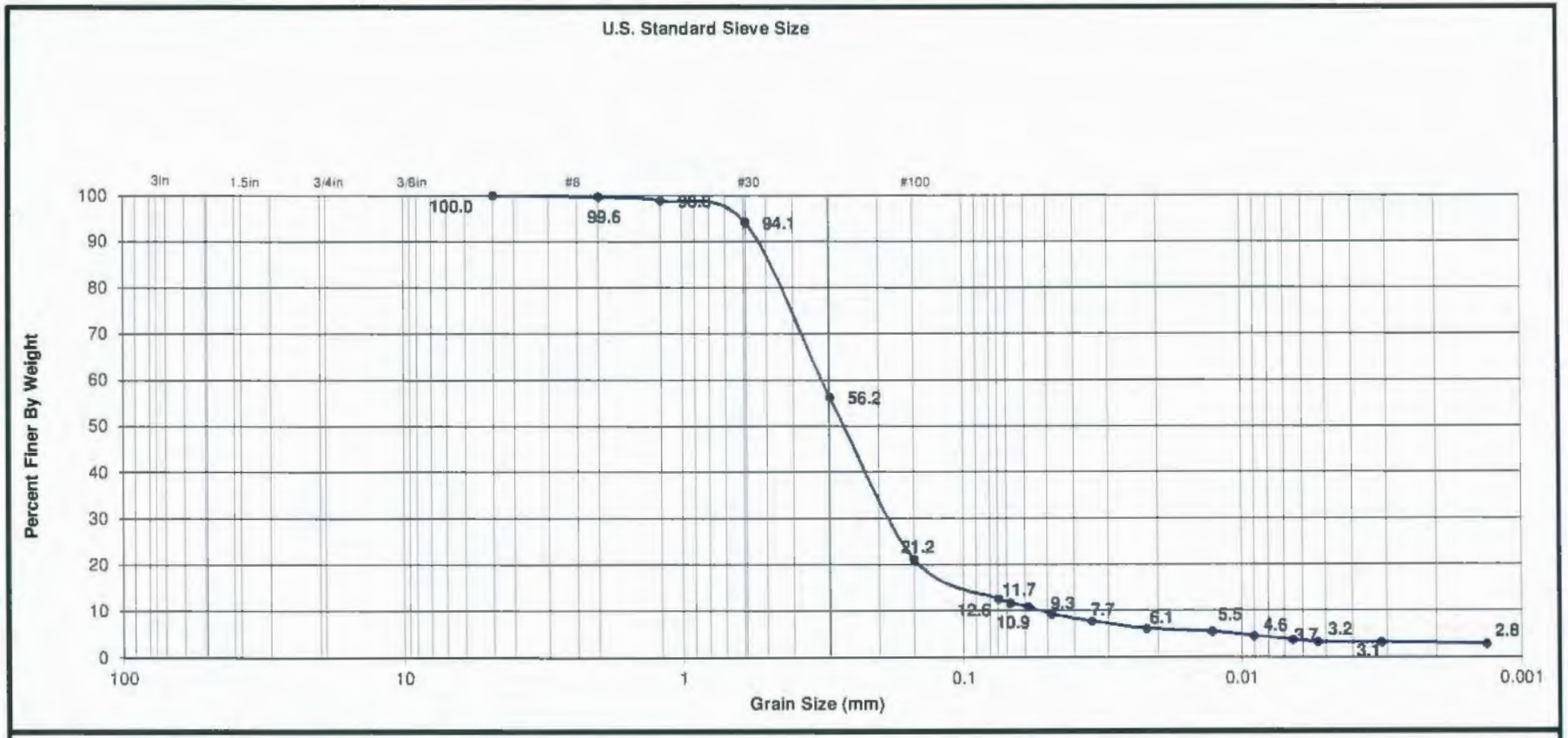

| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110677-02 | | | | | | | | | SM | MP5 @ 45' |
| | | | | | | | | | | |
| | | | | | | | | | | |



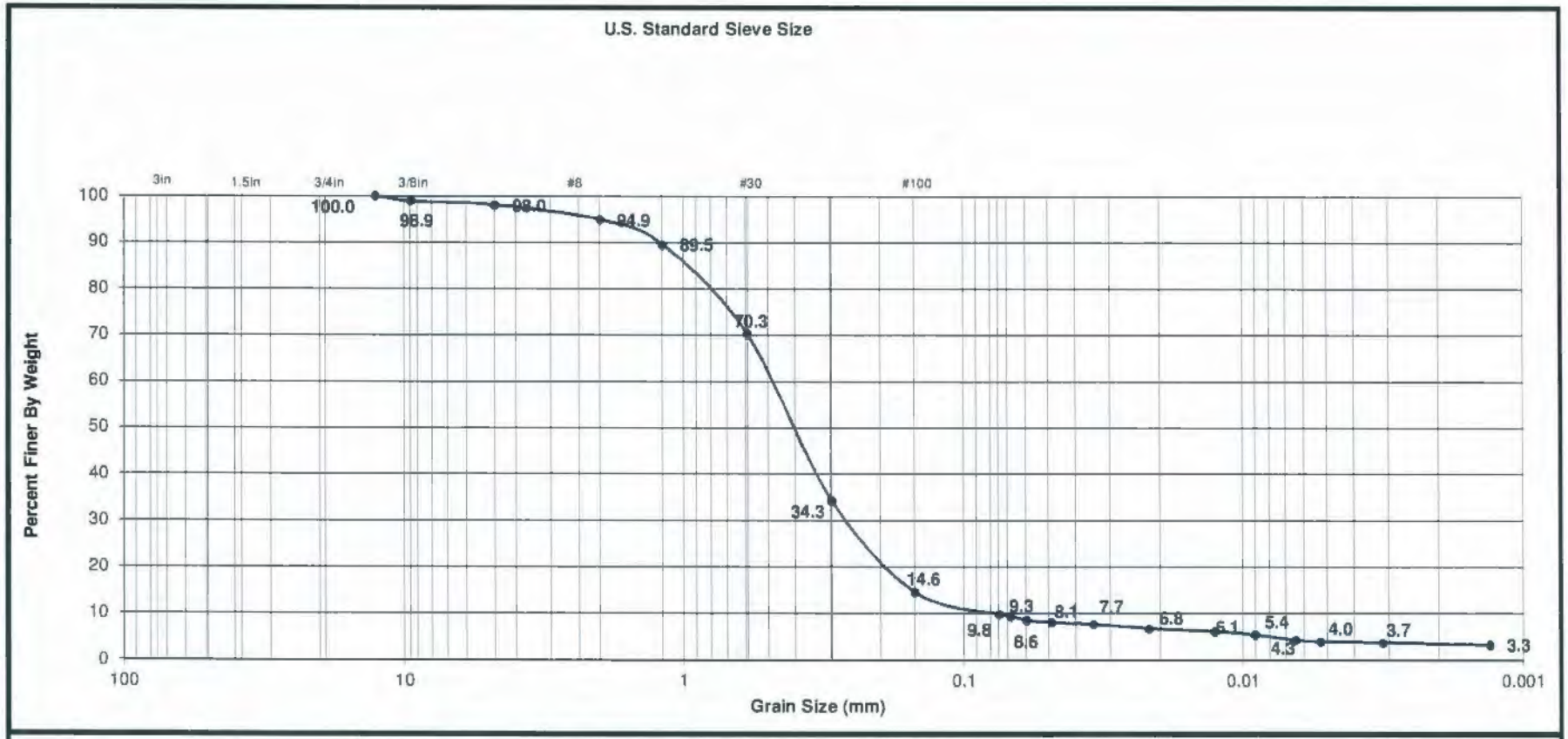

| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110677-03 | | | | | | | | | SM | MP5 @ 75' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110677-04 | | | | | | | | | SM | MP4 @ 15' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110677-05 | | | | | | | | | SM | MP5 @ 45' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110677-06 | | | | | | | | | SM | MP5 @ 75' |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | | |
|---|---|---|---|---|
| JOB NAME: | SunStar Lab # T110677 MP-5 / MP-4 | | DATE: | 05/27/11 |
| JOB NO.: | 2011-0047 | | BY: | LD |

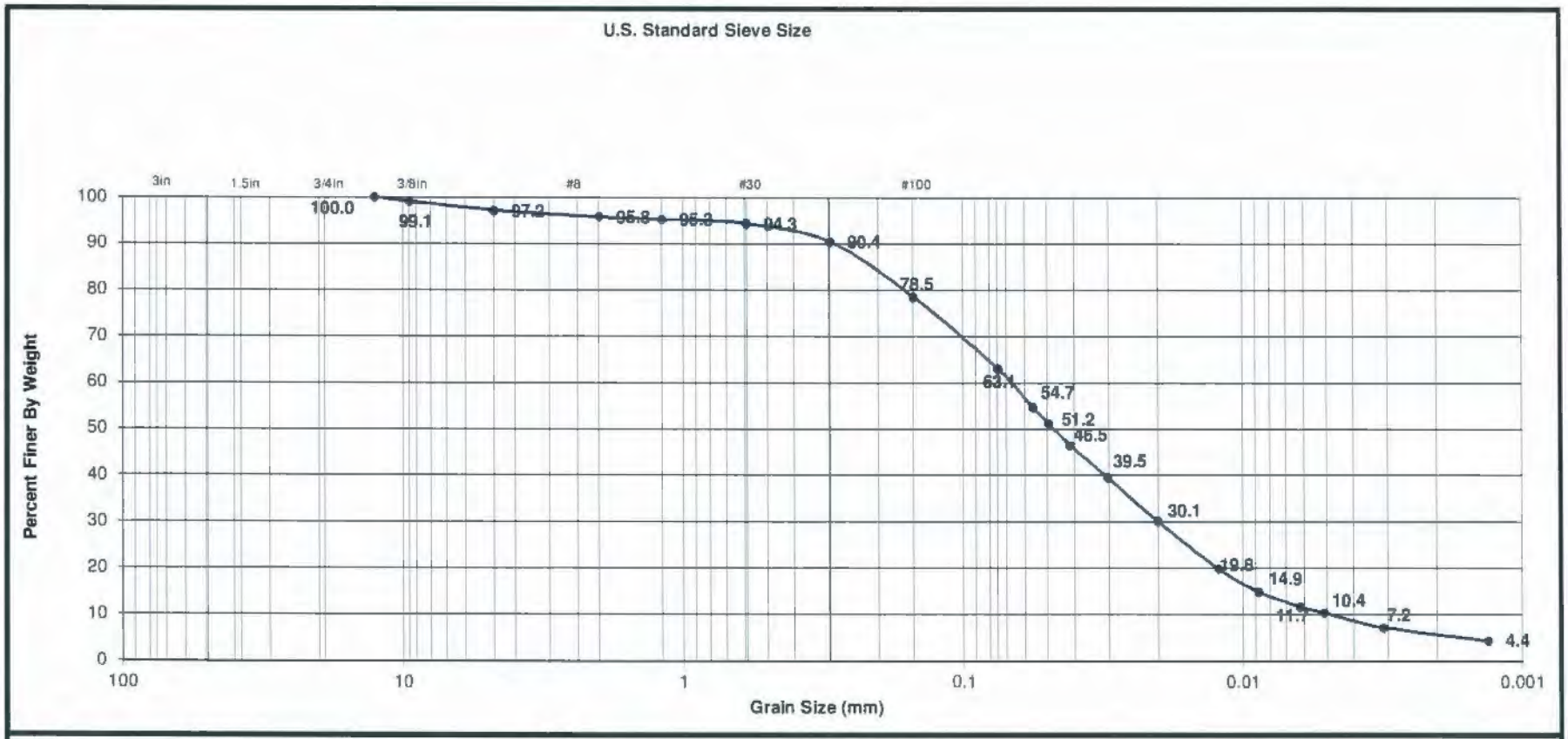
**ORGANIC MATTER - ASTM D2974**

| | MP5@15' | MP5@45' | MP5@75' | MP4@15' | MP4@45' | MP4@75' |
|---|---|---|---|---|---|---|
| Sample No. | T110677-01 | T110677-02 | T110677-03 | T110677-04 | T110677-05 | T110677-06 |
| Soil Type | Sandy Silt | Silty Sand | Silty Sand | Silty Sand | Silty Sand | Silty Sand |
| Tare (grms) | 380.37 | 174.75 | 174.77 | 354.91 | 380.31 | 174.74 |
| Soil (grms) | | | | | | |
| Wet Soil + Tare | | | | | | |
| Dry Soil + Tare | 429.56 | 238.7 | 219.56 | 433.59 | 448.57 | 248.6 |
| Dry Soil (grms), **B** | 49.19 | 63.95 | 44.79 | 78.68 | 68.26 | 73.86 |
| Water Content (%) | **14.2** | **4.8** | **3.6** | **10.1** | **3.8** | **4.3** |
| Ashed Soil + Tare (grms) | 429.04 | 238.23 | 219.35 | 432.56 | 448.19 | 248.24 |
| Ash (grms), **C** | 48.67 | 63.48 | 44.58 | 77.65 | 67.88 | 73.5 |
| Ash Content (%), **D** | 98.9 | 99.3 | 99.5 | 98.7 | 99.4 | 99.5 |
| Organic Matter (%) | **1.06** | **0.73** | **0.47** | **1.31** | **0.56** | **0.49** |
| Fraction Organic Carbon (%) | **0.61** | **0.43** | **0.27** | **0.76** | **0.32** | **0.28** |

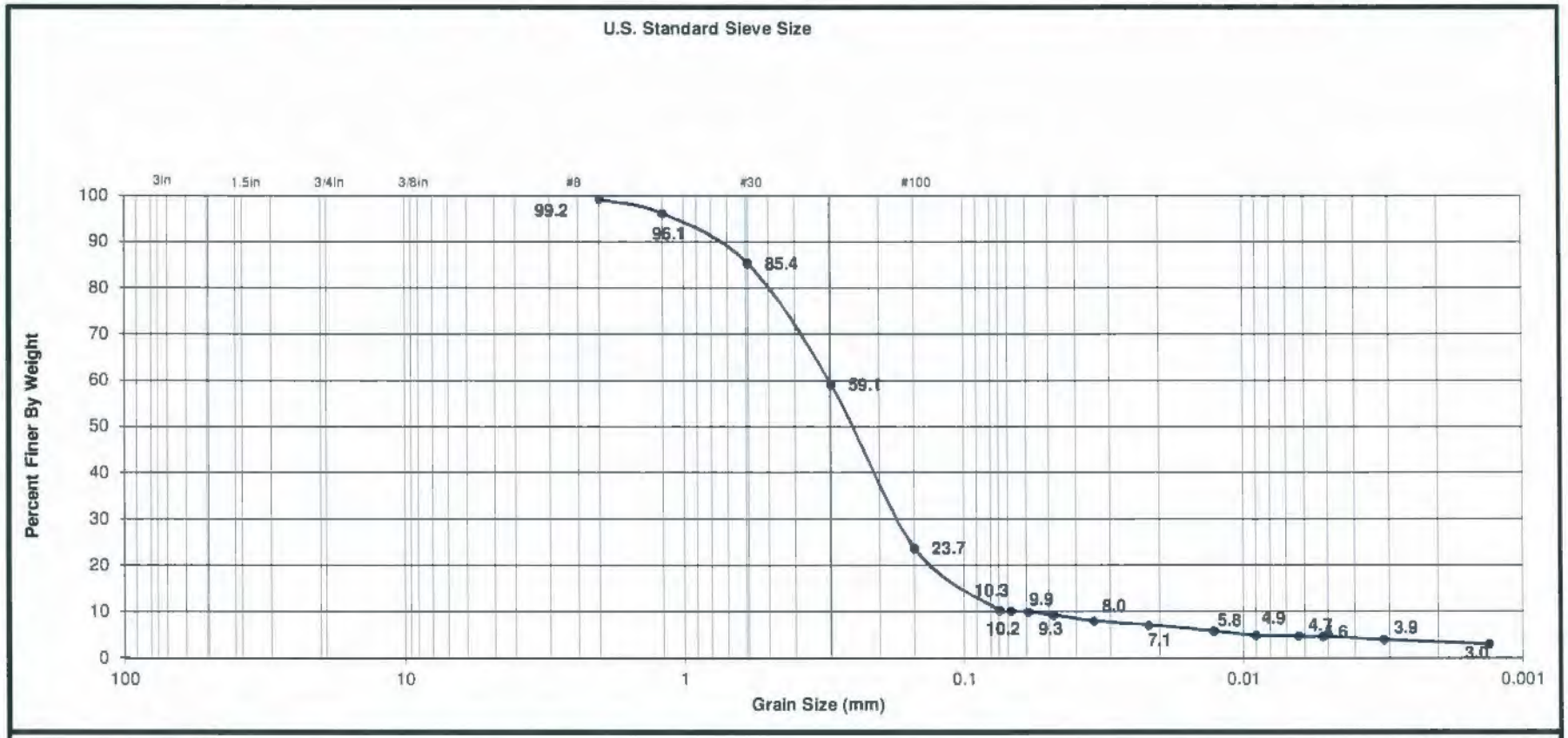
Ash Content, % = (C x 100) / B

Organic Matter, % = 100.0 - D

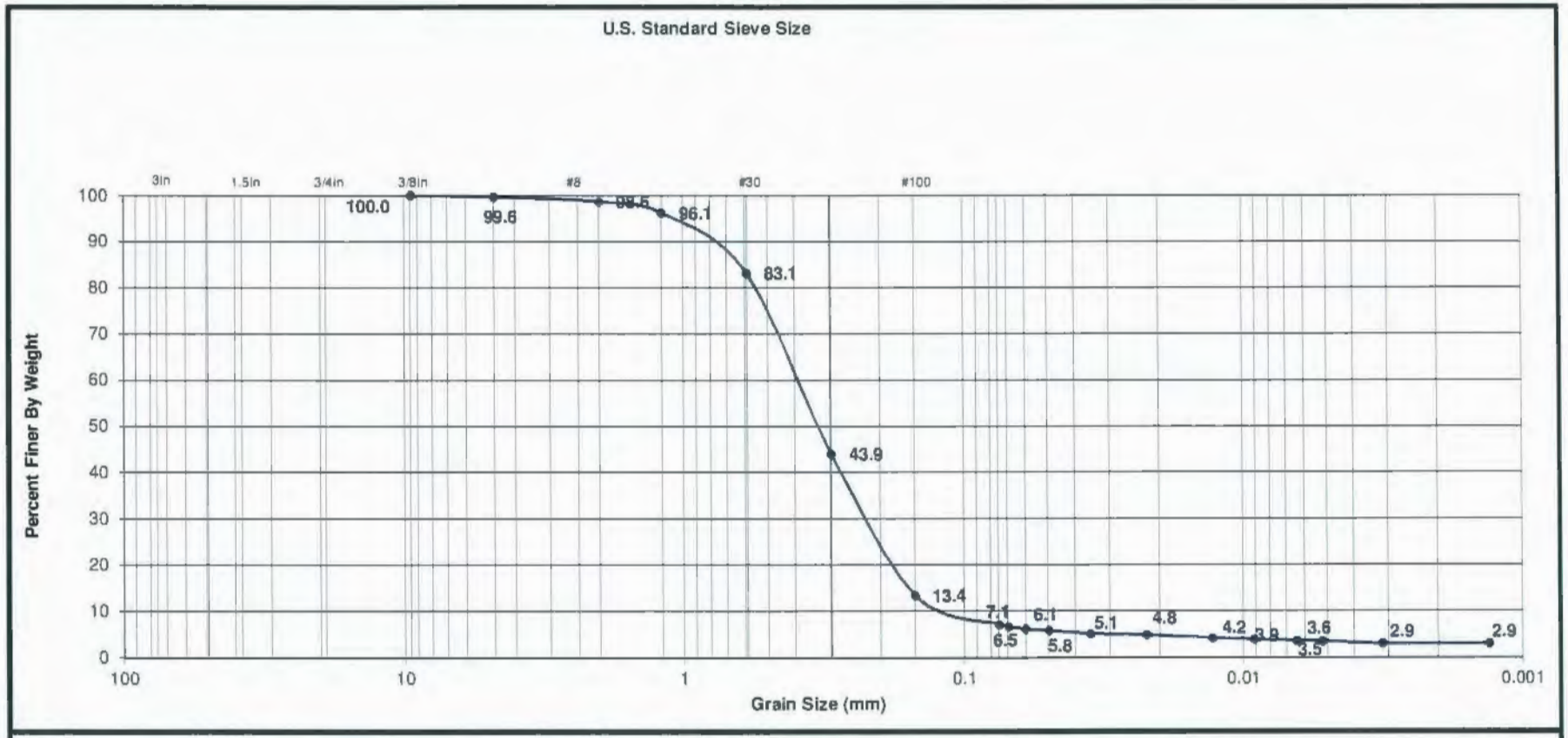
Organic Matter (%) = Organic Carbon (%) x 1.72




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110678-01 | | | | | | | | | ML | MP3 @ 15' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110678-02 | | | | | | | | | SM | MP3 @ 45' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110678-03 | | | | | | | | | SM | MP3 @ 75' |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| JOB NAME: | SunStar Lab # T110678 MP-3 | DATE: | 5/27/2011 |
| JOB NO.: | 2011-0047 | BY: | LD |

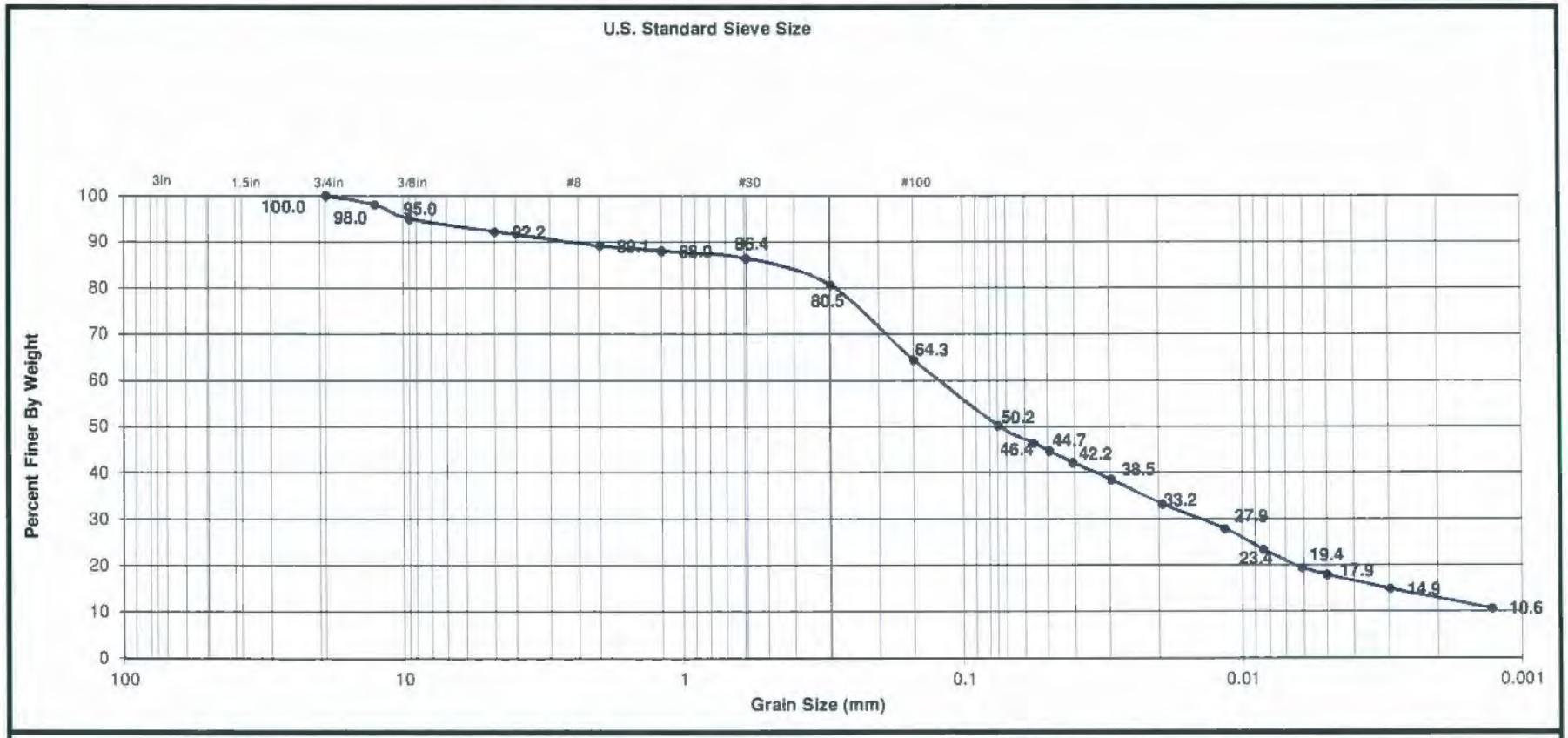
**ORGANIC MATTER - ASTM D2974**

| | MP3 @ 15' | @ 45' | @ 75' | |
|---|---|---|---|---|
| Sample No. | T110678-01 | T110678-02 | T110678-03 | |
| Soil Type | Sandy Silt | Silty Sand | Silty Sand | |
| Tare (grms) | 174.76 | 354.93 | 380.32 | |
| Soil (grms) | | | | |
| Wet Soil + Tare | | | | |
| Dry Soil + Tare | 240.28 | 437.52 | 431.77 | |
| Dry Soil (grms), **B** | 65.52 | 82.59 | 51.45 | |
| Water Content (%) | **12.7** | **4.5** | **3.5** | |
| Ashed Soil + Tare (grms) | 238.85 | 436.96 | 431.55 | |
| Ash (grms), **C** | 64.09 | 82.03 | 51.23 | |
| Ash Content (%), **D** | 97.8 | 99.3 | 99.6 | |
| Organic Matter (%) | **2.18** | **0.68** | **0.43** | |
| Fraction Organic Carbon (%) | **1.27** | **0.39** | **0.25** | |

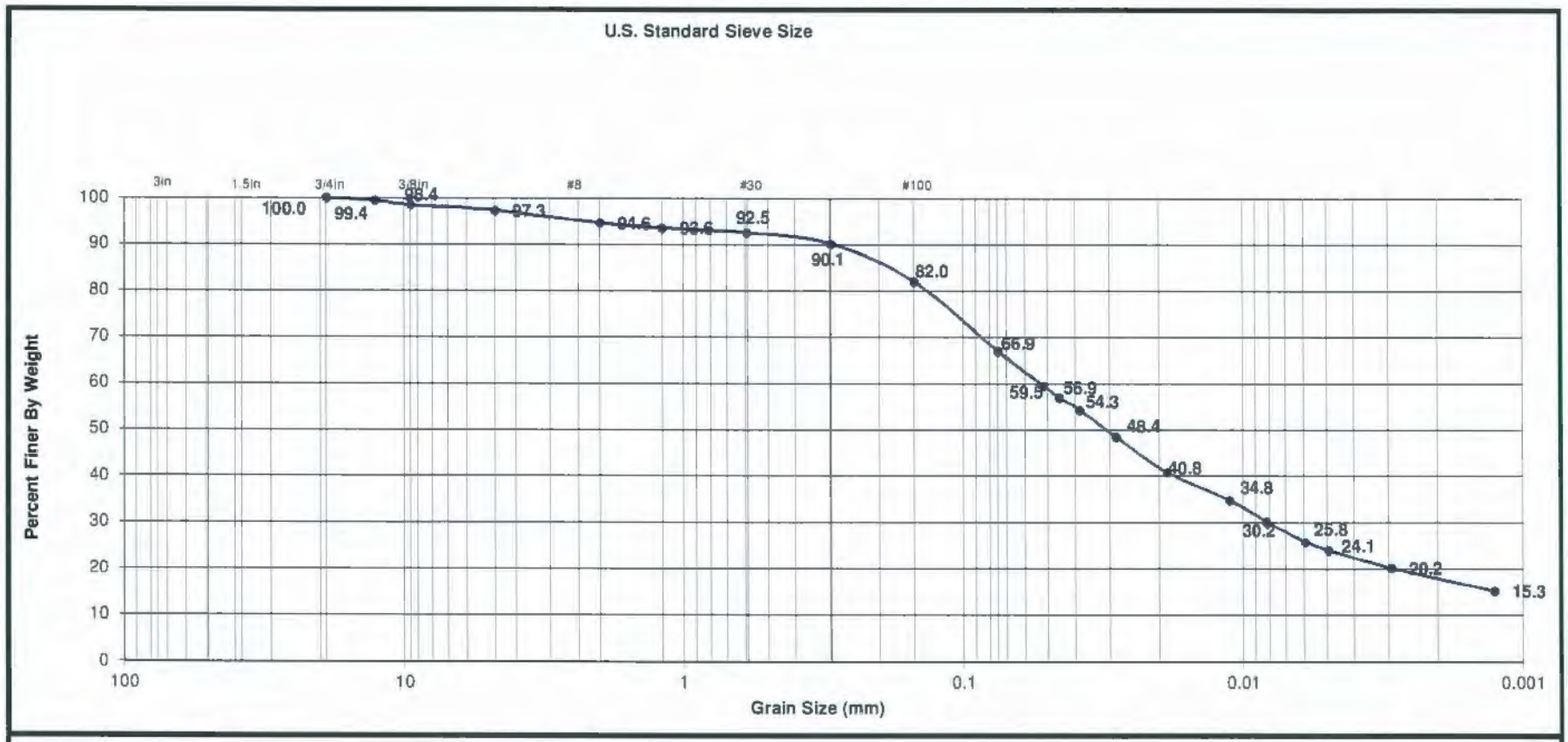
Ash Content, % = (C x 100) / B

Organic Matter, % = 100.0 - D

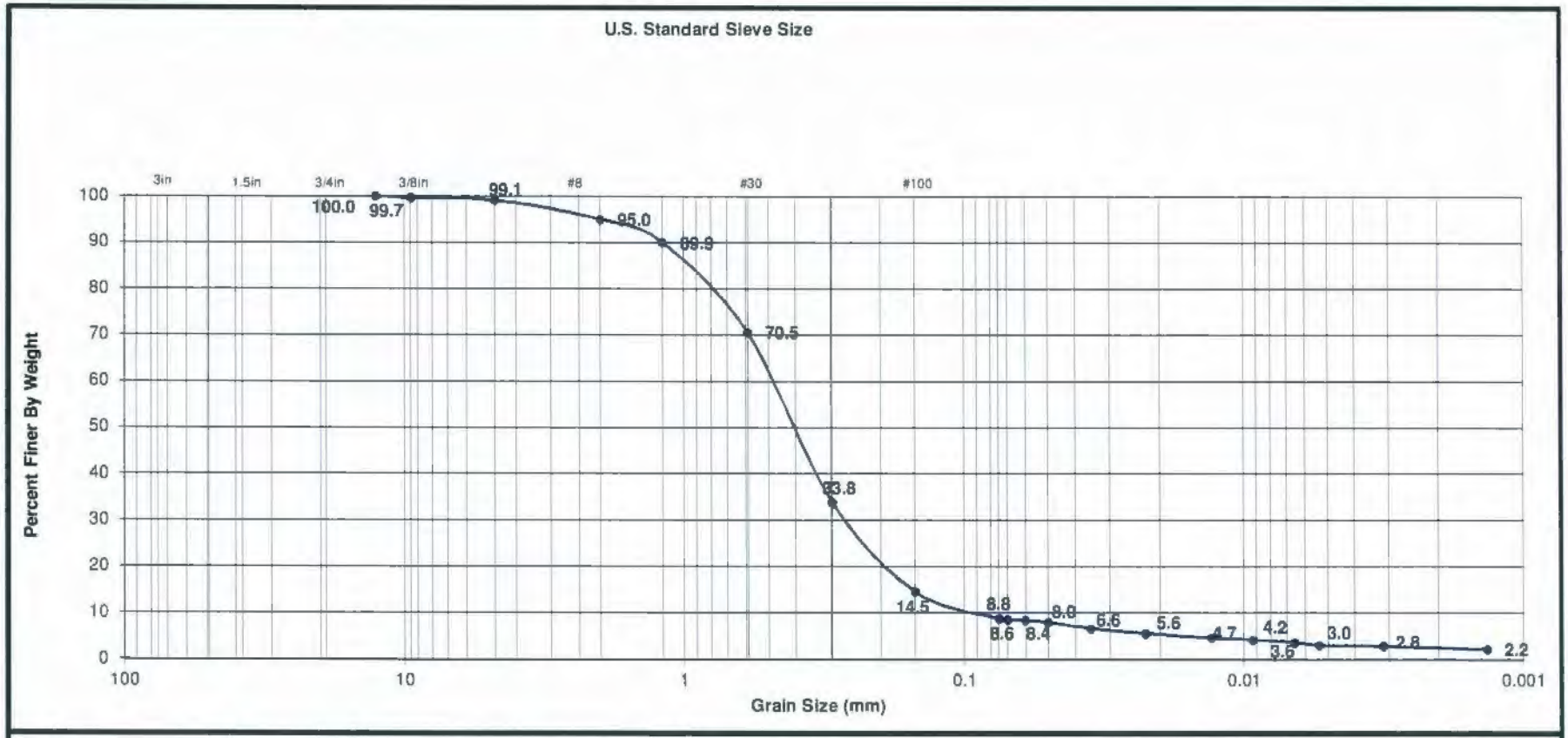
Organic Matter (%) = Organic Carbon (%) x 1.72




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110685-01 | | | | | | | | | SC | MP2 @ 15' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110685-02 | | | | | | | | | CL | MP2 @ 35' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110685-04 | | | | | | | | | SM | MP2 @ 70' |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| JOB NAME: | SunStar Lab # T110685 MP-2 | DATE: | 6/6/2011 |
| JOB NO.: | 2011-0047 | BY: | LD |

**ORGANIC MATTER - ASTM D2974**

| | MP2 @ 15' | MP2 @ 35 | MP2 @ 45 | |
|---|---|---|---|---|
| Sample No. | T110685-01 | T110685-02 | T110685-03 | |
| Soil Type | Sandy Clay | Silty Clay | Silty Sand | |
| Tare (grms) | 174.75 | 354.92 | 380.32 | |
| Soil (grms) | | | | |
| Wet Soil + Tare | | | | |
| Dry Soil + Tare | 211.02 | 392.39 | 443.77 | |
| Dry Soil (grms), **B** | 36.27 | 37.47 | 63.45 | |
| Water Content (%) | **11.7** | **17.2** | **2.9** | |
| Ashed Soil + Tare (grms) | 210.6 | 391.72 | 443.53 | |
| Ash (grms), **C** | 35.85 | 36.8 | 63.21 | |
| Ash Content (%), **D** | 98.8 | 98.2 | 99.6 | |
| Organic Matter (%) | **1.16** | **1.79** | **0.38** | |
| Fraction Organic Carbon (%) | **0.67** | **1.04** | **0.22** | |

Ash Content, % = (C x 100) / B

Organic Matter, % = 100.0 - D

Organic Matter (%) = Organic Carbon (%) x 1.72

# PERMEABILITY TESTS
# ASTM D2434

***PROJECT*** *SunStar Laboratories, Inc.* ***Date*** *6/6/2011*

***Job No*** *2011-0047*

***By*** *LD*

MP-2@15

| **Sample** | ID # T110685-01 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 53.5 | Tare | | 0 | 6/1 10:04:15 | 4.5 | 6/1 10:35:40 | 4.5 | 9.2E-06 |
| 242.1 | Init. Wet wt | | 0 | 6/1 10:36:30 | 4.6 | 6/1 11:07:20 | 4.6 | 9.6E-06 |
| | Sat. Wt. | 250.3 | 0 | 6/1 11:08:05 | 4.5 | 6/1 11:37:35 | 4.5 | 9.8E-06 |
| | Trimmed Wt. | 250.3 | | | | | | |
| 11.7 | % water | 16.6 | **L** | **1.96** | | | | |
| 115.5 | Dry Density | 115.5 | **D** | **1.90** | | | | |
| | | | **PSI** | 1 | Total (Ave.) | | 13.6 | **9.6E-06** |

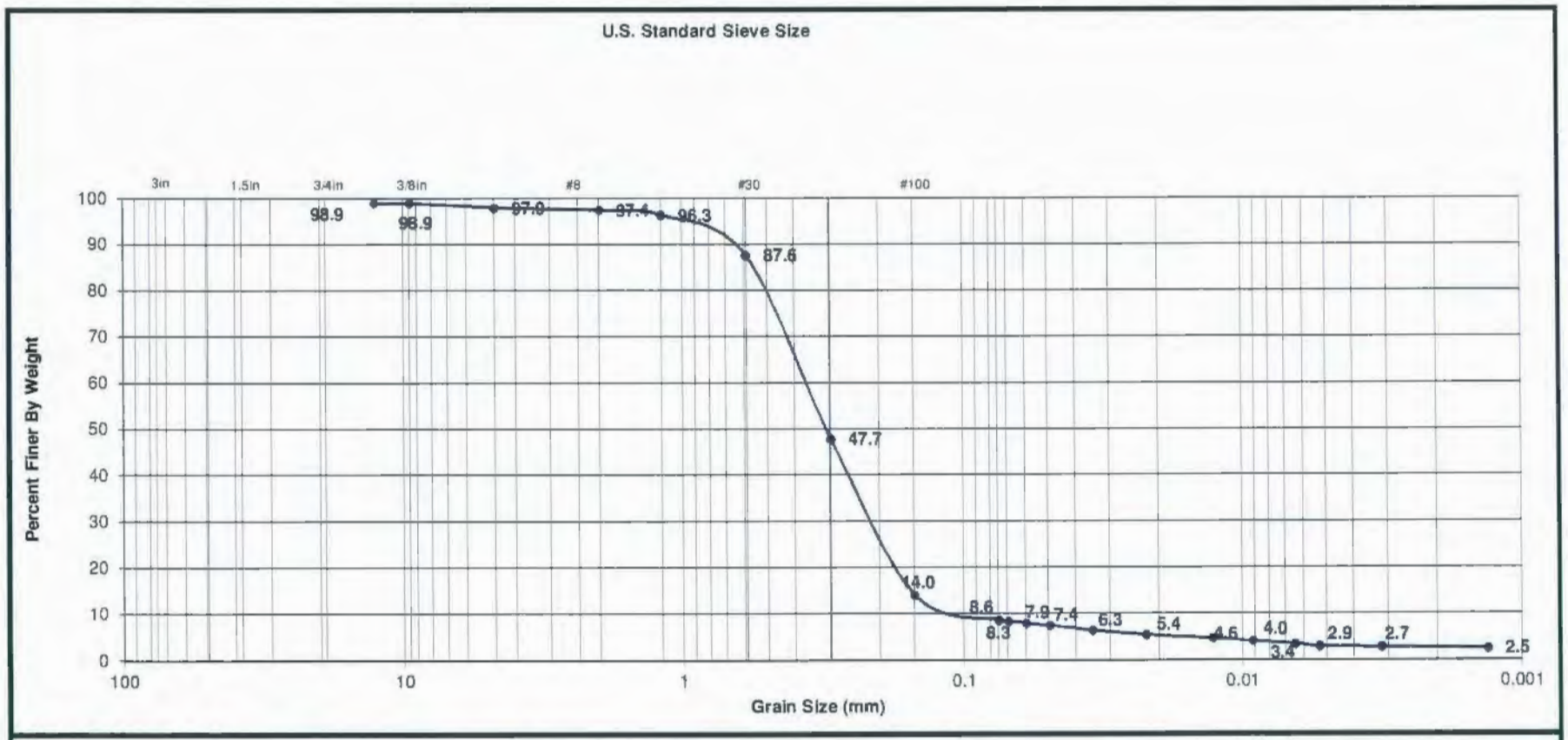
MP-2@35

| **Sample** | ID # T110685-02 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 60.1 | Tare | | 0 | 5/30 9:14:30 | 1.4 | 5/30 16:26:30 | 1.4 | 2.1E-07 |
| 264.6 | Init. Wet wt | | 0 | 5/30 16:27:00 | 3.8 | 5/31 9:02:00 | 3.8 | 2.5E-07 |
| | Sat. Wt. | 265.3 | 0 | 5/31 9:03:00 | 1.1 | 5/31 14:59:00 | 1.1 | 2.0E-07 |
| | Trimmed Wt. | 265.3 | | | | | | |
| 17.2 | % water | 17.6 | **L** | **2.00** | | | | |
| 117.2 | Dry Density | 117.2 | **D** | **1.90** | | | | |
| | | | **PSI** | 1 | Total (Ave.) | | 6.3 | **2.3E-07** |

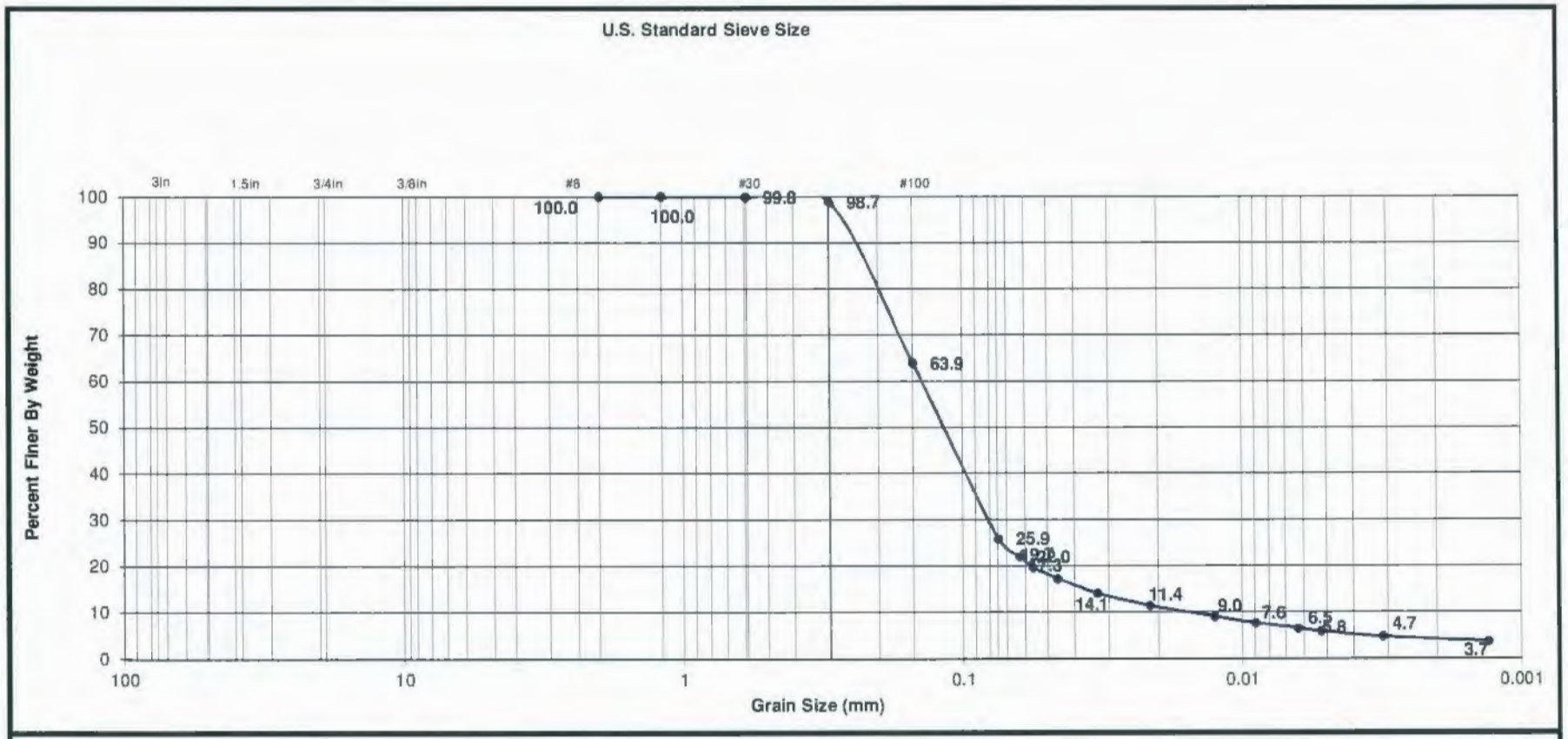
MP-2 @70

| **Sample** | ID # T110685-04 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 60.1 | Tare | | 0 | 5/29 15:02:00 | 10 | 5/29 15:03:00 | 10 | 1.3E-03 |
| 202.6 | Init. Wet wt | | 0 | 5/29 15:05:00 | 10 | 5/29 15:06:00 | 10 | 1.3E-03 |
| | Sat. Wt. | 221 | 0 | 5/29 15:07:00 | 10 | 5/29 15:08:00 | 10 | 1.3E-03 |
| | Trimmed Wt. | 221 | | | | | | |
| 2.9 | % water | 16.2 | **L** | **2.00** | | | | |
| 93.0 | Dry Density | 93.0 | **D** | **1.90** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 30 | **1.3E-03** |

k = coefficient of permeability (cm/sec)
L = sample height D = sample diameter K = QL / Aht
A = area of sample
h = Hydrostatic head (cm of $H_2O$) 1 psi = 70.43 cm



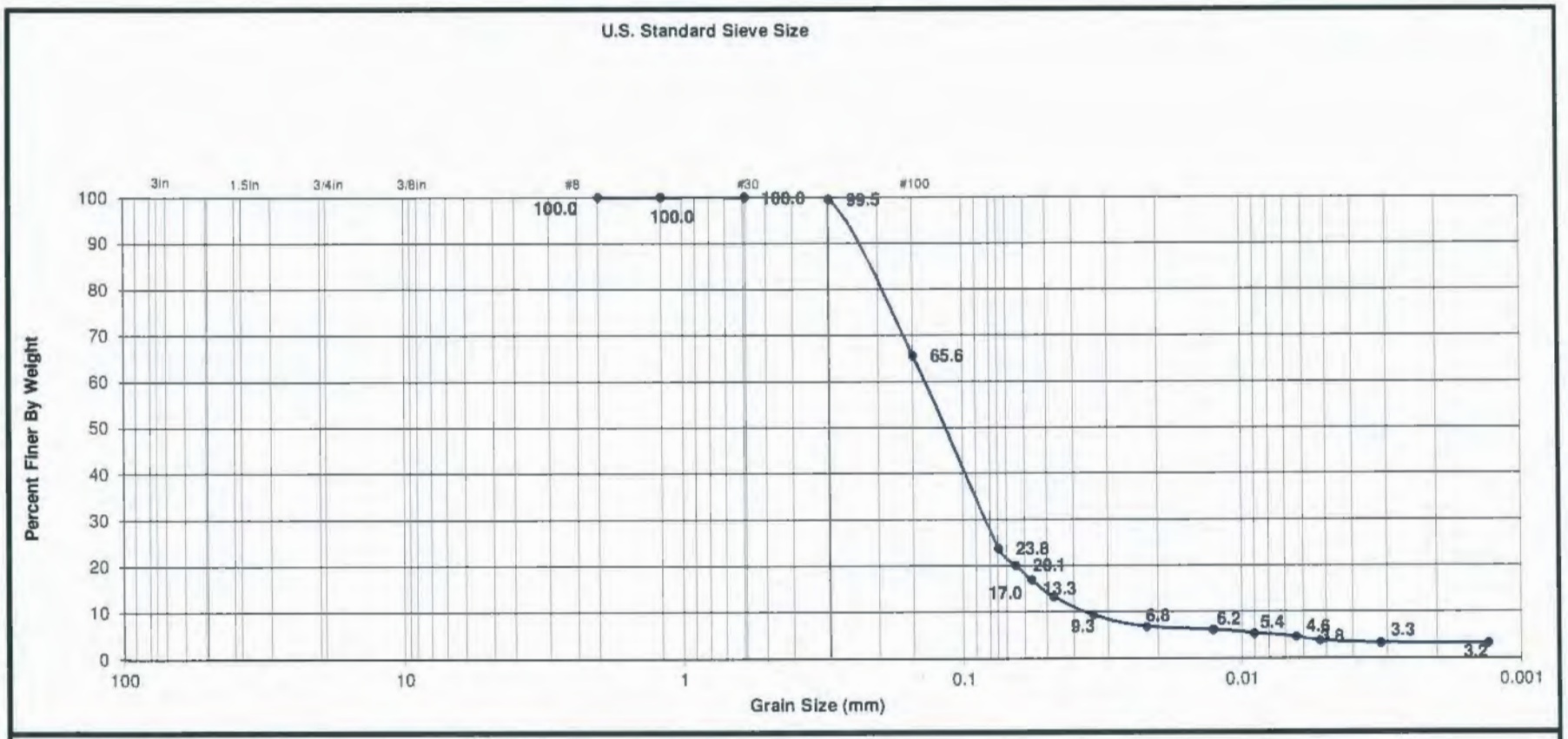

| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110704-01 | | | | | | | | | SM | MP-11 @ 20' |
| | | | | | | | | | | |
| | | | | | | | | | | |



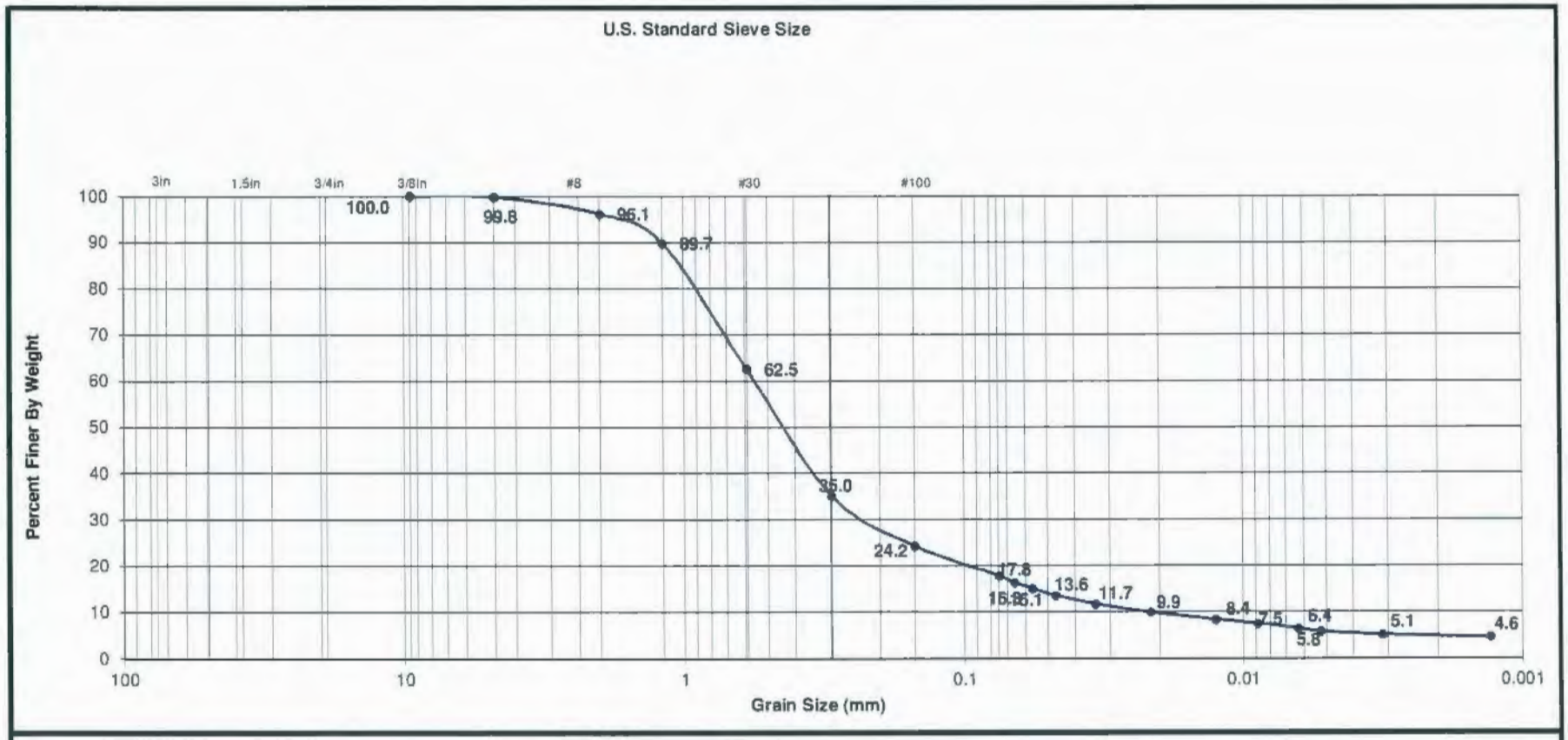

| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110704-02 | | | | | | | | | SM | MP-11 @ 40' |
| | | | | | | | | | | |
| | | | | | | | | | | |

GRAIN SIZE ANALYSIS - ASTM D 422

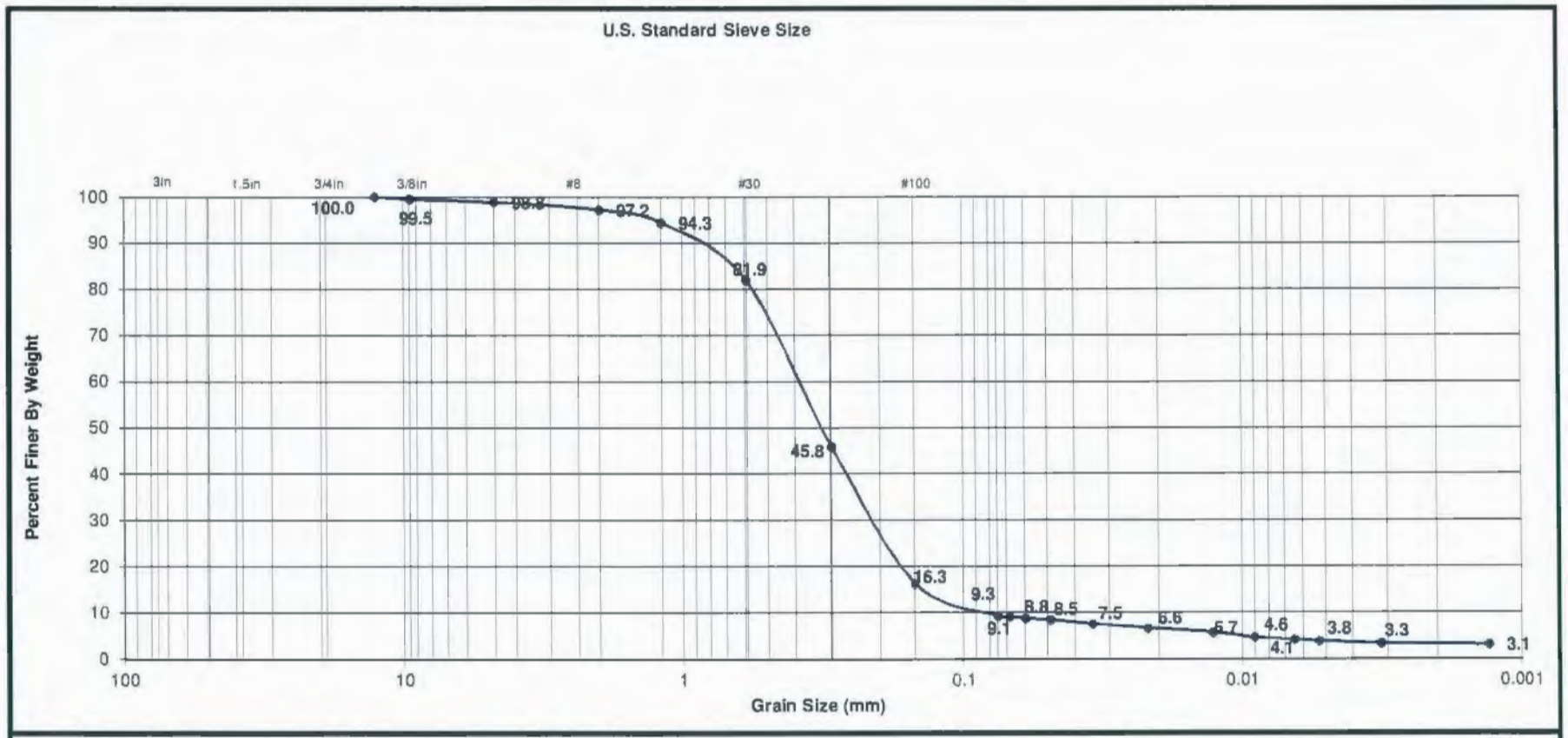




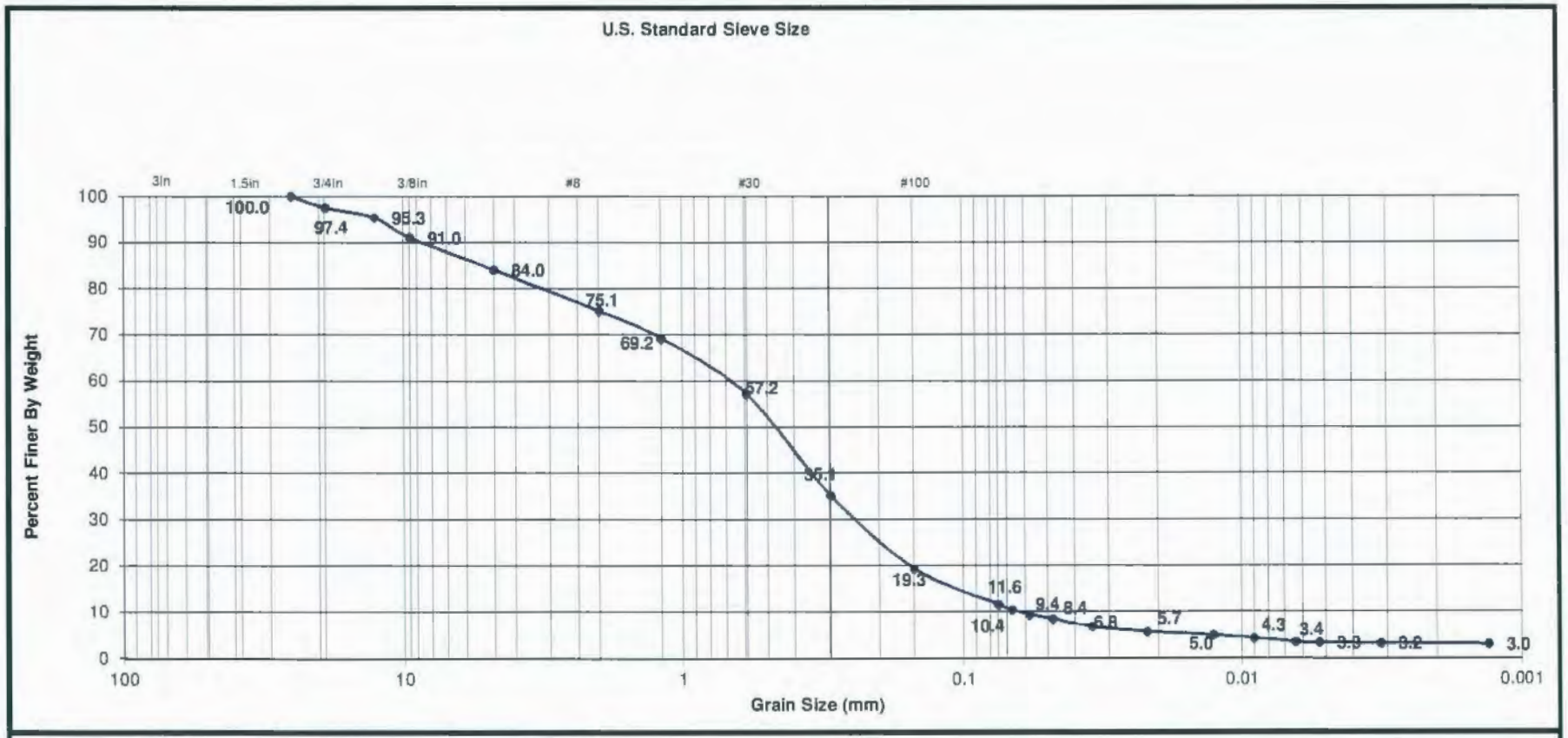

| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110704-03 | | | | | | | | | SM | MP-11 @ 50 |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110704-04 | | | | | | | | | SM | MP-11 @ 75' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110704-05 | | | | | | | | | SM | MP-11 @ 100' |
| | | | | | | | | | | |
| | | | | | | | | | | |




| Boring / Sample No. | Initial Dry Density (pcf) | Initial Moist. (%) | Test Dry Density (pcf) | Test Moist. (%) | S.G. | LL | PL | PI | Unified Soil Class. | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| T110704-06 | | | | | | | | | SM | MP-11 @ 120' |
| | | | | | | | | | | |
| | | | | | | | | | | |

# PERMEABILITY TESTS
# ASTM D2434

***PROJECT*** *SunStar Laboratories, Inc.* ***Date*** *6/7/2011*

***Job No*** *2011-0047*

***By*** *LD*

MP-11 @ 20'

| **Sample** | ID # T110704-01 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 60.1 | Tare | | 0 | 6/2 9:25:00 | 11 | 6/2 9:26:00 | 11 | 1.4E-03 |
| 211.8 | Init. Wet wt | | 0 | 6/2 9:27:00 | 11 | 6/2 9:28:00 | 11 | 1.4E-03 |
| | Sat. Wt. | 241.1 | 0 | 6/2 9:29:00 | 11 | 6/2 9:30:00 | 11 | 1.4E-03 |
| | Trimmed Wt. | 241.1 | | | | | | |
| 4.1 | % water | 24.2 | **L** | **2.00** | | | | |
| 97.9 | Dry Density | 97.9 | **D** | **1.90** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 33 | **1.4E-03** |

MP-11 @ 40'

| **Sample** | ID # T110704-02 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 52.2 | Tare | | 0 | 6/2 12:48:00 | 6.3 | 6/2 12:49:00 | 6.3 | 7.8E-04 |
| 204.6 | Init. Wet wt | | 0 | 6/2 12:50:00 | 6.4 | 6/2 12:51:00 | 6.4 | 7.9E-04 |
| | Sat. Wt. | 222 | 0 | 6/2 12:53:00 | 6.5 | 6/2 12:54:00 | 6.5 | 8.0E-04 |
| | Trimmed Wt. | 222 | | | | | | |
| 15.4 | % water | 28.6 | **L** | **1.92** | | | | |
| 90.5 | Dry Density | 90.5 | **D** | **1.92** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 19.2 | **7.9E-04** |

MP-11 @ 50'

| **Sample** | ID # T110704-03 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 53.5 | Tare | | 0 | 6/3 13:42:00 | 7.3 | 6/3 13:43:00 | 7.3 | 9.2E-04 |
| 212.5 | Init. Wet wt | | 0 | 6/3 13:45:00 | 7.5 | 6/3 13:46:00 | 7.5 | 9.4E-04 |
| | Sat. Wt. | 237.1 | 0 | 6/3 13:48:00 | 7.4 | 6/3 13:49:00 | 7.4 | 9.3E-04 |
| | Trimmed Wt. | 237.1 | | | | | | |
| 10.6 | % water | 27.7 | **L** | **1.95** | | | | |
| 96.9 | Dry Density | 96.9 | **D** | **1.92** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 22.2 | **9.3E-04** |

k = coefficient of permeability (cm/sec)

L = sample height D = sample diameter K = QL / Aht

A = area of sample

h = Hydrostatic head (cm of $H_2O$) 1 psi = 70.43 cm

# PERMEABILITY TESTS
# ASTM D2434

***PROJECT*** *SunStar Laboratories, Inc.* ***Date*** *6/7/2011*

***Job No*** *2011-0047*

***By*** *LD*

MP-11 @ 75'

| **Sample** | ID # T110704-04 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 53 | Tare | | 0 | 6/3 14:51:00 | 9.6 | 6/3 14:52:00 | 9.6 | 1.2E-03 |
| 219.8 | Init. Wet wt | | 0 | 6/3 14:54:00 | 9.6 | 6/3 14:55:00 | 9.6 | 1.2E-03 |
| | Sat. Wt. | 241.2 | 0 | 6/3 14:57:00 | 9.7 | 6/3 14:58:00 | 9.7 | 1.2E-03 |
| | Trimmed Wt. | 241.2 | | | | | | |
| 4.3 | % water | 17.7 | **L** | **1.94** | | | | |
| 108.6 | Dry Density | 108.6 | **D** | **1.92** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 28.9 | **1.2E-03** |

MP-11 @ 100'

| **Sample** | ID # T110704-05 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 60.1 | Tare | | 0 | 6/6 12:37:00 | 6.8 | 6/6 12:38:00 | 6.8 | 8.9E-04 |
| 225.2 | Init. Wet wt | | 0 | 6/6 12:40:00 | 6.9 | 6/6 12:41:00 | 6.9 | 9.1E-04 |
| | Sat. Wt. | 240.3 | 0 | 6/6 12:43:00 | 7 | 6/6 12:44:00 | 7 | 9.2E-04 |
| | Trimmed Wt. | 240.3 | | | | | | |
| 4.6 | % water | 14.2 | **L** | **2.00** | | | | |
| 106.0 | Dry Density | 106.0 | **D** | **1.90** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 20.7 | **9.1E-04** |

MP-11 @ 120'

| **Sample** | ID # T110704-06 | | Start | | Stop | | | |
|---|---|---|---|---|---|---|---|---|
| As Rec'd | | As Tested | Wt. | Time/Day | Wt. | Time/Day | cc | k |
| 53.6 | Tare | | 0 | 6/6 14:01:00 | 6 | 6/6 14:02:00 | 6 | 7.6E-04 |
| 260 | Init. Wet wt | | 0 | 6/6 14:05:00 | 6 | 6/6 14:06:00 | 6 | 7.6E-04 |
| | Sat. Wt. | 266.6 | 0 | 6/6 14:08:00 | 6 | 6/6 14:09:00 | 6 | 7.6E-04 |
| | Trimmed Wt. | 266.6 | | | | | | |
| 13.9 | % water | 17.5 | **L** | **1.96** | | | | |
| 121.7 | Dry Density | 121.7 | **D** | **1.92** | | | | |
| | | | **PSI** | 0.5 | Total (Ave.) | | 18 | **7.6E-04** |

k = coefficient of permeability (cm/sec)
L = sample height D = sample diameter K = QL / Aht
A = area of sample
h = Hydrostatic head (cm of $H_2O$) 1 psi = 70.43 cm

| | | | | |
|---|---|---|---|---|
| JOB NAME: | SunStar Lab # T110704 MP-11 | | DATE: | 06/07/11 |
| JOB NO.: | 2011-0047 | | BY: | LD |

**ORGANIC MATTER - ASTM D2974**

| | MP-11@20' | @40' | @50' | @75' | @100' | @120' |
|---|---|---|---|---|---|---|
| Sample No. | T110704-01 | T110704-02 | T110704-03 | T110704-04 | T110704-05 | T110704-06 |
| Soil Type | Silty Sand | Silty Sand | Silty Sand | Silty Sand | Silty Sand | Silty Sand |
| Tare (grms) | 174.75 | 174.78 | 380.31 | 354.93 | 174.76 | 174.78 |
| Soil (grms) | | | | | | |
| Wet Soil + Tare | | | | | | |
| Dry Soil + Tare | 235.02 | 211.97 | 434.84 | 392.09 | 230.76 | 211.03 |
| Dry Soil (grms), **B** | 60.27 | 37.19 | 54.53 | 37.16 | 56 | 36.25 |
| Water Content (%) | **4.1** | **15.4** | **10.6** | **4.3** | **4.6** | **13.9** |
| Ashed Soil + Tare (grms) | 234.77 | 211.61 | 434.4 | 391.93 | 230.49 | 210.88 |
| Ash (grms), **C** | 60.02 | 36.83 | 54.09 | 37 | 55.73 | 36.1 |
| Ash Content (%), **D** | 99.6 | 99.0 | 99.2 | 99.6 | 99.5 | 99.6 |
| Organic Matter (%) | **0.41** | **0.97** | **0.81** | **0.43** | **0.48** | **0.41** |
| Fraction Organic Carbon (%) | **0.24** | **0.56** | **0.47** | **0.25** | **0.28** | **0.24** |

Ash Content, % = (C x 100) / B

Organic Matter, % = 100.0 - D

Organic Matter (%) = Organic Carbon (%) x 1.72

# Appendix D

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

24 May 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/17/11 16:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_VE2_20_051711_01 | T110636-01 | Soil | 05/17/11 09:00 | 05/17/11 16:50 |
| LL_VE2_40_051711_01 | T110636-02 | Soil | 05/17/11 09:30 | 05/17/11 16:50 |
| LL_VE2_50_051711_01 | T110636-03 | Soil | 05/17/11 09:39 | 05/17/11 16:50 |
| LL_VE2_75_051711_01 | T110636-04 | Soil | 05/17/11 10:10 | 05/17/11 16:50 |
| LL_VE2_90_051711_01 | T110636-05 | Soil | 05/17/11 10:30 | 05/17/11 16:50 |
| LL_MP9_15_051711_01 | T110636-06 | Soil | 05/17/11 14:50 | 05/17/11 16:50 |
| LL_MP9_45_051711_01 | T110636-07 | Soil | 05/17/11 15:25 | 05/17/11 16:50 |
| LL_MP9_75_051711_01 | T110636-08 | Soil | 05/17/11 16:13 | 05/17/11 16:50 |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_20_051711_01

### T110636-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **390000** | 25000 | ug/kg | 50 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *108 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **2500** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **82** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *83.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **50** | 5.0 | " | " | " | " | " | " | |
| **tert-Butylbenzene** | **5.4** | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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Lake Forest, California 92630
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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_20_051711_01

### T110636-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **24** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **100** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **9500** | 250 | " | 50 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **54** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **130** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **1900** | 250 | " | 50 | " | " | 05/23/11 | " | |
| Vinyl chloride | ND | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| **Benzene** | **22** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_20_051711_01

### T110636-01 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Ethylbenzene** | **29** | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| **m,p-Xylene** | **69** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **26** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *228 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *112 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *107 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| **Phenanthrene** | **510** | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *90.1 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_20_051711_01

### T110636-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_40_051711_01

### T110636-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **280000** | 50000 | ug/kg | 100 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *98.6 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **1500** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **51** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *82.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **50** | 5.0 | " | " | " | " | " | " | |
| **tert-Butylbenzene** | **5.5** | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_40_051711_01

### T110636-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **33** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **170** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **16000** | 250 | " | 50 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **58** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,1,2-Trichloroethane** | **15** | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **170** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **4000** | 250 | " | 50 | " | " | 05/23/11 | " | |
| Vinyl chloride | ND | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| **Benzene** | **34** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **9.0** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **34** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_40_051711_01

### T110636-02 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **m,p-Xylene** | **170** | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| **o-Xylene** | **59** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *334 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *103 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.5 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **2600** | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *35.5 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_50_051711_01
### T110636-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **770000** | 25000 | ug/kg | 50 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *99.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **2000** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **58** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *82.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **33** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_50_051711_01

### T110636-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **21** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **68** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **5400** | 250 | " | 50 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **34** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **100** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **400** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **9.9** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_50_051711_01
### T110636-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **21** | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| **m,p-Xylene** | **84** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **6.4** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *272 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *93.6 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *97.5 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **4800** | 300 | " | " | " | " | " | " | |
| **Phenanthrene** | **550** | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *57.4 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_50_051711_01

### T110636-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_75_051711_01

### T110636-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **96000** | 25000 | ug/kg | 50 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **430** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **34** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *77.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **23** | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **16** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_75_051711_01

### T110636-04 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **6.0** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **4100** | 120 | " | 25 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **10** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **5.4** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_75_051711_01

### T110636-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *176 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *95.5 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **500** | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *102 %* | *29.1-130* | | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_75_051711_01

### T110636-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_90_051711_01

### T110636-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **250000** | 50000 | ug/kg | 100 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *99.6 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **1400** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **79** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *81.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **50** | 5.0 | " | " | " | " | " | " | |
| **tert-Butylbenzene** | **5.8** | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_90_051711_01

### T110636-05 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **27** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **110** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **17000** | 250 | " | 50 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **53** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,3-Trichlorobenzene** | **21** | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **140** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **530** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **19** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **21** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_VE2_90_051711_01

### T110636-05 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **m,p-Xylene** | **90** | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| **o-Xylene** | **29** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *354 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *104 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *119 %* | *85-115* | | " | " | " | " | *S-GC* |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **3500** | 300 | " | " | " | " | " | " | |
| **Phenanthrene** | **370** | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *91.2 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_15_051711_01
### T110636-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **96000** | 25000 | ug/kg | 50 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **720** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **32** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *78.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **7.6** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_15_051711_01
### T110636-06 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **7.0** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **11** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **140** | 120 | " | 25 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **14** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **31** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **69** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **11** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_15_051711_01
### T110636-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **18** | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| **m,p-Xylene** | **36** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **8.6** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *129 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *94.1 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *100 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| **Fluorene** | **310** | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **5300** | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *108 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_15_051711_01
## T110636-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_45_051711_01
### T110636-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **600000** | 50000 | ug/kg | 100 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *105 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **2200** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **56** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *82.0 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **36** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_45_051711_01

### T110636-07 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **28** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **69** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **4600** | 250 | " | 50 | " | " | 05/23/11 | " | |
| **n-Propylbenzene** | **54** | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **160** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **620** | 250 | " | 50 | " | " | 05/23/11 | " | |
| Vinyl chloride | ND | 5.0 | " | 1 | " | " | 05/18/11 | " | |
| **Benzene** | **18** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **11** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **43** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_45_051711_01
### T110636-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **220** | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| **o-Xylene** | **89** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *81.2 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *95.8 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *92.8 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **4900** | 300 | " | " | " | " | " | " | |
| **Phenanthrene** | **510** | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *31.1 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_75_051711_01
### T110636-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *92.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **13** | 10 | mg/kg | 1 | 1051801 | 05/18/11 | 05/19/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *91.2 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_75_051711_01
### T110636-08 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **120** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_75_051711_01
### T110636-08 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1051816 | 05/18/11 | 05/18/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *92.5 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *107 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/24/11 17:03 |

## LL_MP9_75_051711_01
## T110636-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051909 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1051909-BLK1)** | | | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *441* | | *"* | *500* | | *88.2* | *72.6-146* | | | |
| **LCS (1051909-BS1)** | | | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | 13100 | 500 | ug/kg | 13800 | | 95.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *473* | | *"* | *500* | | *94.5* | *72.6-146* | | | |
| **Matrix Spike (1051909-MS1)** | | **Source: T110636-08** | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | 12600 | 500 | ug/kg | 13800 | 215 | 89.7 | 65-135 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *509* | | *"* | *500* | | *102* | *72.6-146* | | | |
| **Matrix Spike Dup (1051909-MSD1)** | | **Source: T110636-08** | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | 12900 | 500 | ug/kg | 13800 | 215 | 92.2 | 65-135 | 2.68 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *484* | | *"* | *500* | | *96.8* | *72.6-146* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051801 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1051801-BLK1)** | | | | Prepared: 05/18/11 | Analyzed: 05/19/11 | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *81.5* | | *"* | *100* | | *81.5* | *65-135* | | | |
| **LCS (1051801-BS1)** | | | | Prepared: 05/18/11 | Analyzed: 05/19/11 | | | | | |
| C13-C28 (DRO) | 380 | 10 | mg/kg | 500 | | 75.8 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *74.0* | | *"* | *100* | | *74.0* | *65-135* | | | |
| **LCS Dup (1051801-BSD1)** | | | | Prepared: 05/18/11 | Analyzed: 05/19/11 | | | | | |
| C13-C28 (DRO) | 390 | 10 | mg/kg | 500 | | 78.1 | 75-125 | 3.10 | 20 | |
| *Surrogate: p-Terphenyl* | *75.8* | | *"* | *100* | | *75.8* | *65-135* | | | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051816 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1051816-BLK1)** | | | | Prepared & Analyzed: 05/18/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051816 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1051816-BLK1)** | | | | Prepared & Analyzed: 05/18/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *37.0* | | *"* | *40.0* | | *92.6* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *42.8* | | *"* | *40.0* | | *107* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *41.9* | | *"* | *40.0* | | *105* | *85-115* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051816 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1051816-BS1)** | | | | Prepared & Analyzed: 05/18/11 | | | | | | |
| Chlorobenzene | 105 | 5.0 | ug/kg | 100 | | 105 | 75-125 | | | |
| 1,1-Dichloroethene | 103 | 5.0 | " | 100 | | 103 | 75-125 | | | |
| Trichloroethene | 101 | 5.0 | " | 100 | | 101 | 75-125 | | | |
| Benzene | 105 | 5.0 | " | 100 | | 105 | 75-125 | | | |
| Toluene | 100 | 5.0 | " | 100 | | 100 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *40.4* | | *"* | *40.0* | | *101* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *39.0* | | *"* | *40.0* | | *97.4* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.8* | | *"* | *40.0* | | *102* | *85-115* | | | |
| **LCS Dup (1051816-BSD1)** | | | | Prepared & Analyzed: 05/18/11 | | | | | | |
| Chlorobenzene | 98.8 | 5.0 | ug/kg | 100 | | 98.8 | 75-125 | 6.51 | 20 | |
| 1,1-Dichloroethene | 89.1 | 5.0 | " | 100 | | 89.1 | 75-125 | 14.2 | 20 | |
| Trichloroethene | 95.8 | 5.0 | " | 100 | | 95.8 | 75-125 | 5.24 | 20 | |
| Benzene | 97.0 | 5.0 | " | 100 | | 97.0 | 75-125 | 7.96 | 20 | |
| Toluene | 92.5 | 5.0 | " | 100 | | 92.5 | 75-125 | 7.94 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *41.8* | | *"* | *40.0* | | *104* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *40.2* | | *"* | *40.0* | | *100* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.9* | | *"* | *40.0* | | *99.8* | *85-115* | | | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051901 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1051901-BLK1)** | | | | Prepared: 05/19/11 | Analyzed: 05/20/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1580* | | *"* | *1670* | | *95.0* | *29.1-130* | | | |
| **LCS (1051901-BS1)** | | | | Prepared: 05/19/11 | Analyzed: 05/20/11 | | | | | |
| Acenaphthene | 1220 | 300 | ug/kg | 1670 | | 73.3 | 38.9-79.4 | | | |
| Pyrene | 1380 | 300 | " | 1670 | | 82.6 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1630* | | *"* | *1670* | | *97.6* | *29.1-130* | | | |
| **LCS Dup (1051901-BSD1)** | | | | Prepared: 05/19/11 | Analyzed: 05/20/11 | | | | | |
| Acenaphthene | 1120 | 300 | ug/kg | 1670 | | 67.4 | 38.9-79.4 | 8.38 | 31 | |
| Pyrene | 1170 | 300 | " | 1670 | | 69.9 | 25-85.2 | 16.6 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1360* | | *"* | *1670* | | *81.9* | *29.1-130* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/24/11 17:03 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel J Chávez

Daniel Chavez, Project Manager

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*639#

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·17·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic
Client Project #: 1003-001-200
Batch #: T110636
EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_VE2_20_051711_01 | 5·17·2011 | 9:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 01 |
| LL_VE2_40_051711_01 | | 9:30 | | X | X | X | X | X | X | X | X | | | | | | 2 | | 02 |
| LL_VE2_50_051711_01 | | 9:39 | | X | X | X | X | X | X | X | X | | | | | | 2 | | 03 |
| LL_VE2_75_051711_01 | | 10:10 | | X | X | X | X | X | X | X | X | | | | | | 2 | | 04 |
| LL_VE2_90_051711_01 | | 10:30 | | X | X | X | X | X | X | X | X | | | | | | 2 | | 05 |
| LL_MP9_15_051711_01 | 5·17·2011 | 14:50 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 06 |
| LL_MP9_45_051711_01 | | 15:25 | | X | X | X | X | X | X | X | X | | | | | | 2 | | 07 |
| LL_MP9_75_051711_01 | | 16:13 | | X | X | X | X | X | X | X | X | | | | | | 2 | | 08 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5·17·2011 1650 | | 5/17/11 1650 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 16 |
| Chain of Custody seals | ✓ |
| Seals intact? Y/N/NA | ✓/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes
2.2°

Sample disposal instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110636

Client Name: MUREX

Project: CENCO

Received by: DAN

Date/Time Received: 5/17/11 1650

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

Total number of coolers received 0

**Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 2.4 °C +/- the CF (- 0.2°C) = 2.2 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date BC 5/18/11

Comments:

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**949.297.5027 Fax**

25 May 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/18/11 15:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP6_15_051811_01 | T110648-01 | Soil | 05/18/11 11:50 | 05/18/11 15:44 |
| LL_MP6_45_051811_01 | T110648-02 | Soil | 05/18/11 13:29 | 05/18/11 15:44 |
| LL_MP6_75_051811_01 | T110648-03 | Soil | 05/18/11 13:56 | 05/18/11 15:44 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_15_051811_01

### T110648-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1100** | 500 | ug/kg | 1 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *85.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052001 | 05/20/11 | 05/23/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *75.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/19/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_15_051811_01

### T110648-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/19/11 | EPA 8260B | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **6.2** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_15_051811_01

### T110648-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/19/11 | EPA 8260B | |
| Ethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *130 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *125 %* | *85-115* | | " | " | " | " | *S-GC* |

**PAH compounds by Semivolatile GCMS**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_15_051811_01

### T110648-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**PAH compounds by Semivolatile GCMS**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Surrogate: Terphenyl-dl4* | | *94.4 %* | *29.1-130* | | *1051901* | *05/19/11* | *05/20/11* | *EPA 8270C* |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_45_051811_01

### T110648-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052001 | 05/20/11 | 05/23/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *91.0 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/19/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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**949.297.5020 Phone**
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_45_051811_01

### T110648-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/19/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **31** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_45_051811_01

### T110648-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/19/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *127 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *126 %* | *85-115* | | " | " | " | " | *S-GC* |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *107 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_45_051811_01

### T110648-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_75_051811_01
### T110648-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1051909 | 05/19/11 | 05/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052001 | 05/20/11 | 05/23/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *76.5 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/20/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_75_051811_01

### T110648-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/20/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **7.2** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_75_051811_01

### T110648-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1051907 | 05/19/11 | 05/20/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *130 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *125 %* | *85-115* | | " | " | " | " | *S-GC* |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1051901 | 05/19/11 | 05/20/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *87.5 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/25/11 15:41 |

## LL_MP6_75_051811_01

### T110648-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051909 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1051909-BLK1)** | | | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *441* | | *"* | *500* | | *88.2* | *72.6-146* | | | |
| **LCS (1051909-BS1)** | | | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | 13100 | 500 | ug/kg | 13800 | | 95.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *473* | | *"* | *500* | | *94.5* | *72.6-146* | | | |
| **Matrix Spike (1051909-MS1)** | | **Source: T110636-08** | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | 12600 | 500 | ug/kg | 13800 | 215 | 89.7 | 65-135 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *509* | | *"* | *500* | | *102* | *72.6-146* | | | |
| **Matrix Spike Dup (1051909-MSD1)** | | **Source: T110636-08** | | Prepared: 05/19/11 | | Analyzed: 05/23/11 | | | | |
| C6-C12 (GRO) | 12900 | 500 | ug/kg | 13800 | 215 | 92.2 | 65-135 | 2.68 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *484* | | *"* | *500* | | *96.8* | *72.6-146* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052001 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052001-BLK1)** | | | | Prepared: 05/20/11 | Analyzed: 05/23/11 | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *77.5* | | *"* | *100* | | *77.5* | *65-135* | | | |
| **LCS (1052001-BS1)** | | | | Prepared: 05/20/11 | Analyzed: 05/23/11 | | | | | |
| C13-C28 (DRO) | 420 | 10 | mg/kg | 500 | | 83.8 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *92.9* | | *"* | *100* | | *92.9* | *65-135* | | | |
| **LCS Dup (1052001-BSD1)** | | | | Prepared: 05/20/11 | Analyzed: 05/23/11 | | | | | |
| C13-C28 (DRO) | 390 | 10 | mg/kg | 500 | | 78.0 | 75-125 | 7.27 | 20 | |
| *Surrogate: p-Terphenyl* | *74.5* | | *"* | *100* | | *74.5* | *65-135* | | | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5020 Phone
949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051907 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1051907-BLK1)** | | | | Prepared & Analyzed: 05/19/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051907 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1051907-BLK1)** | | | | Prepared & Analyzed: 05/19/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *45.6* | | *"* | *40.0* | | *114* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *52.5* | | *"* | *40.0* | | *131* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *50.6* | | *"* | *40.0* | | *127* | *85-115* | | | *S-GC* |

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051907 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1051907-BS1)** | | | | Prepared & Analyzed: 05/19/11 | | | | | | |
| Chlorobenzene | 81.8 | 5.0 | ug/kg | 100 | | 81.8 | 75-125 | | | |
| 1,1-Dichloroethene | 83.4 | 5.0 | " | 100 | | 83.4 | 75-125 | | | |
| Trichloroethene | 82.0 | 5.0 | " | 100 | | 82.0 | 75-125 | | | |
| Benzene | 89.3 | 5.0 | " | 100 | | 89.3 | 75-125 | | | |
| Toluene | 83.4 | 5.0 | " | 100 | | 83.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.0* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *53.6* | | *"* | *40.0* | | *134* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *48.1* | | *"* | *40.0* | | *120* | *85-115* | | | *S-GC* |
| **Matrix Spike (1051907-MS1)** | | **Source: T110648-01** | | Prepared & Analyzed: 05/19/11 | | | | | | |
| Chlorobenzene | 84.8 | 5.0 | ug/kg | 100 | ND | 84.8 | 75-125 | | | |
| 1,1-Dichloroethene | 88.8 | 5.0 | " | 100 | ND | 88.8 | 75-125 | | | |
| Trichloroethene | 83.7 | 5.0 | " | 100 | ND | 83.7 | 75-125 | | | |
| Benzene | 92.9 | 5.0 | " | 100 | ND | 92.9 | 75-125 | | | |
| Toluene | 84.8 | 5.0 | " | 100 | ND | 84.8 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.8* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *53.0* | | *"* | *40.0* | | *132* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *47.8* | | *"* | *40.0* | | *120* | *85-115* | | | *S-GC* |
| **Matrix Spike Dup (1051907-MSD1)** | | **Source: T110648-01** | | Prepared & Analyzed: 05/19/11 | | | | | | |
| Chlorobenzene | 77.5 | 5.0 | ug/kg | 100 | ND | 77.5 | 75-125 | 9.05 | 20 | |
| 1,1-Dichloroethene | 80.3 | 5.0 | " | 100 | ND | 80.3 | 75-125 | 10.0 | 20 | |
| Trichloroethene | 77.5 | 5.0 | " | 100 | ND | 77.5 | 75-125 | 7.69 | 20 | |
| Benzene | 84.6 | 5.0 | " | 100 | ND | 84.6 | 75-125 | 9.29 | 20 | |
| Toluene | 80.6 | 5.0 | " | 100 | ND | 80.6 | 75-125 | 5.08 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *44.9* | | *"* | *40.0* | | *112* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *50.3* | | *"* | *40.0* | | *126* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *49.6* | | *"* | *40.0* | | *124* | *85-115* | | | *S-GC* |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1051901 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1051901-BLK1)** | | | | Prepared: 05/19/11 | Analyzed: 05/20/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1580* | | *"* | *1670* | | *95.0* | *29.1-130* | | | |
| **LCS (1051901-BS1)** | | | | Prepared: 05/19/11 | Analyzed: 05/20/11 | | | | | |
| Acenaphthene | 1220 | 300 | ug/kg | 1670 | | 73.3 | 38.9-79.4 | | | |
| Pyrene | 1380 | 300 | " | 1670 | | 82.6 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1630* | | *"* | *1670* | | *97.6* | *29.1-130* | | | |
| **LCS Dup (1051901-BSD1)** | | | | Prepared: 05/19/11 | Analyzed: 05/20/11 | | | | | |
| Acenaphthene | 1120 | 300 | ug/kg | 1670 | | 67.4 | 38.9-79.4 | 8.38 | 31 | |
| Pyrene | 1170 | 300 | " | 1670 | | 69.9 | 25-85.2 | 16.6 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1360* | | *"* | *1670* | | *81.9* | *29.1-130* | | | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/25/11 15:41 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·18·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic
Client Project #: 1003-001-200
Batch #: T110648
EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP6_15_051811_01 | 5·18·2011 | 11:50 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 01 |
| LL_MP6_45_051811_01 | ↓ | 13:29 | ↓ | X | X | X | X | X | X | X | X | | | | | | 2 | | 02 |
| LL_MP6_75_051811_01 | ↓ | 13:56 | ↓ | X | X | X | X | X | X | X | X | | | | | | 2 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5·18·2011 1544 | | 5/18/11 1544 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 6 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes
3.4°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110648

**Client Name:** MUREX **Project:** CENCO

**Received by:** DAN **Date/Time Received:** 5/18/11 1544

**Delivered by :** ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

**Total number of coolers received** 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

**Temperature:** cooler #1 3.6 °C +/- the CF (- 0.2°C) = 3.4 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | BC ☒ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 5/18/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5020 Phone**
**949.297.5027 Fax**

26 May 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/19/11 12:28. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP7_15_051911_01 | T110658-01 | Soil | 05/19/11 08:00 | 05/19/11 12:28 |
| LL_MP7_45_051911_01 | T110658-02 | Soil | 05/19/11 08:30 | 05/19/11 12:28 |
| LL_MP7_75_051911_01 | T110658-03 | Soil | 05/19/11 09:00 | 05/19/11 12:28 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_15_051911_01

### T110658-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **3400** | 500 | ug/kg | 1 | 1052006 | 05/20/11 | 05/25/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *96.5 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **360** | 10 | mg/kg | 1 | 1052014 | 05/20/11 | 05/23/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **130** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *111 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_15_051911_01
### T110658-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **30** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_15_051911_01
### T110658-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052017 | 05/20/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *84.2 %* | *29.1-130* | | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_15_051911_01

### T110658-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_45_051911_01
### T110658-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052006 | 05/20/11 | 05/25/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.9 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **22** | 10 | mg/kg | 1 | 1052014 | 05/20/11 | 05/23/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **28** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *82.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_45_051911_01
### T110658-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_45_051911_01
### T110658-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *112 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052017 | 05/20/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *79.8 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_45_051911_01
## T110658-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_75_051911_01
### T110658-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052006 | 05/20/11 | 05/25/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **30** | 10 | mg/kg | 1 | 1052014 | 05/20/11 | 05/23/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **46** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *105 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_75_051911_01

### T110658-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_75_051911_01
### T110658-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.1 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052017 | 05/20/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *94.6 %* | *29.1-130* | | " | " | " | " | |

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| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/26/11 16:45 |

## LL_MP7_75_051911_01
## T110658-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
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## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052006 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052006-BLK1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/25/11 | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *446* | | *"* | *500* | | *89.3* | *72.6-146* | | | |
| **LCS (1052006-BS1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/25/11 | | | | |
| C6-C12 (GRO) | 12900 | 500 | ug/kg | 13800 | | 93.6 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *456* | | *"* | *500* | | *91.2* | *72.6-146* | | | |
| **Matrix Spike (1052006-MS1)** | | **Source: T110658-01** | | Prepared: 05/20/11 | | Analyzed: 05/25/11 | | | | |
| C6-C12 (GRO) | 13400 | 500 | ug/kg | 13800 | 3360 | 72.9 | 65-135 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *453* | | *"* | *500* | | *90.6* | *72.6-146* | | | |
| **Matrix Spike Dup (1052006-MSD1)** | | **Source: T110658-01** | | Prepared: 05/20/11 | | Analyzed: 05/25/11 | | | | |
| C6-C12 (GRO) | 13000 | 500 | ug/kg | 13800 | 3360 | 70.2 | 65-135 | 2.81 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *432* | | *"* | *500* | | *86.3* | *72.6-146* | | | |

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Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052014 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052014-BLK1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *91.9* | | *"* | *100* | | *91.9* | *65-135* | | | |
| **LCS (1052014-BS1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | 440 | 10 | mg/kg | 500 | | 87.4 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *99.3* | | *"* | *100* | | *99.3* | *65-135* | | | |
| **Matrix Spike (1052014-MS1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | 420 | 10 | mg/kg | 500 | 22 | 79.6 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *84.5* | | *"* | *100* | | *84.5* | *65-135* | | | |
| **Matrix Spike Dup (1052014-MSD1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | 420 | 10 | mg/kg | 500 | 22 | 78.8 | 75-125 | 0.971 | 20 | |
| *Surrogate: p-Terphenyl* | *80.3* | | *"* | *100* | | *80.3* | *65-135* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052004 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052004-BLK1)** | | | | Prepared: 05/20/11 Analyzed: 05/21/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052004 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052004-BLK1)** | | | | Prepared: 05/20/11 Analyzed: 05/21/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.6* | | *"* | *40.0* | | *112* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.2* | | *"* | *40.0* | | *113* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *100* | *85-115* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052004 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1052004-BS1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/21/11 | | | | |
| Chlorobenzene | 77.9 | 5.0 | ug/kg | 100 | | 77.9 | 75-125 | | | |
| 1,1-Dichloroethene | 78.0 | 5.0 | " | 100 | | 78.0 | 75-125 | | | |
| Trichloroethene | 78.4 | 5.0 | " | 100 | | 78.4 | 75-125 | | | |
| Benzene | 85.4 | 5.0 | " | 100 | | 85.4 | 75-125 | | | |
| Toluene | 76.2 | 5.0 | " | 100 | | 76.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.0* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.9* | | *"* | *40.0* | | *115* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *41.6* | | *"* | *40.0* | | *104* | *85-115* | | | |
| **Matrix Spike (1052004-MS1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/21/11 | | | | |
| Chlorobenzene | 81.4 | 5.0 | ug/kg | 100 | ND | 81.4 | 75-125 | | | |
| 1,1-Dichloroethene | 90.6 | 5.0 | " | 100 | ND | 90.6 | 75-125 | | | |
| Trichloroethene | 76.4 | 5.0 | " | 100 | ND | 76.4 | 75-125 | | | |
| Benzene | 81.2 | 5.0 | " | 100 | ND | 81.2 | 75-125 | | | |
| Toluene | 79.7 | 5.0 | " | 100 | ND | 79.7 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.7* | | *"* | *40.0* | | *107* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.8* | | *"* | *40.0* | | *114* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.8* | | *"* | *40.0* | | *102* | *85-115* | | | |
| **Matrix Spike Dup (1052004-MSD1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/21/11 | | | | |
| Chlorobenzene | 75.7 | 5.0 | ug/kg | 100 | ND | 75.7 | 75-125 | 7.32 | 20 | |
| 1,1-Dichloroethene | 90.8 | 5.0 | " | 100 | ND | 90.8 | 75-125 | 0.221 | 20 | |
| Trichloroethene | 78.6 | 5.0 | " | 100 | ND | 78.6 | 75-125 | 2.84 | 20 | |
| Benzene | 81.4 | 5.0 | " | 100 | ND | 81.4 | 75-125 | 0.184 | 20 | |
| Toluene | 76.3 | 5.0 | " | 100 | ND | 76.3 | 75-125 | 4.36 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.7* | | *"* | *40.0* | | *109* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *46.4* | | *"* | *40.0* | | *116* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *43.2* | | *"* | *40.0* | | *108* | *85-115* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052017 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052017-BLK1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1500* | | *"* | *1670* | | *90.1* | *29.1-130* | | | |
| **LCS (1052017-BS1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1230 | 300 | ug/kg | 1670 | | 73.8 | 38.9-79.4 | | | |
| Pyrene | 1190 | 300 | " | 1670 | | 71.7 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1320* | | *"* | *1670* | | *79.3* | *29.1-130* | | | |
| **LCS Dup (1052017-BSD1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1080 | 300 | ug/kg | 1670 | | 64.7 | 38.9-79.4 | 13.0 | 31 | |
| Pyrene | 1110 | 300 | " | 1670 | | 66.7 | 25-85.2 | 7.11 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1280* | | *"* | *1670* | | *77.0* | *29.1-130* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:45 |

## Notes and Definitions

| | |
|---|---|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5.19.2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110658 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP7_15_051911_01 | 5.19.2011 | 8:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 01 |
| LL_MP7_45_051911_01 | 5.19.2011 | 8:30 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 02 |
| LL_MP7_75_051911_01 | 5.19.2011 | 9:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5.19.2011 1228 | | 5/19/11 1228 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 6 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes: 3.4°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110658

**Client Name:** Murex **Project:** Cenco

**Received by:** Dan **Date/Time Received:** 5/19/11 1228

**Delivered by :** ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

**Total number of coolers received** 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

**Temperature:** cooler #1 3.6 °C +/- the CF (- 0.2°C) = 3.4 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 5/20/11

Comments:

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**949.297.5027 Fax**

26 May 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/19/11 16:53. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP8_15_051911_01 | T110659-01 | Soil | 05/19/11 13:55 | 05/19/11 16:53 |
| LL_MP8_45_051911_01 | T110659-02 | Soil | 05/19/11 14:30 | 05/19/11 16:53 |
| LL_MP8_75_051911_01 | T110659-03 | Soil | 05/19/11 15:00 | 05/19/11 16:53 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_15_051911_01

### T110659-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052006 | 05/20/11 | 05/25/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *69.3 %* | *72.6-146* | | " | " | " | " | *QM-01* |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **29** | 10 | mg/kg | 1 | 1052014 | 05/20/11 | 05/23/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **38** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *85.6 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_15_051911_01

### T110659-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_15_051911_01
### T110659-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *112 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052017 | 05/20/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *87.1 %* | *29.1-130* | | " | " | " | " | |

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| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_15_051911_01

### T110659-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_45_051911_01

### T110659-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052006 | 05/20/11 | 05/25/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.6 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **25** | 10 | mg/kg | 1 | 1052014 | 05/20/11 | 05/23/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **33** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *84.1 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_45_051911_01

### T110659-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_45_051911_01

### T110659-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *114 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *114 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052017 | 05/20/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *80.1 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_45_051911_01

### T110659-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_75_051911_01

### T110659-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052006 | 05/20/11 | 05/25/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.7 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **77** | 10 | mg/kg | 1 | 1052014 | 05/20/11 | 05/23/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **65** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *109 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_75_051911_01

### T110659-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_75_051911_01

### T110659-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052004 | 05/20/11 | 05/21/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052017 | 05/20/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *81.5 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/26/11 16:59 |

## LL_MP8_75_051911_01

### T110659-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052006 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052006-BLK1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *446* | | *"* | *500* | | *89.3* | *72.6-146* | | | |
| **LCS (1052006-BS1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| C6-C12 (GRO) | 12900 | 500 | ug/kg | 13800 | | 93.6 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *456* | | *"* | *500* | | *91.2* | *72.6-146* | | | |
| **Matrix Spike (1052006-MS1)** | | **Source: T110658-01** | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| C6-C12 (GRO) | 13400 | 500 | ug/kg | 13800 | 3360 | 72.9 | 65-135 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *453* | | *"* | *500* | | *90.6* | *72.6-146* | | | |
| **Matrix Spike Dup (1052006-MSD1)** | | **Source: T110658-01** | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| C6-C12 (GRO) | 13000 | 500 | ug/kg | 13800 | 3360 | 70.2 | 65-135 | 2.81 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *432* | | *"* | *500* | | *86.3* | *72.6-146* | | | |

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Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052014 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052014-BLK1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *91.9* | | *"* | *100* | | *91.9* | *65-135* | | | |
| **LCS (1052014-BS1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | 440 | 10 | mg/kg | 500 | | 87.4 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *99.3* | | *"* | *100* | | *99.3* | *65-135* | | | |
| **Matrix Spike (1052014-MS1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | 420 | 10 | mg/kg | 500 | 22 | 79.6 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *84.5* | | *"* | *100* | | *84.5* | *65-135* | | | |
| **Matrix Spike Dup (1052014-MSD1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/23/11 | | | | |
| C13-C28 (DRO) | 420 | 10 | mg/kg | 500 | 22 | 78.8 | 75-125 | 0.971 | 20 | |
| *Surrogate: p-Terphenyl* | *80.3* | | *"* | *100* | | *80.3* | *65-135* | | | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Lake Forest, California 92630
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052004 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052004-BLK1)** | | | | Prepared: 05/20/11 Analyzed: 05/21/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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Daniel Chavez, Project Manager

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052004 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052004-BLK1)** | | | | Prepared: 05/20/11 Analyzed: 05/21/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.6* | | *"* | *40.0* | | *112* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.2* | | *"* | *40.0* | | *113* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *100* | *85-115* | | | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052004 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1052004-BS1)** | | | | Prepared: 05/20/11 | | Analyzed: 05/21/11 | | | | |
| Chlorobenzene | 77.9 | 5.0 | ug/kg | 100 | | 77.9 | 75-125 | | | |
| 1,1-Dichloroethene | 78.0 | 5.0 | " | 100 | | 78.0 | 75-125 | | | |
| Trichloroethene | 78.4 | 5.0 | " | 100 | | 78.4 | 75-125 | | | |
| Benzene | 85.4 | 5.0 | " | 100 | | 85.4 | 75-125 | | | |
| Toluene | 76.2 | 5.0 | " | 100 | | 76.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.0* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.9* | | *"* | *40.0* | | *115* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *41.6* | | *"* | *40.0* | | *104* | *85-115* | | | |
| **Matrix Spike (1052004-MS1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/21/11 | | | | |
| Chlorobenzene | 81.4 | 5.0 | ug/kg | 100 | ND | 81.4 | 75-125 | | | |
| 1,1-Dichloroethene | 90.6 | 5.0 | " | 100 | ND | 90.6 | 75-125 | | | |
| Trichloroethene | 76.4 | 5.0 | " | 100 | ND | 76.4 | 75-125 | | | |
| Benzene | 81.2 | 5.0 | " | 100 | ND | 81.2 | 75-125 | | | |
| Toluene | 79.7 | 5.0 | " | 100 | ND | 79.7 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.7* | | *"* | *40.0* | | *107* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.8* | | *"* | *40.0* | | *114* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.8* | | *"* | *40.0* | | *102* | *85-115* | | | |
| **Matrix Spike Dup (1052004-MSD1)** | | **Source: T110658-02** | | Prepared: 05/20/11 | | Analyzed: 05/21/11 | | | | |
| Chlorobenzene | 75.7 | 5.0 | ug/kg | 100 | ND | 75.7 | 75-125 | 7.32 | 20 | |
| 1,1-Dichloroethene | 90.8 | 5.0 | " | 100 | ND | 90.8 | 75-125 | 0.221 | 20 | |
| Trichloroethene | 78.6 | 5.0 | " | 100 | ND | 78.6 | 75-125 | 2.84 | 20 | |
| Benzene | 81.4 | 5.0 | " | 100 | ND | 81.4 | 75-125 | 0.184 | 20 | |
| Toluene | 76.3 | 5.0 | " | 100 | ND | 76.3 | 75-125 | 4.36 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.7* | | *"* | *40.0* | | *109* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *46.4* | | *"* | *40.0* | | *116* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *43.2* | | *"* | *40.0* | | *108* | *85-115* | | | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052017 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052017-BLK1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1500* | | *"* | *1670* | | *90.1* | *29.1-130* | | | |
| **LCS (1052017-BS1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1230 | 300 | ug/kg | 1670 | | 73.8 | 38.9-79.4 | | | |
| Pyrene | 1190 | 300 | " | 1670 | | 71.7 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1320* | | *"* | *1670* | | *79.3* | *29.1-130* | | | |
| **LCS Dup (1052017-BSD1)** | | | | Prepared: 05/20/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1080 | 300 | ug/kg | 1670 | | 64.7 | 38.9-79.4 | 13.0 | 31 | |
| Pyrene | 1110 | 300 | " | 1670 | | 66.7 | 25-85.2 | 7.11 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1280* | | *"* | *1670* | | *77.0* | *29.1-130* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/26/11 16:59 |

## Notes and Definitions

| | |
|---|---|
| QM-01 | The % recovery is outside of established control limits due to matrix interference and/or sample dilution due to matrix effect. The batch was accepted based on acceptable LCS recovery. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel Chavez, Project Manager

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·19·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110659 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL-MP8_15_051911_01 | 5·19·2011 | 13:55 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 01 |
| LL-MP8_45_051911_01 | 5·19·2011 | 14:30 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 02 |
| LL-MP8_75_051911_01 | 5·19·2011 | 15:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5·19·11 1653 | | 5/19/11 1653 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 9 |
| Chain of Custody seals | ✓ |
| Seals intact? Y/N/NA | ✓/A |
| Received good condition/cold | Y 4.2° |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110659

**Client Name:** Murex **Project:** Cenco

**Received by:** Dan **Date/Time Received:** 5/19/11 1653

**Delivered by :** ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

**Total number of coolers received** 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

**Temperature:** cooler #1 4.4 °C +/- the CF (- 0.2°C) = 4.2 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 5/20/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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31 May 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/23/11 10:36. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP10_15_052011_01 | T110673-01 | Soil | 05/20/11 10:25 | 05/23/11 10:36 |
| LL_MP10_45_052011_01 | T110673-02 | Soil | 05/20/11 11:05 | 05/23/11 10:36 |
| LL_MP10_75_052011_01 | T110673-03 | Soil | 05/20/11 11:30 | 05/23/11 10:36 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_15_052011_01
### T110673-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052306 | 05/23/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.3 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052318 | 05/23/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *81.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_15_052011_01
### T110673-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_15_052011_01

### T110673-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Toluene | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| Ethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| **Methyl tert-butyl ether** | **43** | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.2 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *117 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *105 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *56.7 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_15_052011_01
### T110673-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_45_052011_01
### T110673-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052306 | 05/23/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052318 | 05/23/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *78.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_45_052011_01
### T110673-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_45_052011_01
### T110673-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *93.1 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *104 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/25/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *68.5 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_45_052011_01
## T110673-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_75_052011_01
### T110673-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052306 | 05/23/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.5 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052318 | 05/23/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *79.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_75_052011_01
### T110673-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_75_052011_01
### T110673-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052309 | 05/23/11 | 05/24/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *95.4 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *110 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *105 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *68.3 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## LL_MP10_75_052011_01
## T110673-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052306 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052306-BLK1)** | | | | Prepared: 05/23/11 | | Analyzed: 05/26/11 | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *468* | | *"* | *500* | | *93.7* | *72.6-146* | | | |
| **LCS (1052306-BS1)** | | | | Prepared: 05/23/11 | | Analyzed: 05/26/11 | | | | |
| C6-C12 (GRO) | 12900 | 500 | ug/kg | 13800 | | 94.1 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *513* | | *"* | *500* | | *103* | *72.6-146* | | | |
| **LCS Dup (1052306-BSD1)** | | | | Prepared: 05/23/11 | | Analyzed: 05/26/11 | | | | |
| C6-C12 (GRO) | 14200 | 500 | ug/kg | 13800 | | 103 | 75-125 | 9.31 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *469* | | *"* | *500* | | *93.9* | *72.6-146* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052318 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052318-BLK1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *91.9* | | *"* | *100* | | *91.9* | *65-135* | | | |
| **LCS (1052318-BS1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| C13-C28 (DRO) | 420 | 10 | mg/kg | 500 | | 84.9 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *94.8* | | *"* | *100* | | *94.8* | *65-135* | | | |
| **LCS Dup (1052318-BSD1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| C13-C28 (DRO) | 400 | 10 | mg/kg | 500 | | 79.7 | 75-125 | 6.30 | 20 | |
| *Surrogate: p-Terphenyl* | *77.3* | | *"* | *100* | | *77.3* | *65-135* | | | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052309 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052309-BLK1)** | | | | Prepared: 05/23/11 Analyzed: 05/24/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052309 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052309-BLK1)** | | | | Prepared: 05/23/11 Analyzed: 05/24/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *0.00* | | *"* | *40.0* | | | *75.1-121* | | | *S-GC* |
| *Surrogate: Dibromofluoromethane* | *47.3* | | *"* | *40.0* | | *118* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.2* | | *"* | *40.0* | | *98.0* | *85-115* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052309 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1052309-BS1)** | | | | Prepared: 05/23/11 | | Analyzed: 05/24/11 | | | | |
| Chlorobenzene | 113 | 5.0 | ug/kg | 100 | | 113 | 75-125 | | | |
| 1,1-Dichloroethene | 87.2 | 5.0 | " | 100 | | 87.2 | 75-125 | | | |
| Trichloroethene | 97.9 | 5.0 | " | 100 | | 97.9 | 75-125 | | | |
| Benzene | 97.3 | 5.0 | " | 100 | | 97.3 | 75-125 | | | |
| Toluene | 96.2 | 5.0 | " | 100 | | 96.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.2* | | *"* | *40.0* | | *106* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *39.6* | | *"* | *40.0* | | *98.9* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.9* | | *"* | *40.0* | | *99.8* | *85-115* | | | |
| **Matrix Spike (1052309-MS1)** | | **Source: T110666-01** | | Prepared: 05/23/11 | | Analyzed: 05/24/11 | | | | |
| Chlorobenzene | 109 | 5.0 | ug/kg | 100 | ND | 109 | 75-125 | | | |
| 1,1-Dichloroethene | 84.9 | 5.0 | " | 100 | ND | 84.9 | 75-125 | | | |
| Trichloroethene | 92.6 | 5.0 | " | 100 | ND | 92.6 | 75-125 | | | |
| Benzene | 93.4 | 5.0 | " | 100 | ND | 93.4 | 75-125 | | | |
| Toluene | 93.4 | 5.0 | " | 100 | ND | 93.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.8* | | *"* | *40.0* | | *109* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *39.4* | | *"* | *40.0* | | *98.4* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *100* | *85-115* | | | |
| **Matrix Spike Dup (1052309-MSD1)** | | **Source: T110666-01** | | Prepared: 05/23/11 | | Analyzed: 05/24/11 | | | | |
| Chlorobenzene | 109 | 5.0 | ug/kg | 100 | ND | 109 | 75-125 | 0.322 | 20 | |
| 1,1-Dichloroethene | 85.4 | 5.0 | " | 100 | ND | 85.4 | 75-125 | 0.646 | 20 | |
| Trichloroethene | 93.5 | 5.0 | " | 100 | ND | 93.5 | 75-125 | 0.967 | 20 | |
| Benzene | 93.2 | 5.0 | " | 100 | ND | 93.2 | 75-125 | 0.214 | 20 | |
| Toluene | 91.8 | 5.0 | " | 100 | ND | 91.8 | 75-125 | 1.62 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *42.9* | | *"* | *40.0* | | *107* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *39.6* | | *"* | *40.0* | | *99.0* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.8* | | *"* | *40.0* | | *99.6* | *85-115* | | | |

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Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052316 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052316-BLK1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1150* | | *"* | *1670* | | *69.2* | *29.1-130* | | | |
| **LCS (1052316-BS1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1180 | 300 | ug/kg | 1670 | | 71.0 | 38.9-79.4 | | | |
| Pyrene | 1080 | 300 | " | 1670 | | 64.6 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1200* | | *"* | *1670* | | *72.2* | *29.1-130* | | | |
| **LCS Dup (1052316-BSD1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1140 | 300 | ug/kg | 1670 | | 68.1 | 38.9-79.4 | 4.08 | 31 | |
| Pyrene | 1050 | 300 | " | 1670 | | 62.9 | 25-85.2 | 2.73 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1180* | | *"* | *1670* | | *70.9* | *29.1-130* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 05/31/11 15:03 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel J Chávez

Daniel Chavez, Project Manager

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**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5-23-2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110673 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP10_15_052011_01 | 5-20-2011 | 10:25 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 01 |
| LL_MP10_45_052011_01 | 5-20-2011 | 11:05 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 02 |
| LL_MP10_75_052011_01 | 5-20-2011 | 11:30 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5-23-2011 10:36 | | 5/23/11 1036 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 9 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| Turn around time: | |

Notes
1.8°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110673

Client Name: Murex  Project: Cenco

Received by: Dan M  Date/Time Received: 5/23/11 1036

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 2.0 °C +/- the CF (- 0.2°C) = 1.8 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date DM 5/23/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5027 Fax**

01 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/23/11 17:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP5_15_052311_01 | T110677-01 | Soil | 05/23/11 09:11 | 05/23/11 17:20 |
| LL_MP5_45_052311_01 | T110677-02 | Soil | 05/23/11 09:56 | 05/23/11 17:20 |
| LL_MP5_75_052311_01 | T110677-03 | Soil | 05/23/11 10:50 | 05/23/11 17:20 |
| LL_MP4_15_052311_01 | T110677-04 | Soil | 05/23/11 14:44 | 05/23/11 17:20 |
| LL_MP4_45_052311_01 | T110677-05 | Soil | 05/23/11 15:14 | 05/23/11 17:20 |
| LL_MP4_75_052311_01 | T110677-06 | Soil | 05/23/11 15:52 | 05/23/11 17:20 |

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Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_15_052311_01

### T110677-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **17000** | 500 | ug/kg | 1 | 1052405 | 05/24/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.6 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **1500** | 10 | mg/kg | 1 | 1052404 | 05/24/11 | 05/25/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **63** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *96.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_15_052311_01

### T110677-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **9.4** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **18** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **15000** | 250 | " | 50 | " | " | " | " | |
| **n-Propylbenzene** | **19** | 5.0 | " | 1 | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **44** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **150** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **99** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **64** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **73** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_15_052311_01

### T110677-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **160** | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| **o-Xylene** | **80** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *100 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **5100** | 300 | " | " | " | " | " | " | |
| **Phenanthrene** | **1200** | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *75.0 %* | *29.1-130* | | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_45_052311_01
### T110677-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **11000** | 500 | ug/kg | 1 | 1052405 | 05/24/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *95.2 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **460** | 10 | mg/kg | 1 | 1052404 | 05/24/11 | 05/25/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **38** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *94.7 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_45_052311_01

### T110677-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **10** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **7.2** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **130** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **18** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **32** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **98** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **28** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **59** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **110** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_45_052311_01

### T110677-02 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **m,p-Xylene** | **220** | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| **o-Xylene** | **39** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *118 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| **Fluorene** | **400** | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **320** | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *70.7 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_75_052311_01
### T110677-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052405 | 05/24/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *93.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052404 | 05/24/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *104 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_75_052311_01

### T110677-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **7.0** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **16** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_75_052311_01
### T110677-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| **m,p-Xylene** | **7.1** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *74.2 %* | *29.1-130* | | " | " | " | " | |

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| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/01/11 17:31 |

## LL_MP5_75_052311_01

### T110677-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_15_052311_01

### T110677-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **990** | 500 | ug/kg | 1 | 1052405 | 05/24/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *99.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **23** | 10 | mg/kg | 1 | 1052404 | 05/24/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *83.4 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_15_052311_01

### T110677-04 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_15_052311_01

### T110677-04 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *117 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *63.9 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_15_052311_01

### T110677-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_45_052311_01
### T110677-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052405 | 05/24/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.2 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052404 | 05/24/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *78.9 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_45_052311_01

### T110677-05 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_45_052311_01

### T110677-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *116 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *105 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *67.9 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_45_052311_01

### T110677-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_75_052311_01
### T110677-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **3900** | 500 | ug/kg | 1 | 1052405 | 05/24/11 | 05/26/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *83.4 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **63** | 10 | mg/kg | 1 | 1052404 | 05/24/11 | 05/25/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *90.1 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **15** | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_75_052311_01
### T110677-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **6.2** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **42** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **15** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **8.2** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **37** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_75_052311_01
### T110677-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **12** | 5.0 | ug/kg | 1 | 1052406 | 05/24/11 | 05/24/11 | EPA 8260B | |
| **m,p-Xylene** | **6.8** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *107 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *104 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052316 | 05/23/11 | 05/26/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *75.0 %* | *29.1-130* | | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## LL_MP4_75_052311_01
### T110677-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
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## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052405 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052405-BLK1)** | | | | Prepared: 05/24/11 | Analyzed: 05/26/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *454* | | *"* | *500* | | *90.8* | *72.6-146* | | | |
| **LCS (1052405-BS1)** | | | | Prepared: 05/24/11 | Analyzed: 05/26/11 | | | | | |
| C6-C12 (GRO) | 14000 | 500 | ug/kg | 13800 | | 102 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *511* | | *"* | *500* | | *102* | *72.6-146* | | | |
| **LCS Dup (1052405-BSD1)** | | | | Prepared: 05/24/11 | Analyzed: 05/26/11 | | | | | |
| C6-C12 (GRO) | 12600 | 500 | ug/kg | 13800 | | 91.9 | 75-125 | 10.4 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *489* | | *"* | *500* | | *97.9* | *72.6-146* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052404 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052404-BLK1)** | | | | Prepared: 05/24/11 | | Analyzed: 05/25/11 | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *83.4* | | *"* | *100* | | *83.4* | *65-135* | | | |
| **LCS (1052404-BS1)** | | | | Prepared: 05/24/11 | | Analyzed: 05/25/11 | | | | |
| C13-C28 (DRO) | 410 | 10 | mg/kg | 500 | | 81.4 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *79.9* | | *"* | *100* | | *79.9* | *65-135* | | | |
| **LCS Dup (1052404-BSD1)** | | | | Prepared: 05/24/11 | | Analyzed: 05/25/11 | | | | |
| C13-C28 (DRO) | 400 | 10 | mg/kg | 500 | | 80.5 | 75-125 | 1.20 | 20 | |
| *Surrogate: p-Terphenyl* | *78.2* | | *"* | *100* | | *78.2* | *65-135* | | | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052406 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052406-BLK1)** | | | | Prepared & Analyzed: 05/24/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052406 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052406-BLK1)** | | | | Prepared & Analyzed: 05/24/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.6* | | *"* | *40.0* | | *109* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *46.7* | | *"* | *40.0* | | *117* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.8* | | *"* | *40.0* | | *102* | *85-115* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052406 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1052406-BS1)** | | | | Prepared & Analyzed: 05/24/11 | | | | | | |
| Chlorobenzene | 93.2 | 5.0 | ug/kg | 100 | | 93.2 | 75-125 | | | |
| 1,1-Dichloroethene | 118 | 5.0 | " | 100 | | 118 | 75-125 | | | |
| Trichloroethene | 93.2 | 5.0 | " | 100 | | 93.2 | 75-125 | | | |
| Benzene | 93.4 | 5.0 | " | 100 | | 93.4 | 75-125 | | | |
| Toluene | 90.5 | 5.0 | " | 100 | | 90.5 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *40.2* | | *"* | *40.0* | | *100* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *42.4* | | *"* | *40.0* | | *106* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *38.8* | | *"* | *40.0* | | *97.1* | *85-115* | | | |
| **LCS Dup (1052406-BSD1)** | | | | Prepared & Analyzed: 05/24/11 | | | | | | |
| Chlorobenzene | 102 | 5.0 | ug/kg | 100 | | 102 | 75-125 | 9.50 | 20 | |
| 1,1-Dichloroethene | 114 | 5.0 | " | 100 | | 114 | 75-125 | 2.98 | 20 | |
| Trichloroethene | 101 | 5.0 | " | 100 | | 101 | 75-125 | 7.64 | 20 | |
| Benzene | 105 | 5.0 | " | 100 | | 105 | 75-125 | 11.6 | 20 | |
| Toluene | 103 | 5.0 | " | 100 | | 103 | 75-125 | 13.2 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *41.6* | | *"* | *40.0* | | *104* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *43.8* | | *"* | *40.0* | | *110* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.9* | | *"* | *40.0* | | *102* | *85-115* | | | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052316 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052316-BLK1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1150* | | *"* | *1670* | | *69.2* | *29.1-130* | | | |
| **LCS (1052316-BS1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1180 | 300 | ug/kg | 1670 | | 71.0 | 38.9-79.4 | | | |
| Pyrene | 1080 | 300 | " | 1670 | | 64.6 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1200* | | *"* | *1670* | | *72.2* | *29.1-130* | | | |
| **LCS Dup (1052316-BSD1)** | | | | Prepared: 05/23/11 | Analyzed: 05/25/11 | | | | | |
| Acenaphthene | 1140 | 300 | ug/kg | 1670 | | 68.1 | 38.9-79.4 | 4.08 | 31 | |
| Pyrene | 1050 | 300 | " | 1670 | | 62.9 | 25-85.2 | 2.73 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1180* | | *"* | *1670* | | *70.9* | *29.1-130* | | | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/01/11 17:31 |

## Notes and Definitions

| | |
|---|---|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·23·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110677 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP5_15_052311_01 | 5·23·11 | 9:11 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 01 |
| LL_MP5_45_052311_01 | 5·23·11 | 9:56 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 02 |
| LL_MP5_75_052311_01 | 5·23·11 | 10:50 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 03 |
| LL_MP4_15_052311_01 | 5·23·11 | 14:44 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 04 |
| LL_MP4_45_052311_01 | 5·23·11 | 15:14 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 05 |
| LL_MP4_75_052311_01 | 5·23·11 | 15:52 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 06 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5·23·2011 17:20 | | 5/23/11 1720 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 18 |
| Chain of Custody seals | ✓ |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes
3.2°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110677

Client Name: Murex  Project: Cenco

Received by: Dan M  Date/Time Received: 5/23/11 1720

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 3.4 °C +/- the CF (- 0.2°C) = 3.2 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date JM 5/24/11

Comments:

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**949.297.5020 Phone**
**949.297.5027 Fax**

02 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/24/11 16:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP3_15_052411_01 | T110678-01 | Soil | 05/24/11 11:20 | 05/24/11 16:27 |
| LL_MP3_45_052411_01 | T110678-02 | Soil | 05/24/11 11:50 | 05/24/11 16:27 |
| LL_MP3_75_052411_01 | T110678-03 | Soil | 05/24/11 12:20 | 05/24/11 16:27 |

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_15_052411_01

### T110678-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **4700000** | 120000 | ug/kg | 250 | 1052510 | 05/25/11 | 05/27/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *97.6 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **12000** | 1000 | mg/kg | 100 | 1052502 | 05/25/11 | 05/26/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **3000** | 10 | " | 1 | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *94.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **87** | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **210** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_15_052411_01
### T110678-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| **cis-1,3-Dichloropropene** | **5.8** | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **26** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **120** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **23000** | 500 | " | 100 | " | " | 06/02/11 | " | |
| **n-Propylbenzene** | **39** | 5.0 | " | 1 | " | " | 05/27/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **140** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **480** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **1100** | 500 | " | 100 | " | " | 06/02/11 | " | |
| **Toluene** | **13000** | 500 | " | " | " | " | " | " | |
| **Ethylbenzene** | **200** | 5.0 | " | 1 | " | " | 05/27/11 | " | |

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_15_052411_01
### T110678-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **58000** | 500 | ug/kg | 100 | 1052607 | 05/26/11 | 06/02/11 | EPA 8260B | |
| **o-Xylene** | **470** | 5.0 | " | 1 | " | " | 05/27/11 | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *120 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *104 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.2 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052503 | 05/25/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 30000 | " | 100 | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 30000 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 30000 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 100000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 30000 | " | " | " | " | " | " | |
| Chrysene | ND | 30000 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 30000 | " | " | " | " | " | " | |
| Fluoranthene | ND | 30000 | " | " | " | " | " | " | |
| Fluorene | ND | 30000 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 30000 | " | " | " | " | " | " | |
| Naphthalene | ND | 30000 | " | " | " | " | " | " | |
| Phenanthrene | ND | 30000 | " | " | " | " | " | " | |
| Pyrene | ND | 30000 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *84.0 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_45_052411_01
### T110678-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **8500** | 500 | ug/kg | 1 | 1052510 | 05/25/11 | 05/27/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *88.4 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **180** | 10 | mg/kg | 1 | 1052502 | 05/25/11 | 05/26/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **110** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *106 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_45_052411_01
### T110678-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **7.5** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **97** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **15** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **57** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_45_052411_01
### T110678-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 06/02/11 | EPA 8260B | |
| **m,p-Xylene** | **5.2** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *115 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052503 | 05/25/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *68.2 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_45_052411_01
## T110678-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
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## LL_MP3_75_052411_01
### T110678-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **12000** | 500 | ug/kg | 1 | 1052510 | 05/25/11 | 05/27/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **12** | 10 | mg/kg | 1 | 1052502 | 05/25/11 | 05/26/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *106 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **9.6** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_75_052411_01
### T110678-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **22** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **34** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **240** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **43** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **94** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **310** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_75_052411_01
### T110678-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **52** | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| **m,p-Xylene** | **130** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **32** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *137 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *104 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *98.4 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052503 | 05/25/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *77.8 %* | *29.1-130* | | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## LL_MP3_75_052411_01
### T110678-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
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## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052510 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052510-BLK1)** | | | | Prepared: 05/25/11 | Analyzed: 05/27/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *435* | | *"* | *500* | | *86.9* | *72.6-146* | | | |
| **LCS (1052510-BS1)** | | | | Prepared: 05/25/11 | Analyzed: 05/27/11 | | | | | |
| C6-C12 (GRO) | 12600 | 500 | ug/kg | 13800 | | 91.7 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *463* | | *"* | *500* | | *92.5* | *72.6-146* | | | |
| **LCS Dup (1052510-BSD1)** | | | | Prepared: 05/25/11 | Analyzed: 05/27/11 | | | | | |
| C6-C12 (GRO) | 13500 | 500 | ug/kg | 13800 | | 98.0 | 75-125 | 6.59 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *509* | | *"* | *500* | | *102* | *72.6-146* | | | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052502 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052502-BLK1)** | | | | Prepared: 05/25/11 | | Analyzed: 05/26/11 | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *99.4* | | *"* | *100* | | *99.4* | *65-135* | | | |
| **LCS (1052502-BS1)** | | | | Prepared: 05/25/11 | | Analyzed: 05/26/11 | | | | |
| C13-C28 (DRO) | 410 | 10 | mg/kg | 500 | | 82.6 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *75.5* | | *"* | *100* | | *75.5* | *65-135* | | | |
| **Matrix Spike (1052502-MS1)** | | **Source: T110679-01** | | Prepared: 05/25/11 | | Analyzed: 05/26/11 | | | | |
| C13-C28 (DRO) | 470 | 10 | mg/kg | 500 | ND | 93.5 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *114* | | *"* | *100* | | *114* | *65-135* | | | |
| **Matrix Spike Dup (1052502-MSD1)** | | **Source: T110679-01** | | Prepared: 05/25/11 | | Analyzed: 05/26/11 | | | | |
| C13-C28 (DRO) | 430 | 10 | mg/kg | 500 | ND | 86.5 | 75-125 | 7.74 | 20 | |
| *Surrogate: p-Terphenyl* | *99.7* | | *"* | *100* | | *99.7* | *65-135* | | | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052607 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052607-BLK1)** | | | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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Daniel Chavez, Project Manager

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949.297.5020 Phone
949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052607 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052607-BLK1)** | | | | Prepared & Analyzed: 05/26/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.2* | | *"* | *40.0* | | *103* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *44.5* | | *"* | *40.0* | | *111* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *101* | *85-115* | | | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052607 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1052607-BS1)** | | | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Chlorobenzene | 79.8 | 5.0 | ug/kg | 100 | | 79.8 | 75-125 | | | |
| 1,1-Dichloroethene | 90.4 | 5.0 | " | 100 | | 90.4 | 75-125 | | | |
| Trichloroethene | 85.9 | 5.0 | " | 100 | | 85.9 | 75-125 | | | |
| Benzene | 89.2 | 5.0 | " | 100 | | 89.2 | 75-125 | | | |
| Toluene | 86.4 | 5.0 | " | 100 | | 86.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.8* | | *"* | *40.0* | | *104* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *48.7* | | *"* | *40.0* | | *122* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.6* | | *"* | *40.0* | | *102* | *85-115* | | | |
| **Matrix Spike (1052607-MS1)** | | **Source: T110685-01** | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Chlorobenzene | 77.2 | 5.0 | ug/kg | 100 | ND | 77.2 | 75-125 | | | |
| 1,1-Dichloroethene | 90.4 | 5.0 | " | 100 | ND | 90.4 | 75-125 | | | |
| Trichloroethene | 99.6 | 5.0 | " | 100 | ND | 99.6 | 75-125 | | | |
| Benzene | 87.2 | 5.0 | " | 100 | ND | 87.2 | 75-125 | | | |
| Toluene | 83.2 | 5.0 | " | 100 | ND | 83.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.8* | | *"* | *40.0* | | *107* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *46.1* | | *"* | *40.0* | | *115* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.4* | | *"* | *40.0* | | *101* | *85-115* | | | |
| **Matrix Spike Dup (1052607-MSD1)** | | **Source: T110685-01** | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Chlorobenzene | 77.6 | 5.0 | ug/kg | 100 | ND | 77.6 | 75-125 | 0.516 | 20 | |
| 1,1-Dichloroethene | 81.2 | 5.0 | " | 100 | ND | 81.2 | 75-125 | 10.8 | 20 | |
| Trichloroethene | 98.2 | 5.0 | " | 100 | ND | 98.2 | 75-125 | 1.36 | 20 | |
| Benzene | 83.6 | 5.0 | " | 100 | ND | 83.6 | 75-125 | 4.10 | 20 | |
| Toluene | 87.1 | 5.0 | " | 100 | ND | 87.1 | 75-125 | 4.64 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.6* | | *"* | *40.0* | | *109* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *42.1* | | *"* | *40.0* | | *105* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.3* | | *"* | *40.0* | | *101* | *85-115* | | | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052503 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052503-BLK1)** | | | | Prepared: 05/25/11 | Analyzed: 06/01/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1490* | | *"* | *1670* | | *89.6* | *29.1-130* | | | |
| **LCS (1052503-BS1)** | | | | Prepared: 05/25/11 | Analyzed: 06/01/11 | | | | | |
| Acenaphthene | 863 | 300 | ug/kg | 1670 | | 51.8 | 38.9-79.4 | | | |
| Pyrene | 935 | 300 | " | 1670 | | 56.1 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1160* | | *"* | *1670* | | *69.5* | *29.1-130* | | | |
| **LCS Dup (1052503-BSD1)** | | | | Prepared: 05/25/11 | Analyzed: 06/01/11 | | | | | |
| Acenaphthene | 1170 | 300 | ug/kg | 1670 | | 70.4 | 38.9-79.4 | 30.4 | 31 | |
| Pyrene | 1180 | 300 | " | 1670 | | 70.7 | 25-85.2 | 23.1 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1470* | | *"* | *1670* | | *88.3* | *29.1-130* | | | |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/02/11 16:34 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·24·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110678 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP3_15_052411_01 | 5·24·2011 | 11:20 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 01 |
| LL_MP3_45_052411_01 | 5·24·2011 | 11:50 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 02 |
| LL_MP3_75_052411_01 | 5·24·2011 | 12:20 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F.Sosic | 5·24·2011 16:27 | | 5/24/11 1627 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 9 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes
2.1

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE



# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110678

Client Name: MUREX  Project: CENCO

Received by: DAN  Date/Time Received: 5/24/11 1627

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 2.3 °C +/- the CF (- 0.2°C) = 2.1 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date BC 5/24/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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07 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/25/11 15:36. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP2_15_052511_01 | T110685-01 | Soil | 05/25/11 07:40 | 05/25/11 15:36 |
| LL_MP2_35_052511_01 | T110685-02 | Soil | 05/25/11 08:35 | 05/25/11 15:36 |
| LL_MP2_45_052511_01 | T110685-03 | Soil | 05/25/11 08:42 | 05/25/11 15:36 |
| LL_MP2_70_052511_01 | T110685-04 | Soil | 05/25/11 09:06 | 05/25/11 15:36 |
| LL_MP2_75_052511_01 | T110685-05 | Soil | 05/25/11 09:11 | 05/25/11 15:36 |
| LL_MP1_15_052511_01 | T110685-06 | Soil | 05/25/11 12:40 | 05/25/11 15:36 |
| LL_MP1_35_052511_01 | T110685-07 | Soil | 05/25/11 12:53 | 05/25/11 15:36 |
| LL_MP1_45_052511_01 | T110685-08 | Soil | 05/25/11 13:00 | 05/25/11 15:36 |
| LL_MP1_70_052511_01 | T110685-09 | Soil | 05/25/11 13:17 | 05/25/11 15:36 |
| LL_MP1_75_052511_01 | T110685-10 | Soil | 05/25/11 13:25 | 05/25/11 15:36 |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_15_052511_01

### T110685-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **4800** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *103 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **30** | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *96.6 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/26/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_15_052511_01

### T110685-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/26/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **90** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **9.4** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **31** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_15_052511_01
### T110685-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/26/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *69.3 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_15_052511_01
### T110685-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_35_052511_01
### T110685-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **770** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *95.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/26/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_35_052511_01

### T110685-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/26/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **8.2** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **5.2** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **39** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_35_052511_01
### T110685-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **6.2** | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/26/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| **Tert-butyl alcohol** | **66** | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.5 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *66.9 %* | *29.1-130* | | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_35_052511_01
## T110685-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_45_052511_01
### T110685-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **900** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *93.2 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *78.2 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_45_052511_01

### T110685-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **8.9** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_45_052511_01
### T110685-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *105 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *67.2 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_45_052511_01

### T110685-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_70_052511_01
### T110685-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **2100** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.7 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *99.0 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_70_052511_01

### T110685-04 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **5.0** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **16** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_70_052511_01

### T110685-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *104 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *68.7 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_70_052511_01
### T110685-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_75_052511_01
### T110685-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **13000** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.5 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **71** | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **160** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *98.4 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **7.4** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_75_052511_01

### T110685-05 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **7.0** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **12** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **40** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **17** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **30** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **130** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_75_052511_01
### T110685-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **7.6** | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| **m,p-Xylene** | **15** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *122 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *70.5 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP2_75_052511_01
### T110685-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_15_052511_01
### T110685-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **680** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.5 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *94.7 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_15_052511_01
### T110685-06 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_15_052511_01
### T110685-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *112 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *104 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.2 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *61.2 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_15_052511_01
## T110685-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_35_052511_01
### T110685-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *88.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *79.4 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_35_052511_01

### T110685-07 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **110** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_35_052511_01
### T110685-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **10** | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| **Tert-butyl alcohol** | **71** | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *103 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *103 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.9 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *67.6 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_35_052511_01
## T110685-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_45_052511_01
### T110685-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **950** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.7 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *92.6 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_45_052511_01
### T110685-08 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **6.6** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **6.3** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_45_052511_01
### T110685-08 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *105 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *100 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/27/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *77.3 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_45_052511_01
## T110685-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_70_052511_01
### T110685-09 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **850** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *96.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *98.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_70_052511_01
### T110685-09 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **8.2** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_70_052511_01
### T110685-09 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| **m,p-Xylene** | **5.6** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *105 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *103 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *100 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/28/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *73.6 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_70_052511_01
## T110685-09 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_75_052511_01
### T110685-10 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **23000** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **30** | 10 | mg/kg | 1 | 1052601 | 05/26/11 | 05/27/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *97.9 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **10** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_75_052511_01
### T110685-10 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **21** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **13** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **30** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **36** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **48** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **170** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_75_052511_01
### T110685-10 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Ethylbenzene** | **60** | 5.0 | ug/kg | 1 | 1052607 | 05/26/11 | 05/27/11 | EPA 8260B | |
| **m,p-Xylene** | **79** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **18** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *157 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *103 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052603 | 05/26/11 | 05/28/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *66.1 %* | *29.1-130* | | " | " | " | " | |

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## LL_MP1_75_052511_01
### T110685-10 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
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## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052707 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052707-BLK1)** | | | | Prepared: 05/27/11 | Analyzed: 05/31/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *496* | | *"* | *500* | | *99.3* | *72.6-146* | | | |
| **LCS (1052707-BS1)** | | | | Prepared: 05/27/11 | Analyzed: 05/31/11 | | | | | |
| C6-C12 (GRO) | 13300 | 500 | ug/kg | 13800 | | 96.5 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *455* | | *"* | *500* | | *91.0* | *72.6-146* | | | |
| **LCS Dup (1052707-BSD1)** | | | | Prepared: 05/27/11 | Analyzed: 05/31/11 | | | | | |
| C6-C12 (GRO) | 13900 | 500 | ug/kg | 13800 | | 101 | 75-125 | 4.57 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *444* | | *"* | *500* | | *88.7* | *72.6-146* | | | |

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Daniel Chavez, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052601 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052601-BLK1)** | | | | Prepared: 05/26/11 | Analyzed: 05/27/11 | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *76.9* | | *"* | *100* | | *76.9* | *65-135* | | | |
| **LCS (1052601-BS1)** | | | | Prepared: 05/26/11 | Analyzed: 05/27/11 | | | | | |
| C13-C28 (DRO) | 430 | 10 | mg/kg | 500 | | 87.0 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *100* | | *"* | *100* | | *100* | *65-135* | | | |
| **LCS Dup (1052601-BSD1)** | | | | Prepared: 05/26/11 | Analyzed: 05/27/11 | | | | | |
| C13-C28 (DRO) | 410 | 10 | mg/kg | 500 | | 82.0 | 75-125 | 5.88 | 20 | |
| *Surrogate: p-Terphenyl* | *80.0* | | *"* | *100* | | *80.0* | *65-135* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052607 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052607-BLK1)** | | | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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Daniel Chavez, Project Manager

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052607 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1052607-BLK1)** | | | | Prepared & Analyzed: 05/26/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.2* | | *"* | *40.0* | | *103* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *44.5* | | *"* | *40.0* | | *111* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *101* | *85-115* | | | |

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Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052607 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1052607-BS1)** | | | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Chlorobenzene | 79.8 | 5.0 | ug/kg | 100 | | 79.8 | 75-125 | | | |
| 1,1-Dichloroethene | 90.4 | 5.0 | " | 100 | | 90.4 | 75-125 | | | |
| Trichloroethene | 85.9 | 5.0 | " | 100 | | 85.9 | 75-125 | | | |
| Benzene | 89.2 | 5.0 | " | 100 | | 89.2 | 75-125 | | | |
| Toluene | 86.4 | 5.0 | " | 100 | | 86.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.8* | | *"* | *40.0* | | *104* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *48.7* | | *"* | *40.0* | | *122* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.6* | | *"* | *40.0* | | *102* | *85-115* | | | |
| **Matrix Spike (1052607-MS1)** | | **Source: T110685-01** | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Chlorobenzene | 77.2 | 5.0 | ug/kg | 100 | ND | 77.2 | 75-125 | | | |
| 1,1-Dichloroethene | 90.4 | 5.0 | " | 100 | ND | 90.4 | 75-125 | | | |
| Trichloroethene | 99.6 | 5.0 | " | 100 | ND | 99.6 | 75-125 | | | |
| Benzene | 87.2 | 5.0 | " | 100 | ND | 87.2 | 75-125 | | | |
| Toluene | 83.2 | 5.0 | " | 100 | ND | 83.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.8* | | *"* | *40.0* | | *107* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *46.1* | | *"* | *40.0* | | *115* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.4* | | *"* | *40.0* | | *101* | *85-115* | | | |
| **Matrix Spike Dup (1052607-MSD1)** | | **Source: T110685-01** | | Prepared & Analyzed: 05/26/11 | | | | | | |
| Chlorobenzene | 77.6 | 5.0 | ug/kg | 100 | ND | 77.6 | 75-125 | 0.516 | 20 | |
| 1,1-Dichloroethene | 81.2 | 5.0 | " | 100 | ND | 81.2 | 75-125 | 10.8 | 20 | |
| Trichloroethene | 98.2 | 5.0 | " | 100 | ND | 98.2 | 75-125 | 1.36 | 20 | |
| Benzene | 83.6 | 5.0 | " | 100 | ND | 83.6 | 75-125 | 4.10 | 20 | |
| Toluene | 87.1 | 5.0 | " | 100 | ND | 87.1 | 75-125 | 4.64 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.6* | | *"* | *40.0* | | *109* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *42.1* | | *"* | *40.0* | | *105* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.3* | | *"* | *40.0* | | *101* | *85-115* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052603 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052603-BLK1)** | | | | Prepared: 05/26/11 | Analyzed: 05/27/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1310* | | *"* | *1670* | | *78.4* | *29.1-130* | | | |
| **LCS (1052603-BS1)** | | | | Prepared: 05/26/11 | Analyzed: 05/27/11 | | | | | |
| Acenaphthene | 786 | 300 | ug/kg | 1670 | | 47.2 | 38.9-79.4 | | | |
| Pyrene | 780 | 300 | " | 1670 | | 46.8 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *992* | | *"* | *1670* | | *59.5* | *29.1-130* | | | |
| **LCS Dup (1052603-BSD1)** | | | | Prepared: 05/26/11 | Analyzed: 05/27/11 | | | | | |
| Acenaphthene | 867 | 300 | ug/kg | 1670 | | 52.0 | 38.9-79.4 | 9.80 | 31 | |
| Pyrene | 788 | 300 | " | 1670 | | 47.3 | 25-85.2 | 1.06 | 31 | |
| *Surrogate: Terphenyl-dl4* | *999* | | *"* | *1670* | | *59.9* | *29.1-130* | | | |

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Daniel Chavez, Project Manager

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/07/11 08:24 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel Chavez, Project Manager

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·25·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110685 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP2_15_052511_01 | 5·25·2011 | 7:40 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 01 |
| LL_MP2_35_052511_01 | 5·25·2011 | 8:35 | SOIL | X | X | X | X | X | X | X | X | | | | | | 1 | | 02 |
| LL_MP2_45_052511_01 | 5·25·2011 | 8:42 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 03 |
| LL_MP2_70_052511_01 | 5·25·2011 | 9:06 | SOIL | X | X | X | X | X | X | X | X | | | | | | 1 | | 04 |
| LL_MP2_75_052511_01 | 5·25·2011 | 9:11 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 05 |
| LL_MP1_15_052511_01 | 5·25·2011 | 12:40 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 06 |
| LL_MP1_35_052511_01 | 5·25·2011 | 12:53 | SOIL | X | X | X | X | X | X | X | X | | | | | | 1 | | 07 |
| LL_MP1_45_052511_01 | 5·25·2011 | 13:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 08 |
| LL_MP1_70_052511_01 | 5·25·2011 | 13:17 | SOIL | X | X | X | X | X | X | X | X | | | | | | 1 | | 09 |
| LL_MP1_75_052511_01 | 5·25·2011 | 13:25 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 10 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5·25·2011 1536 | | 5/26/11 1536 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 18 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y 2.0° |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110685

Client Name: MUREX  Project: CENCO

Received by: DAN  Date/Time Received: 5/25/11 1536

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 2.2 °C +/- the CF (- 0.2°C) = 2.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date BC 5/26/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

03 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 05/26/11 16:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_VE1_10_052611_01 | T110693-01 | Soil | 05/26/11 07:57 | 05/26/11 16:52 |
| LL_VE1_20_052611_01 | T110693-02 | Soil | 05/26/11 08:15 | 05/26/11 16:52 |
| LL_VE1_40_052611_01 | T110693-03 | Soil | 05/26/11 08:40 | 05/26/11 16:52 |
| LL_VE1_50_052611_01 | T110693-04 | Soil | 05/26/11 08:50 | 05/26/11 16:52 |
| LL_VE1_75_052611_01 | T110693-05 | Soil | 05/26/11 09:23 | 05/26/11 16:52 |
| LL_VE1_90_052611_01 | T110693-06 | Soil | 05/26/11 10:00 | 05/26/11 16:52 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_10_052611_01

### T110693-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1200** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *101 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **13** | 10 | mg/kg | 1 | 1052702 | 05/27/11 | 05/31/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *79.6 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_10_052611_01

### T110693-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **63** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **6.6** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **23** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_10_052611_01

### T110693-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *107 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *103 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052714 | 05/27/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *55.0 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_10_052611_01

### T110693-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_20_052611_01

### T110693-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.2 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052702 | 05/27/11 | 05/31/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *97.9 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_20_052611_01

### T110693-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **9.8** | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **29** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_20_052611_01

### T110693-02 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *104 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.1 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052714 | 05/27/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *74.2 %* | *29.1-130* | | " | " | " | " | |

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**949.297.5027 Fax**

| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_20_052611_01

### T110693-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_40_052611_01

### T110693-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **4800** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *103 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **10** | 10 | mg/kg | 1 | 1052702 | 05/27/11 | 05/31/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *102 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_40_052611_01

### T110693-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **6.7** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **13** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **10** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **23** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **21** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **110** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_40_052611_01

### T110693-03 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Ethylbenzene** | **24** | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| **m,p-Xylene** | **10** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *105 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *105 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052714 | 05/27/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *70.4 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_40_052611_01

### T110693-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_50_052611_01

### T110693-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **3300** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.3 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052702 | 05/27/11 | 05/31/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *96.7 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_50_052611_01

### T110693-04 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **5.3** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_50_052611_01

### T110693-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *104 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052714 | 05/27/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *63.6 %* | *29.1-130* | | " | " | " | " | |

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**949.297.5027 Fax**

| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_50_052611_01

### T110693-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_75_052611_01

### T110693-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1600** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *88.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **11** | 10 | mg/kg | 1 | 1052702 | 05/27/11 | 05/31/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *100 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_75_052611_01

### T110693-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **6.6** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **16** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_75_052611_01

### T110693-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *117 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052714 | 05/27/11 | 06/01/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *84.2 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_75_052611_01

### T110693-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_90_052611_01

### T110693-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **8500** | 500 | ug/kg | 1 | 1052707 | 05/27/11 | 05/31/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *94.3 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1052702 | 05/27/11 | 05/31/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **17** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *103 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **6.7** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_90_052611_01

### T110693-06 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **24** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **6.2** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **31** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **91** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **190** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **86** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_90_052611_01

### T110693-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **110** | 5.0 | ug/kg | 1 | 1053114 | 05/31/11 | 06/01/11 | EPA 8260B | |
| **m,p-Xylene** | **220** | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *136 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *107 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1052714 | 05/27/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *60.2 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/03/11 16:43 |

## LL_VE1_90_052611_01

### T110693-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052707 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1052707-BLK1)** | | | | Prepared: 05/27/11 | Analyzed: 05/31/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *496* | | *"* | *500* | | *99.3* | *72.6-146* | | | |
| **LCS (1052707-BS1)** | | | | Prepared: 05/27/11 | Analyzed: 05/31/11 | | | | | |
| C6-C12 (GRO) | 13300 | 500 | ug/kg | 13800 | | 96.5 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *455* | | *"* | *500* | | *91.0* | *72.6-146* | | | |
| **LCS Dup (1052707-BSD1)** | | | | Prepared: 05/27/11 | Analyzed: 05/31/11 | | | | | |
| C6-C12 (GRO) | 13900 | 500 | ug/kg | 13800 | | 101 | 75-125 | 4.57 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *444* | | *"* | *500* | | *88.7* | *72.6-146* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052702 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1052702-BLK1)** | | | | Prepared: 05/27/11 | | Analyzed: 05/31/11 | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *102* | | *"* | *100* | | *102* | *65-135* | | | |
| **LCS (1052702-BS1)** | | | | Prepared: 05/27/11 | | Analyzed: 05/31/11 | | | | |
| C13-C28 (DRO) | 410 | 10 | mg/kg | 500 | | 81.3 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *82.7* | | *"* | *100* | | *82.7* | *65-135* | | | |
| **Matrix Spike (1052702-MS1)** | | **Source: T110693-02** | | Prepared: 05/27/11 | | Analyzed: 05/31/11 | | | | |
| C13-C28 (DRO) | 410 | 10 | mg/kg | 500 | ND | 81.1 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *78.4* | | *"* | *100* | | *78.4* | *65-135* | | | |
| **Matrix Spike Dup (1052702-MSD1)** | | **Source: T110693-02** | | Prepared: 05/27/11 | | Analyzed: 05/31/11 | | | | |
| C13-C28 (DRO) | 400 | 10 | mg/kg | 500 | ND | 80.3 | 75-125 | 1.05 | 20 | |
| *Surrogate: p-Terphenyl* | *81.2* | | *"* | *100* | | *81.2* | *65-135* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1053114 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1053114-BLK1)** | | | | Prepared: 05/31/11 Analyzed: 06/01/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1053114 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1053114-BLK1)** | | | | Prepared: 05/31/11 Analyzed: 06/01/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.6* | | *"* | *40.0* | | *107* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *43.0* | | *"* | *40.0* | | *108* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *41.2* | | *"* | *40.0* | | *103* | *85-115* | | | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1053114 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1053114-BS1)** | | | | Prepared: 05/31/11 | Analyzed: 06/01/11 | | | | | |
| Chlorobenzene | 108 | 5.0 | ug/kg | 100 | | 108 | 75-125 | | | |
| 1,1-Dichloroethene | 93.4 | 5.0 | " | 100 | | 93.4 | 75-125 | | | |
| Trichloroethene | 101 | 5.0 | " | 100 | | 101 | 75-125 | | | |
| Benzene | 95.6 | 5.0 | " | 100 | | 95.6 | 75-125 | | | |
| Toluene | 91.2 | 5.0 | " | 100 | | 91.2 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.0* | | *"* | *40.0* | | *108* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *40.2* | | *"* | *40.0* | | *100* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.4* | | *"* | *40.0* | | *98.4* | *85-115* | | | |
| **LCS Dup (1053114-BSD1)** | | | | Prepared: 05/31/11 | Analyzed: 06/01/11 | | | | | |
| Chlorobenzene | 106 | 5.0 | ug/kg | 100 | | 106 | 75-125 | 1.69 | 20 | |
| 1,1-Dichloroethene | 99.2 | 5.0 | " | 100 | | 99.2 | 75-125 | 6.07 | 20 | |
| Trichloroethene | 99.7 | 5.0 | " | 100 | | 99.7 | 75-125 | 1.20 | 20 | |
| Benzene | 96.5 | 5.0 | " | 100 | | 96.5 | 75-125 | 0.937 | 20 | |
| Toluene | 91.4 | 5.0 | " | 100 | | 91.4 | 75-125 | 0.110 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *42.4* | | *"* | *40.0* | | *106* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *41.0* | | *"* | *40.0* | | *102* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.2* | | *"* | *40.0* | | *98.0* | *85-115* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1052714 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1052714-BLK1)** | | | | Prepared: 05/27/11 | Analyzed: 06/01/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1200* | | *"* | *1670* | | *71.9* | *29.1-130* | | | |
| **LCS (1052714-BS1)** | | | | Prepared: 05/27/11 | Analyzed: 06/01/11 | | | | | |
| Acenaphthene | 1020 | 300 | ug/kg | 1670 | | 61.4 | 38.9-79.4 | | | |
| Pyrene | 1000 | 300 | " | 1670 | | 60.3 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1310* | | *"* | *1670* | | *78.4* | *29.1-130* | | | |
| **LCS Dup (1052714-BSD1)** | | | | Prepared: 05/27/11 | Analyzed: 06/01/11 | | | | | |
| Acenaphthene | 965 | 300 | ug/kg | 1670 | | 57.9 | 38.9-79.4 | 5.77 | 31 | |
| Pyrene | 948 | 300 | " | 1670 | | 56.9 | 25-85.2 | 5.84 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1160* | | *"* | *1670* | | *69.4* | *29.1-130* | | | |

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Daniel Chavez, Project Manager

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/03/11 16:43 |

## Notes and Definitions

| | |
|---|---|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel Chavez, Project Manager

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5·26·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110693 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_VEI_10_052611_01 | 5·26·2011 | 7:57 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 01 |
| LL_VEI_20_052611_01 | 5·26·2011 | 8:15 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 02 |
| LL_VEI_40_052611_01 | 5·26·2011 | 8:40 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 03 |
| LL_VEI_50_052611_01 | 5·26·2011 | 8:50 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 04 |
| LL_VEI_75_052611_01 | 5·26·2011 | 9:23 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 05 |
| LL_VEI_90_052611_01 | 5·26·2011 | 10:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 2 | | 06 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5/26/2011 1652 | | 5/26/11 1652 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 12 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| Turn around time: | |

Notes: 1.6°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110693

Client Name: MUREX

Project: CENCO

Received by: DAN

Date/Time Received: 5/26/11 1652

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

Total number of coolers received 0

**Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 1.8 °C +/- the CF (- 0.2°C) = 1.6 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date BC 5/27/11

Comments:

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**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

08 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 06/01/11 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP11_20_053111_01 | T110704-01 | Soil | 05/31/11 08:35 | 06/01/11 17:00 |
| LL_MP11_40_053111_01 | T110704-02 | Soil | 05/31/11 09:00 | 06/01/11 17:00 |
| LL_MP11_50_053111_01 | T110704-03 | Soil | 05/31/11 09:39 | 06/01/11 17:00 |
| LL_MP11_75_053111_01 | T110704-04 | Soil | 05/31/11 10:10 | 06/01/11 17:00 |
| LL_MP11_100_053111_01 | T110704-05 | Soil | 05/31/11 11:04 | 06/01/11 17:00 |
| LL_MP11_120_053111_01 | T110704-06 | Soil | 05/31/11 11:37 | 06/01/11 17:00 |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_20_053111_01
### T110704-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060105 | 06/01/11 | 06/02/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.5 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060101 | 06/01/11 | 06/02/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *145 %* | *65-135* | | " | " | " | " | *S-04* |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_20_053111_01

### T110704-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_20_053111_01

### T110704-01 (Soil)

### SunStar Laboratories, Inc.

#### Volatile Organic Compounds by EPA Method 8260B

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Ethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *97.9 %* | *85-115* | | " | " | " | " | |

#### PAH compounds by Semivolatile GCMS

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060109 | 06/01/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_20_053111_01

### T110704-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

### SunStar Laboratories, Inc.

**PAH compounds by Semivolatile GCMS**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Surrogate: Terphenyl-dl4* | *86.1 %* | *29.1-130* | *1060109* | *06/01/11* | *06/02/11* | *EPA 8270C* | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_40_053111_01
### T110704-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060105 | 06/01/11 | 06/02/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.7 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060101 | 06/01/11 | 06/02/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *90.2 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_40_053111_01

### T110704-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_40_053111_01
### T110704-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |

**PAH compounds by Semivolatile GCMS**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060109 | 06/01/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *75.0 %* | *29.1-130* | | " | " | " | " | |

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| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_40_053111_01
## T110704-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_50_053111_01
### T110704-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060105 | 06/01/11 | 06/02/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060101 | 06/01/11 | 06/02/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *87.9 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_50_053111_01
### T110704-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_50_053111_01
### T110704-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *115 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *104 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060109 | 06/01/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *70.3 %* | *29.1-130* | | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_50_053111_01
## T110704-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_75_053111_01
### T110704-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060105 | 06/01/11 | 06/02/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.4 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060101 | 06/01/11 | 06/02/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *85.8 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_75_053111_01

### T110704-04 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_75_053111_01

### T110704-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *119 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *113 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060109 | 06/01/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *76.6 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_75_053111_01

### T110704-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_100_053111_01

### T110704-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1700** | 500 | ug/kg | 1 | 1060105 | 06/01/11 | 06/02/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **250** | 10 | mg/kg | 1 | 1060101 | 06/01/11 | 06/02/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **34** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *87.2 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_100_053111_01

### T110704-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **9.0** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **35** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **18** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **5.0** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **32** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_100_053111_01
### T110704-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **Ethylbenzene** | **6.0** | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| **m,p-Xylene** | **20** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **5.7** | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060109 | 06/01/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *68.4 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_100_053111_01
## T110704-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_120_053111_01
### T110704-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060105 | 06/01/11 | 06/02/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *92.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060101 | 06/01/11 | 06/02/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *85.4 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_120_053111_01
### T110704-06 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_120_053111_01
### T110704-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060107 | 06/01/11 | 06/01/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *119 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060109 | 06/01/11 | 06/02/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *76.2 %* | *29.1-130* | | " | " | " | " | |

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Daniel Chavez, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
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**949.297.5027 Fax**

| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 13:52 |

## LL_MP11_120_053111_01
## T110704-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060105 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1060105-BLK1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *439* | | *"* | *500* | | *87.9* | *72.6-146* | | | |
| **LCS (1060105-BS1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| C6-C12 (GRO) | 13500 | 500 | ug/kg | 13800 | | 98.1 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *495* | | *"* | *500* | | *99.1* | *72.6-146* | | | |
| **LCS Dup (1060105-BSD1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| C6-C12 (GRO) | 13300 | 500 | ug/kg | 13800 | | 96.6 | 75-125 | 1.50 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *565* | | *"* | *500* | | *113* | *72.6-146* | | | |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060101 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1060101-BLK1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *125* | | *"* | *100* | | *125* | *65-135* | | | |
| **LCS (1060101-BS1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| C13-C28 (DRO) | 450 | 10 | mg/kg | 500 | | 89.9 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *85.1* | | *"* | *100* | | *85.1* | *65-135* | | | |
| **LCS Dup (1060101-BSD1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| C13-C28 (DRO) | 480 | 10 | mg/kg | 500 | | 95.5 | 75-125 | 6.01 | 20 | |
| *Surrogate: p-Terphenyl* | *94.1* | | *"* | *100* | | *94.1* | *65-135* | | | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060107 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1060107-BLK1)** | | | | Prepared & Analyzed: 06/01/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060107 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1060107-BLK1)** | | | | Prepared & Analyzed: 06/01/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *47.6* | | *"* | *40.0* | | *119* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *45.0* | | *"* | *40.0* | | *113* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.9* | | *"* | *40.0* | | *102* | *85-115* | | | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060107 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1060107-BS1)** | | | | Prepared & Analyzed: 06/01/11 | | | | | | |
| Chlorobenzene | 100 | 5.0 | ug/kg | 100 | | 100 | 75-125 | | | |
| 1,1-Dichloroethene | 110 | 5.0 | " | 100 | | 110 | 75-125 | | | |
| Trichloroethene | 101 | 5.0 | " | 100 | | 101 | 75-125 | | | |
| Benzene | 107 | 5.0 | " | 100 | | 107 | 75-125 | | | |
| Toluene | 100 | 5.0 | " | 100 | | 100 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *42.4* | | *"* | *40.0* | | *106* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *43.8* | | *"* | *40.0* | | *110* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.3* | | *"* | *40.0* | | *101* | *85-115* | | | |
| **Matrix Spike (1060107-MS1)** | | **Source: T110704-01** | | Prepared & Analyzed: 06/01/11 | | | | | | |
| Chlorobenzene | 95.9 | 5.0 | ug/kg | 100 | ND | 95.9 | 75-125 | | | |
| 1,1-Dichloroethene | 99.6 | 5.0 | " | 100 | ND | 99.6 | 75-125 | | | |
| Trichloroethene | 95.4 | 5.0 | " | 100 | ND | 95.4 | 75-125 | | | |
| Benzene | 99.8 | 5.0 | " | 100 | ND | 99.8 | 75-125 | | | |
| Toluene | 93.6 | 5.0 | " | 100 | ND | 93.6 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.2* | | *"* | *40.0* | | *108* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *42.8* | | *"* | *40.0* | | *107* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.6* | | *"* | *40.0* | | *102* | *85-115* | | | |
| **Matrix Spike Dup (1060107-MSD1)** | | **Source: T110704-01** | | Prepared & Analyzed: 06/01/11 | | | | | | |
| Chlorobenzene | 101 | 5.0 | ug/kg | 100 | ND | 101 | 75-125 | 5.03 | 20 | |
| 1,1-Dichloroethene | 102 | 5.0 | " | 100 | ND | 102 | 75-125 | 2.87 | 20 | |
| Trichloroethene | 99.6 | 5.0 | " | 100 | ND | 99.6 | 75-125 | 4.36 | 20 | |
| Benzene | 105 | 5.0 | " | 100 | ND | 105 | 75-125 | 5.32 | 20 | |
| Toluene | 99.8 | 5.0 | " | 100 | ND | 99.8 | 75-125 | 6.41 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.8* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *44.2* | | *"* | *40.0* | | *110* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *41.6* | | *"* | *40.0* | | *104* | *85-115* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060109 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1060109-BLK1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1390* | | *"* | *1670* | | *83.3* | *29.1-130* | | | |
| **LCS (1060109-BS1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| Acenaphthene | 1070 | 300 | ug/kg | 1670 | | 64.3 | 38.9-79.4 | | | |
| Pyrene | 1060 | 300 | " | 1670 | | 63.5 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1350* | | *"* | *1670* | | *81.0* | *29.1-130* | | | |
| **LCS Dup (1060109-BSD1)** | | | | Prepared: 06/01/11 | Analyzed: 06/02/11 | | | | | |
| Acenaphthene | 998 | 300 | ug/kg | 1670 | | 59.9 | 38.9-79.4 | 7.18 | 31 | |
| Pyrene | 1000 | 300 | " | 1670 | | 60.1 | 25-85.2 | 5.50 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1270* | | *"* | *1670* | | *76.3* | *29.1-130* | | | |

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**949.297.5020 Phone**
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 13:52 |

## Notes and Definitions

| | |
|---|---|
| S-04 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel J Chávez

Daniel Chavez, Project Manager

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**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 5-31-2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110704 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP11_20_053111_01 | 5-31-2011 | 8:35 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 01 |
| LL_MP11_40_053111_01 | 5-31-2011 | 9:00 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 02 |
| LL_MP11_50_053111_01 | 5-31-2011 | 9:59 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 03 |
| LL_MP11_75_053111_01 | 5-31-2011 | 10:10 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 04 |
| LL_MP11_100_053111_01 | 5-31-2011 | 11:04 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 05 |
| LL_MP11_120_053111_01 | 5-31-2011 | 11:37 | SOIL | X | X | X | X | X | X | X | X | | | | | | 3 | | 06 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 5-31-2011 17:00 | | 5/31/11 1700 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 18 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| Turn around time: | |

Notes: 1.4°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110704

Client Name: Murex  Project: Cenco

Received by: Dan M  Date/Time Received: 5/31/11 1700

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 1.6 °C +/- the CF (- 0.2°C) = 1.4 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date DM 6/1/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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08 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 06/01/11 15:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_AS1_30_060111_01 | T110706-01 | Soil | 06/01/11 08:20 | 06/01/11 15:25 |
| LL_AS1_60_060111_01 | T110706-02 | Soil | 06/01/11 08:48 | 06/01/11 15:25 |
| LL_AS1_80_060111_01 | T110706-03 | Soil | 06/01/11 09:05 | 06/01/11 15:25 |
| LL_AS1_95_060111_01 | T110706-04 | Soil | 06/01/11 09:26 | 06/01/11 15:25 |
| LL_AS1_105_060111_01 | T110706-05 | Soil | 06/01/11 09:39 | 06/01/11 15:25 |
| LL_AS1_110_060111_01 | T110706-06 | Soil | 06/01/11 09:48 | 06/01/11 15:25 |
| LL_AS1_115_060111_01 | T110706-07 | Soil | 06/01/11 09:53 | 06/01/11 15:25 |
| LL_AS1_125_060111_01 | T110706-08 | Soil | 06/01/11 10:10 | 06/01/11 15:25 |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_30_060111_01

### T110706-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *101 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_30_060111_01

### T110706-01 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_30_060111_01
### T110706-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Toluene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Ethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *92.9 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *99.1 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *103 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_30_060111_01
### T110706-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| *Surrogate: Terphenyl-dl4* | | *144 %* | | *29.1-130* | *1060224* | *06/02/11* | *06/07/11* | *EPA 8270C* | *S-04* |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_60_060111_01
### T110706-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.4 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *108 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_60_060111_01

### T110706-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_60_060111_01
### T110706-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.9 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *102 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *103 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_60_060111_01
### T110706-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_80_060111_01
### T110706-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.7 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *102 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_80_060111_01

### T110706-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_80_060111_01
### T110706-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.6 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *108 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *100 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *104 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_80_060111_01
### T110706-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_95_060111_01

### T110706-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **2200** | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.4 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **76** | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **47** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *104 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **7.1** | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **6.7** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_95_060111_01

### T110706-04 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **5.8** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **16** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_95_060111_01

### T110706-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *135 %* | *75.1-121* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *111 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *128 %* | *29.1-130* | | " | " | " | " | |

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_95_060111_01
### T110706-04 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_105_060111_01
### T110706-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **5400000** | 250000 | ug/kg | 500 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **2800** | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **330** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *106 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **16** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_105_060111_01

### T110706-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **71** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **130** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **470** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **94** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **200** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **560** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **27000** | 500 | " | 100 | " | " | " | " | |
| **Toluene** | **48000** | 500 | " | " | " | " | " | " | |
| **Ethylbenzene** | **22000** | 500 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_105_060111_01

### T110706-05 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **130000** | 500 | ug/kg | 100 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | E |
| **o-Xylene** | **30000** | 500 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | 1 | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *101 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *105 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| **Fluorene** | **420** | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **2100** | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *67.8 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_110_060111_01
### T110706-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1400** | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *94.6 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *85.6 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_110_060111_01
### T110706-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **220** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **6.8** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_110_060111_01
### T110706-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *107 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *104 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *105 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *85.7 %* | *29.1-130* | | " | " | " | " | |

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**Lake Forest, California 92630**
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**949.297.5027 Fax**

| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_110_060111_01
### T110706-06 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_115_060111_01

### T110706-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.0 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *105 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_115_060111_01

### T110706-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_115_060111_01
### T110706-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *105 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *102 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *136 %* | *29.1-130* | | " | " | " | " | *S-04* |

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|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_115_060111_01

### T110706-07 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_125_060111_01
### T110706-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | 1 | 1060202 | 06/02/11 | 06/06/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *85.9 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | 1 | 1060204 | 06/02/11 | 06/03/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *106 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_125_060111_01

### T110706-08 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| Benzene | ND | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_125_060111_01
### T110706-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethylbenzene | ND | 5.0 | ug/kg | 1 | 1060201 | 06/02/11 | 06/02/11 | EPA 8260B | |
| m,p-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| o-Xylene | ND | 5.0 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *101 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *107 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060224 | 06/02/11 | 06/07/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *84.0 %* | *29.1-130* | | " | " | " | " | |

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**Lake Forest, California 92630**
**949.297.5020 Phone**
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| | | | |
|---|---|---|---|
| Murex | Project: | Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: | 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: | Jeremy Squire | 06/08/11 16:16 |

## LL_AS1_125_060111_01

### T110706-08 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060202 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1060202-BLK1)** | | | | Prepared: 06/02/11 | | Analyzed: 06/06/11 | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *461* | | *"* | *500* | | *92.2* | *72.6-146* | | | |
| **LCS (1060202-BS1)** | | | | Prepared: 06/02/11 | | Analyzed: 06/06/11 | | | | |
| C6-C12 (GRO) | 12800 | 500 | ug/kg | 13800 | | 93.3 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *470* | | *"* | *500* | | *94.0* | *72.6-146* | | | |
| **Matrix Spike (1060202-MS1)** | | **Source: T110706-01** | | Prepared: 06/02/11 | | Analyzed: 06/06/11 | | | | |
| C6-C12 (GRO) | 12700 | 500 | ug/kg | 13800 | 52.6 | 92.1 | 65-135 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *447* | | *"* | *500* | | *89.3* | *72.6-146* | | | |
| **Matrix Spike Dup (1060202-MSD1)** | | **Source: T110706-01** | | Prepared: 06/02/11 | | Analyzed: 06/06/11 | | | | |
| C6-C12 (GRO) | 13200 | 500 | ug/kg | 13800 | 52.6 | 95.3 | 65-135 | 3.40 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *514* | | *"* | *500* | | *103* | *72.6-146* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060204 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1060204-BLK1)** | | | | Prepared: 06/02/11 | | Analyzed: 06/03/11 | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *104* | | *"* | *100* | | *104* | *65-135* | | | |
| **LCS (1060204-BS1)** | | | | Prepared: 06/02/11 | | Analyzed: 06/03/11 | | | | |
| C13-C28 (DRO) | 450 | 10 | mg/kg | 500 | | 90.6 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *107* | | *"* | *100* | | *107* | *65-135* | | | |
| **Matrix Spike (1060204-MS1)** | | **Source: T110706-01** | | Prepared: 06/02/11 | | Analyzed: 06/03/11 | | | | |
| C13-C28 (DRO) | 440 | 10 | mg/kg | 500 | ND | 87.8 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *102* | | *"* | *100* | | *102* | *65-135* | | | |
| **Matrix Spike Dup (1060204-MSD1)** | | **Source: T110706-01** | | Prepared: 06/02/11 | | Analyzed: 06/03/11 | | | | |
| C13-C28 (DRO) | 450 | 10 | mg/kg | 500 | ND | 89.9 | 75-125 | 2.33 | 20 | |
| *Surrogate: p-Terphenyl* | *100* | | *"* | *100* | | *100* | *65-135* | | | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060201 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1060201-BLK1)** | | | | Prepared & Analyzed: 06/02/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060201 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1060201-BLK1)** | | | | Prepared & Analyzed: 06/02/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *37.4* | | *"* | *40.0* | | *93.4* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *38.4* | | *"* | *40.0* | | *96.1* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.5* | | *"* | *40.0* | | *101* | *85-115* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060201 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1060201-BS1)** | | | | Prepared & Analyzed: 06/02/11 | | | | | | |
| Chlorobenzene | 104 | 5.0 | ug/kg | 100 | | 104 | 75-125 | | | |
| 1,1-Dichloroethene | 85.2 | 5.0 | " | 100 | | 85.2 | 75-125 | | | |
| Trichloroethene | 94.6 | 5.0 | " | 100 | | 94.6 | 75-125 | | | |
| Benzene | 91.4 | 5.0 | " | 100 | | 91.4 | 75-125 | | | |
| Toluene | 83.6 | 5.0 | " | 100 | | 83.6 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.8* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *40.0* | | *"* | *40.0* | | *100* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *38.6* | | *"* | *40.0* | | *96.4* | *85-115* | | | |
| **Matrix Spike (1060201-MS1)** | | **Source: T110706-01** | | Prepared & Analyzed: 06/02/11 | | | | | | |
| Chlorobenzene | 98.6 | 5.0 | ug/kg | 100 | ND | 98.6 | 75-125 | | | |
| 1,1-Dichloroethene | 89.1 | 5.0 | " | 100 | ND | 89.1 | 75-125 | | | |
| Trichloroethene | 93.9 | 5.0 | " | 100 | ND | 93.9 | 75-125 | | | |
| Benzene | 91.4 | 5.0 | " | 100 | ND | 91.4 | 75-125 | | | |
| Toluene | 82.9 | 5.0 | " | 100 | ND | 82.9 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.2* | | *"* | *40.0* | | *110* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *41.0* | | *"* | *40.0* | | *103* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *38.3* | | *"* | *40.0* | | *95.8* | *85-115* | | | |
| **Matrix Spike Dup (1060201-MSD1)** | | **Source: T110706-01** | | Prepared & Analyzed: 06/02/11 | | | | | | |
| Chlorobenzene | 106 | 5.0 | ug/kg | 100 | ND | 106 | 75-125 | 7.28 | 20 | |
| 1,1-Dichloroethene | 94.6 | 5.0 | " | 100 | ND | 94.6 | 75-125 | 5.94 | 20 | |
| Trichloroethene | 101 | 5.0 | " | 100 | ND | 101 | 75-125 | 7.29 | 20 | |
| Benzene | 98.8 | 5.0 | " | 100 | ND | 98.8 | 75-125 | 7.68 | 20 | |
| Toluene | 89.9 | 5.0 | " | 100 | ND | 89.9 | 75-125 | 8.10 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.2* | | *"* | *40.0* | | *108* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *40.4* | | *"* | *40.0* | | *101* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.1* | | *"* | *40.0* | | *100* | *85-115* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060224 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1060224-BLK1)** | | | | Prepared: 06/02/11 | Analyzed: 06/07/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *1890* | | *"* | *1670* | | *113* | *29.1-130* | | | |
| **LCS (1060224-BS1)** | | | | Prepared: 06/02/11 | Analyzed: 06/07/11 | | | | | |
| Acenaphthene | 964 | 300 | ug/kg | 1670 | | 57.9 | 38.9-79.4 | | | |
| Pyrene | 925 | 300 | " | 1670 | | 55.5 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1830* | | *"* | *1670* | | *110* | *29.1-130* | | | |
| **LCS Dup (1060224-BSD1)** | | | | Prepared: 06/02/11 | Analyzed: 06/07/11 | | | | | |
| Acenaphthene | 888 | 300 | ug/kg | 1670 | | 53.3 | 38.9-79.4 | 8.28 | 31 | |
| Pyrene | 851 | 300 | " | 1670 | | 51.1 | 25-85.2 | 8.30 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1630* | | *"* | *1670* | | *98.0* | *29.1-130* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/08/11 16:16 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| S-04 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| E | The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel J Chávez

Daniel Chavez, Project Manager

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**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 6·1·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110706 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_AS1_30_060111_01 | 6·1·2011 | 8:20 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 01 |
| LL_AS1_60_060111_01 | 6·1·2011 | 8:48 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 02 |
| LL_AS1_80_060111_01 | 6·1·2011 | 9:05 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 03 |
| LL_AS1_95_060111_01 | 6·1·2011 | 9:26 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 04 |
| LL_AS1_105_060111_01 | 6·1·2011 | 9:39 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 05 |
| LL_AS1_110_060111_01 | 6·1·2011 | 9:48 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 06 |
| LL_AS1_115_060111_01 | 6·1·2011 | 9:53 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 07 |
| LL_AS1_125_060111_01 | 6·1·2011 | 10:10 | SOIL | X | X | X | X | | | | | | | | | | 2 | | 08 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F.Sosic | 6·1·2011 15:25 | | 6/1/11 1525 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 16 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes
1.0°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110706

Client Name: Murex  Project: Cenco

Received by: Dan M  Date/Time Received: 6/1/11 1525

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

Total number of coolers received 1  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 1.2 °C +/- the CF (- 0.2°C) = 1.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date DM 6/1/11

Comments:

SunStar Laboratories, Inc.
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**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

09 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 06/02/11 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_IASI_95_060211_01 | T110719-01 | Soil | 06/02/11 10:24 | 06/02/11 16:40 |
| LL_IASI_115_060211_01 | T110719-02 | Soil | 06/02/11 10:55 | 06/02/11 16:40 |
| LL_IASI_125_060211_01 | T110719-03 | Soil | 06/02/11 11:07 | 06/02/11 16:40 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_95_060211_01

### T110719-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **2800000** | 250000 | ug/kg | 500 | 1060315 | 06/03/11 | 06/07/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.1 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **1600** | 10 | mg/kg | 1 | 1060306 | 06/03/11 | 06/06/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **250** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *95.0 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060316 | 06/03/11 | 06/07/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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949.297.5020 Phone
949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_95_060211_01

### T110719-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060316 | 06/03/11 | 06/07/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **250** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **56** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **600** | 250 | " | 50 | " | " | 06/09/11 | " | |
| **n-Propylbenzene** | **360** | 5.0 | " | 1 | " | " | 06/07/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **690** | 250 | " | 50 | " | " | 06/09/11 | " | |
| **1,2,4-Trimethylbenzene** | **1800** | 250 | " | " | " | " | 06/09/11 | " | |
| Vinyl chloride | ND | 5.0 | " | 1 | " | " | 06/09/11 | " | |
| **Benzene** | **1400** | 5.0 | " | " | " | " | " | " | E-1 |
| **Toluene** | **1200** | 250 | " | 50 | " | " | " | " | |
| **Ethylbenzene** | **680** | 250 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_95_060211_01

### T110719-01 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **3800** | 250 | ug/kg | 50 | 1060316 | 06/03/11 | 06/09/11 | EPA 8260B | |
| **o-Xylene** | **1000** | 250 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | 1 | " | " | 06/07/11 | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *84.6 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *106 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *65.4 %* | *85-115* | | " | " | " | " | *S-GC* |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060309 | 06/03/11 | 06/08/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| **Fluorene** | **460** | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **1600** | 300 | " | " | " | " | " | " | |
| **Phenanthrene** | **350** | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *130 %* | *29.1-130* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_115_060211_01

### T110719-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1200000** | 250000 | ug/kg | 500 | 1060315 | 06/03/11 | 06/07/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.8 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **270** | 10 | mg/kg | 1 | 1060306 | 06/03/11 | 06/06/11 | EPA 8015C | |
| **C29-C40 (MORO)** | **46** | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *104 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060316 | 06/03/11 | 06/07/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **30** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_115_060211_01

### T110719-02 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060316 | 06/03/11 | 06/07/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **150** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **30** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **1500** | 120 | " | 25 | " | " | 06/09/11 | " | |
| **n-Propylbenzene** | **220** | 5.0 | " | 1 | " | " | 06/07/11 | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **460** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **4600** | 120 | " | 25 | " | " | 06/09/11 | " | |
| Vinyl chloride | ND | 5.0 | " | 1 | " | " | 06/07/11 | " | |
| **Benzene** | **1100** | 120 | " | 25 | " | " | 06/09/11 | " | |
| **Toluene** | **4600** | 120 | " | " | " | " | " | " | |
| **Ethylbenzene** | **2300** | 120 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_115_060211_01

### T110719-02 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **12000** | 120 | ug/kg | 25 | 1060316 | 06/03/11 | 06/09/11 | EPA 8260B | |
| **o-Xylene** | **3200** | 120 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | 1 | " | " | 06/07/11 | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *99.5 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *102 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *92.0 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060309 | 06/03/11 | 06/08/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| **Naphthalene** | **520** | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *66.1 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_125_060211_01

### T110719-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **200000** | 120000 | ug/kg | 250 | 1060315 | 06/03/11 | 06/07/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.4 %* | *72.6-146* | | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons by 8015C** | | | | | | | | | |
| **C13-C28 (DRO)** | **68** | 10 | mg/kg | 1 | 1060306 | 06/03/11 | 06/06/11 | EPA 8015C | |
| C29-C40 (MORO) | ND | 10 | " | " | " | " | " | " | |
| *Surrogate: p-Terphenyl* | | *97.3 %* | *65-135* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | 1 | 1060316 | 06/03/11 | 06/07/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **40** | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |

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Daniel J Chávez

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_125_060211_01

### T110719-03 (Soil)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 5.0 | ug/kg | 1 | 1060316 | 06/03/11 | 06/07/11 | EPA 8260B | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **120** | 5.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **35** | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Naphthalene** | **390** | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **190** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **380** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **1500** | 120 | " | 25 | " | " | 06/09/11 | " | |
| Vinyl chloride | ND | 5.0 | " | 1 | " | " | 06/07/11 | " | |
| **Benzene** | **420** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **980** | 120 | " | 25 | " | " | 06/09/11 | " | |
| **Ethylbenzene** | **590** | 120 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## LL_IASI_125_060211_01

### T110719-03 (Soil)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| **m,p-Xylene** | **3400** | 120 | ug/kg | 25 | 1060316 | 06/03/11 | 06/09/11 | EPA 8260B | |
| **o-Xylene** | **900** | 120 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 20 | " | 1 | " | " | 06/07/11 | " | |
| Tert-butyl alcohol | ND | 50 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 20 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 20 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *85.5 %* | *75.1-121* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *98.5 %* | *90-135* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *87.2 %* | *85-115* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 300 | ug/kg | 1 | 1060309 | 06/03/11 | 06/08/11 | EPA 8270C | |
| Acenaphthylene | ND | 300 | " | " | " | " | " | " | |
| Anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 300 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 1000 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 300 | " | " | " | " | " | " | |
| Chrysene | ND | 300 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 300 | " | " | " | " | " | " | |
| Fluoranthene | ND | 300 | " | " | " | " | " | " | |
| Fluorene | ND | 300 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | " | " | " | " | " | |
| Naphthalene | ND | 300 | " | " | " | " | " | " | |
| Phenanthrene | ND | 300 | " | " | " | " | " | " | |
| Pyrene | ND | 300 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *96.6 %* | *29.1-130* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060315 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1060315-BLK1)** | | | | Prepared: 06/03/11 | Analyzed: 06/07/11 | | | | | |
| C6-C12 (GRO) | ND | 500 | ug/kg | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *458* | | *"* | *500* | | *91.5* | *72.6-146* | | | |
| **LCS (1060315-BS1)** | | | | Prepared: 06/03/11 | Analyzed: 06/07/11 | | | | | |
| C6-C12 (GRO) | 12100 | 500 | ug/kg | 13800 | | 88.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *451* | | *"* | *500* | | *90.2* | *72.6-146* | | | |
| **LCS Dup (1060315-BSD1)** | | | | Prepared: 06/03/11 | Analyzed: 06/07/11 | | | | | |
| C6-C12 (GRO) | 11900 | 500 | ug/kg | 13800 | | 86.7 | 75-125 | 1.92 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *466* | | *"* | *500* | | *93.3* | *72.6-146* | | | |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060306 - EPA 3550B GC** | | | | | | | | | | |
| **Blank (1060306-BLK1)** | | | | Prepared: 06/03/11 | Analyzed: 06/06/11 | | | | | |
| C13-C28 (DRO) | ND | 10 | mg/kg | | | | | | | |
| C29-C40 (MORO) | ND | 10 | " | | | | | | | |
| *Surrogate: p-Terphenyl* | *104* | | *"* | *100* | | *104* | *65-135* | | | |
| **LCS (1060306-BS1)** | | | | Prepared: 06/03/11 | Analyzed: 06/06/11 | | | | | |
| C13-C28 (DRO) | 450 | 10 | mg/kg | 500 | | 90.1 | 75-125 | | | |
| *Surrogate: p-Terphenyl* | *103* | | *"* | *100* | | *103* | *65-135* | | | |
| **LCS Dup (1060306-BSD1)** | | | | Prepared: 06/03/11 | Analyzed: 06/06/11 | | | | | |
| C13-C28 (DRO) | 390 | 10 | mg/kg | 500 | | 77.8 | 75-125 | 14.7 | 20 | |
| *Surrogate: p-Terphenyl* | *80.5* | | *"* | *100* | | *80.5* | *65-135* | | | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060316 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1060316-BLK1)** | | | | Prepared: 06/03/11 Analyzed: 06/07/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/kg | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060316 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1060316-BLK1)** | | | | Prepared: 06/03/11 Analyzed: 06/07/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/kg | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 20 | " | | | | | | | |
| Tert-butyl alcohol | ND | 50 | " | | | | | | | |
| Di-isopropyl ether | ND | 20 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 20 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 20 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *45.5* | | *"* | *40.0* | | *114* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *42.8* | | *"* | *40.0* | | *107* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.2* | | *"* | *40.0* | | *97.9* | *85-115* | | | |

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Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060316 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1060316-BS1)** | | | | Prepared: 06/03/11 | Analyzed: 06/08/11 | | | | | |
| Chlorobenzene | 86.7 | 5.0 | ug/kg | 100 | | 86.7 | 75-125 | | | |
| 1,1-Dichloroethene | 75.5 | 5.0 | " | 100 | | 75.5 | 75-125 | | | |
| Trichloroethene | 78.7 | 5.0 | " | 100 | | 78.7 | 75-125 | | | |
| Benzene | 77.2 | 5.0 | " | 100 | | 77.2 | 75-125 | | | |
| Toluene | 75.4 | 5.0 | " | 100 | | 75.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.2* | | *"* | *40.0* | | *103* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *39.3* | | *"* | *40.0* | | *98.2* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *40.0* | | *"* | *40.0* | | *99.9* | *85-115* | | | |
| **LCS Dup (1060316-BSD1)** | | | | Prepared: 06/03/11 | Analyzed: 06/08/11 | | | | | |
| Chlorobenzene | 84.8 | 5.0 | ug/kg | 100 | | 84.8 | 75-125 | 2.16 | 20 | |
| 1,1-Dichloroethene | 82.6 | 5.0 | " | 100 | | 82.6 | 75-125 | 9.04 | 20 | |
| Trichloroethene | 75.4 | 5.0 | " | 100 | | 75.4 | 75-125 | 4.22 | 20 | |
| Benzene | 78.8 | 5.0 | " | 100 | | 78.8 | 75-125 | 2.05 | 20 | |
| Toluene | 75.2 | 5.0 | " | 100 | | 75.2 | 75-125 | 0.199 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *40.8* | | *"* | *40.0* | | *102* | *75.1-121* | | | |
| *Surrogate: Dibromofluoromethane* | *39.9* | | *"* | *40.0* | | *99.8* | *90-135* | | | |
| *Surrogate: Toluene-d8* | *39.0* | | *"* | *40.0* | | *97.4* | *85-115* | | | |

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Providing Quality Analytical Services Nationwide

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1060309 - EPA 3550 ECD/GCMS** | | | | | | | | | | |
| **Blank (1060309-BLK1)** | | | | Prepared: 06/03/11 | Analyzed: 06/08/11 | | | | | |
| Acenaphthene | ND | 300 | ug/kg | | | | | | | |
| Acenaphthylene | ND | 300 | " | | | | | | | |
| Anthracene | ND | 300 | " | | | | | | | |
| Benzo (a) anthracene | ND | 300 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 300 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 1000 | " | | | | | | | |
| Benzo (a) pyrene | ND | 300 | " | | | | | | | |
| Chrysene | ND | 300 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 300 | " | | | | | | | |
| Fluoranthene | ND | 300 | " | | | | | | | |
| Fluorene | ND | 300 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 300 | " | | | | | | | |
| Naphthalene | ND | 300 | " | | | | | | | |
| Phenanthrene | ND | 300 | " | | | | | | | |
| Pyrene | ND | 300 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *2080* | | *"* | *1670* | | *125* | *29.1-130* | | | |
| **LCS (1060309-BS1)** | | | | Prepared: 06/03/11 | Analyzed: 06/08/11 | | | | | |
| Acenaphthene | 902 | 300 | ug/kg | 1670 | | 54.1 | 38.9-79.4 | | | |
| Pyrene | 881 | 300 | " | 1670 | | 52.9 | 25-85.2 | | | |
| *Surrogate: Terphenyl-dl4* | *1810* | | *"* | *1670* | | *109* | *29.1-130* | | | |
| **LCS Dup (1060309-BSD1)** | | | | Prepared: 06/03/11 | Analyzed: 06/08/11 | | | | | |
| Acenaphthene | 919 | 300 | ug/kg | 1670 | | 55.2 | 38.9-79.4 | 1.87 | 31 | |
| Pyrene | 928 | 300 | " | 1670 | | 55.7 | 25-85.2 | 5.20 | 31 | |
| *Surrogate: Terphenyl-dl4* | *1800* | | *"* | *1670* | | *108* | *29.1-130* | | | |

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Daniel Chavez, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/09/11 17:41 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| E-1 | The final dilution was lower than the original data or previous dilutions. The highest recovered concentration was reported even though it was above calibration range. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 6·2·2011 Page: 1 OF 1
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110719 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_IAS1_95_060211_01 | 6·2·2011 | 10:24 | SOIL | X | X | X | X | | | | | | | | | | 1 | | 01 |
| LL_IAS1_115_060211_01 | 6·2·2011 | 10:53 | SOIL | X | X | X | X | | | | | | | | | | 1 | | 02 |
| LL_IAS1_125_060211_01 | 6·2·2011 | 11:07 | SOIL | X | X | X | X | | | | | | | | | | 1 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosie | 6·2·2011 16:40 | | 1640 6/2/11 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 3 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| Turn around time: | |

Notes

4.6

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110719

Client Name: MUREX

Project: CENCO

Received by: DAN

Date/Time Received: 6/2/11 1640

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

Total number of coolers received 0

**Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 4.8 °C +/- the CF (- 0.2°C) = 4.6 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date BL 6/3/11

Comments:

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**25712 Commercentre Drive**
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**949.297.5027 Fax**

19 September 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 09/12/11 13:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_SVE1C_090911_01 | T111244-01 | Water | 09/09/11 11:30 | 09/12/11 13:40 |
| LL_W10_091211_01 | T111244-02 | Water | 09/12/11 09:00 | 09/12/11 13:40 |
| LL_IAS1_091211_01 | T111244-03 | Water | 09/12/11 10:05 | 09/12/11 13:40 |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_SVE1C_090911_01
### T111244-01 (Water)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **5800** | 50 | ug/l | 1 | 1091214 | 09/12/11 | 09/13/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *98.1 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 1.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| Bromochloromethane | ND | 1.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 1.0 | " | " | " | " | " | " | |
| Bromoform | ND | 1.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 1.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **3.3** | 1.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **4.0** | 1.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 0.50 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Chloroform | ND | 1.0 | " | " | " | " | " | " | |
| **Chloromethane** | **3.9** | 1.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 1.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 1.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 0.50 | " | " | " | " | " | " | |
| **1,1-Dichloroethane** | **1.0** | 1.0 | " | " | " | " | " | " | |
| **1,2-Dichloroethane** | **2.2** | 0.50 | " | " | " | " | " | " | |
| **1,1-Dichloroethene** | **2.5** | 1.0 | " | " | " | " | " | " | |
| **cis-1,2-Dichloroethene** | **11** | 1.0 | " | " | " | " | " | " | |
| **trans-1,2-Dichloroethene** | **1.4** | 1.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 1.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_SVE1C_090911_01

### T111244-01 (Water)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichloropropane | ND | 1.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| 2,2-Dichloropropane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 1.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 0.50 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 0.50 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 1.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **23** | 1.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **2.9** | 1.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 1.0 | " | " | " | " | " | " | |
| **Naphthalene** | **33** | 1.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **29** | 1.0 | " | " | " | " | " | " | |
| Styrene | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| **1,1,2-Trichloroethane** | **3.0** | 1.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 1.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **20** | 1.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **55** | 1.0 | " | " | " | " | " | " | |
| **Vinyl chloride** | **1.6** | 1.0 | " | " | " | " | " | " | |
| Benzene | ND | 0.50 | " | " | " | " | " | " | |
| **Toluene** | **20** | 0.50 | " | " | " | " | " | " | |
| **Ethylbenzene** | **41** | 0.50 | " | " | " | " | " | " | |
| **m,p-Xylene** | **63** | 1.0 | " | " | " | " | " | " | |
| **o-Xylene** | **22** | 0.50 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 2.0 | " | " | " | " | " | " | |
| **Tert-butyl alcohol** | **100** | 10 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 2.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_SVE1C_090911_01

### T111244-01 (Water)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethyl tert-butyl ether | ND | 2.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| Methyl tert-butyl ether | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *85.5 %* | *77.1-110* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *97.5 %* | *66.3-111* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *84.0 %* | *84.7-109* | | " | " | " | " | *S-GC* |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 10.0 | ug/l | 1 | 1091216 | 09/12/11 | 09/15/11 | EPA 8270C | |
| Acenaphthylene | ND | 10.0 | " | " | " | " | " | " | |
| Anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 20.0 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 10.0 | " | " | " | " | " | " | |
| Chrysene | ND | 10.0 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Fluoranthene | ND | 5.00 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 10.0 | " | " | " | " | " | " | |
| Fluorene | ND | 10.0 | " | " | " | " | " | " | |
| **Naphthalene** | **8.30** | 5.00 | " | " | " | " | " | " | |
| Phenanthrene | ND | 10.0 | " | " | " | " | " | " | |
| Pyrene | ND | 10.0 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *42.7 %* | *33-141* | | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_W10_091211_01

### T111244-02 (Water)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **25000** | 50 | ug/l | 1 | 1091214 | 09/12/11 | 09/13/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.7 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 1.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| Bromochloromethane | ND | 1.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 1.0 | " | " | " | " | " | " | |
| Bromoform | ND | 1.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 1.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **6.6** | 1.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **7.8** | 1.0 | " | " | " | " | " | " | |
| **tert-Butylbenzene** | **1.1** | 1.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 0.50 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Chloroform | ND | 1.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 1.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 1.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 1.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 0.50 | " | " | " | " | " | " | |
| **1,1-Dichloroethane** | **1.1** | 1.0 | " | " | " | " | " | " | |
| **1,2-Dichloroethane** | **11** | 0.50 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| cis-1,2-Dichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 1.0 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_W10_091211_01

### T111244-02 (Water)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichloropropane | ND | 1.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| 2,2-Dichloropropane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 1.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 0.50 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 0.50 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 1.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **46** | 1.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **5.2** | 1.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 1.0 | " | " | " | " | " | " | |
| **Naphthalene** | **280** | 25 | " | 25 | " | " | " | " | |
| **n-Propylbenzene** | **70** | 1.0 | " | 1 | " | " | " | " | |
| Styrene | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 1.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **44** | 1.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **200** | 1.0 | " | " | " | " | " | " | |
| **Vinyl chloride** | **1.3** | 1.0 | " | " | " | " | " | " | |
| **Benzene** | **6600** | 12 | " | 25 | " | " | " | " | |
| **Toluene** | **7.8** | 0.50 | " | 1 | " | " | " | " | |
| **Ethylbenzene** | **400** | 12 | " | 25 | " | " | " | " | |
| **m,p-Xylene** | **280** | 25 | " | " | " | " | " | " | |
| **o-Xylene** | **4.8** | 0.50 | " | 1 | " | " | " | " | |
| Tert-amyl methyl ether | ND | 2.0 | " | " | " | " | " | " | |
| **Tert-butyl alcohol** | **150** | 10 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 2.0 | " | " | " | " | " | " | |

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Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_W10_091211_01

### T111244-02 (Water)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethyl tert-butyl ether | ND | 2.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| Methyl tert-butyl ether | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *77.1-110* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *100 %* | *66.3-111* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *89.9 %* | *84.7-109* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 10.0 | ug/l | 1 | 1091216 | 09/12/11 | 09/15/11 | EPA 8270C | |
| Acenaphthylene | ND | 10.0 | " | " | " | " | " | " | |
| Anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 20.0 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 10.0 | " | " | " | " | " | " | |
| Chrysene | ND | 10.0 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Fluoranthene | ND | 5.00 | " | " | " | " | " | " | |
| Fluorene | ND | 10.0 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 10.0 | " | " | " | " | " | " | |
| **Naphthalene** | **95.4** | 5.00 | " | " | " | " | " | " | |
| Phenanthrene | ND | 10.0 | " | " | " | " | " | " | |
| Pyrene | ND | 10.0 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *44.5 %* | *33-141* | | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_IAS1_091211_01

### T111244-03 (Water)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **6400** | 50 | ug/l | 1 | 1091214 | 09/12/11 | 09/13/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *96.6 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Bromobenzene | ND | 1.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| Bromochloromethane | ND | 1.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 1.0 | " | " | " | " | " | " | |
| Bromoform | ND | 1.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 1.0 | " | " | " | " | " | " | |
| **n-Butylbenzene** | **1.4** | 1.0 | " | " | " | " | " | " | |
| **sec-Butylbenzene** | **3.6** | 1.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 0.50 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Chloroform | ND | 1.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 1.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 1.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 1.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 0.50 | " | " | " | " | " | " | |
| **1,1-Dichloroethane** | **1.6** | 1.0 | " | " | " | " | " | " | |
| **1,2-Dichloroethane** | **3.8** | 0.50 | " | " | " | " | " | " | |
| **1,1-Dichloroethene** | **1.3** | 1.0 | " | " | " | " | " | " | |
| **cis-1,2-Dichloroethene** | **7.3** | 1.0 | " | " | " | " | " | " | |
| trans-1,2-Dichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 1.0 | " | " | " | " | " | " | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_IAS1_091211_01

### T111244-03 (Water)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichloropropane | ND | 1.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| 2,2-Dichloropropane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 1.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 0.50 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 0.50 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 1.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **15** | 1.0 | " | " | " | " | " | " | |
| **p-Isopropyltoluene** | **1.8** | 1.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 1.0 | " | " | " | " | " | " | |
| **Naphthalene** | **29** | 1.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **21** | 1.0 | " | " | " | " | " | " | |
| Styrene | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 1.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 1.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 1.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 1.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **35** | 1.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **97** | 1.0 | " | " | " | " | " | " | |
| **Vinyl chloride** | **1.0** | 1.0 | " | " | " | " | " | " | |
| **Benzene** | **1000** | 12 | " | 25 | " | " | " | " | |
| **Toluene** | **790** | 12 | " | " | " | " | " | " | |
| **Ethylbenzene** | **110** | 12 | " | " | " | " | " | " | |
| **m,p-Xylene** | **420** | 25 | " | " | " | " | " | " | |
| **o-Xylene** | **160** | 12 | " | " | " | " | " | " | |
| Tert-amyl methyl ether | ND | 2.0 | " | 1 | " | " | " | " | |
| **Tert-butyl alcohol** | **76** | 10 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 2.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## LL_IAS1_091211_01

### T111244-03 (Water)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Ethyl tert-butyl ether | ND | 2.0 | ug/l | 1 | 1091215 | 09/12/11 | 09/13/11 | EPA 8260B | |
| Methyl tert-butyl ether | ND | 1.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *138 %* | *77.1-110* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *91.6 %* | *66.3-111* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *93.1 %* | *84.7-109* | | " | " | " | " | |
| **PAH compounds by Semivolatile GCMS** | | | | | | | | | |
| Acenaphthene | ND | 10.0 | ug/l | 1 | 1091216 | 09/12/11 | 09/15/11 | EPA 8270C | |
| Acenaphthylene | ND | 10.0 | " | " | " | " | " | " | |
| Anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (a) anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (b) fluoranthene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (k) fluoranthene | ND | 10.0 | " | " | " | " | " | " | |
| Benzo (g,h,i) perylene | ND | 20.0 | " | " | " | " | " | " | |
| Benzo (a) pyrene | ND | 10.0 | " | " | " | " | " | " | |
| Chrysene | ND | 10.0 | " | " | " | " | " | " | |
| Dibenz (a,h) anthracene | ND | 10.0 | " | " | " | " | " | " | |
| Fluoranthene | ND | 5.00 | " | " | " | " | " | " | |
| Indeno (1,2,3-cd) pyrene | ND | 10.0 | " | " | " | " | " | " | |
| Fluorene | ND | 10.0 | " | " | " | " | " | " | |
| **Naphthalene** | **21.8** | 5.00 | " | " | " | " | " | " | |
| Phenanthrene | ND | 10.0 | " | " | " | " | " | " | |
| Pyrene | ND | 10.0 | " | " | " | " | " | " | |
| *Surrogate: Terphenyl-dl4* | | *33.0 %* | *33-141* | | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091214 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1091214-BLK1)** | | | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| C6-C12 (GRO) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *99.1* | | *"* | *100* | | *99.1* | *72.6-146* | | | |
| **LCS (1091214-BS1)** | | | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| C6-C12 (GRO) | 5490 | 50 | ug/l | 5500 | | 99.9 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *98.2* | | *"* | *100* | | *98.2* | *72.6-146* | | | |
| **Matrix Spike (1091214-MS1)** | | **Source: T111244-02** | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| C6-C12 (GRO) | 26800 | 50 | ug/l | 5500 | 24700 | 36.7 | 65-135 | | | QM-4X |
| *Surrogate: 4-Bromofluorobenzene* | *90.6* | | *"* | *100* | | *90.6* | *72.6-146* | | | |
| **Matrix Spike Dup (1091214-MSD1)** | | **Source: T111244-02** | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| C6-C12 (GRO) | 26000 | 50 | ug/l | 5500 | 24700 | 22.7 | 65-135 | 2.94 | 20 | QM-4X |
| *Surrogate: 4-Bromofluorobenzene* | *95.4* | | *"* | *100* | | *95.4* | *72.6-146* | | | |

SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091215 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1091215-BLK1)** | | | | Prepared: 09/12/11 Analyzed: 09/13/11 | | | | | | |
| Bromobenzene | ND | 1.0 | ug/l | | | | | | | |
| Bromochloromethane | ND | 1.0 | " | | | | | | | |
| Bromodichloromethane | ND | 1.0 | " | | | | | | | |
| Bromoform | ND | 1.0 | " | | | | | | | |
| Bromomethane | ND | 1.0 | " | | | | | | | |
| n-Butylbenzene | ND | 1.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 1.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 1.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 0.50 | " | | | | | | | |
| Chlorobenzene | ND | 1.0 | " | | | | | | | |
| Chloroethane | ND | 1.0 | " | | | | | | | |
| Chloroform | ND | 1.0 | " | | | | | | | |
| Chloromethane | ND | 1.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 1.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 1.0 | " | | | | | | | |
| Dibromochloromethane | ND | 1.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | " | | | | | | | |
| Dibromomethane | ND | 1.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 1.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 1.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 1.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 0.50 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 1.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 0.50 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 1.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 1.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 1.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 1.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 1.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 1.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 1.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 0.50 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 0.50 | " | | | | | | | |
| Hexachlorobutadiene | ND | 1.0 | " | | | | | | | |
| Isopropylbenzene | ND | 1.0 | " | | | | | | | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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Lake Forest, California 92630
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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091215 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1091215-BLK1)** | | | | Prepared: 09/12/11 Analyzed: 09/13/11 | | | | | | |
| p-Isopropyltoluene | ND | 1.0 | ug/l | | | | | | | |
| Methylene chloride | ND | 1.0 | " | | | | | | | |
| Naphthalene | ND | 1.0 | " | | | | | | | |
| n-Propylbenzene | ND | 1.0 | " | | | | | | | |
| Styrene | ND | 1.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | " | | | | | | | |
| Tetrachloroethene | ND | 1.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 1.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 1.0 | " | | | | | | | |
| Trichloroethene | ND | 1.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 1.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 1.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 1.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | " | | | | | | | |
| Vinyl chloride | ND | 1.0 | " | | | | | | | |
| Benzene | ND | 0.50 | " | | | | | | | |
| Toluene | ND | 0.50 | " | | | | | | | |
| Ethylbenzene | ND | 0.50 | " | | | | | | | |
| m,p-Xylene | ND | 1.0 | " | | | | | | | |
| o-Xylene | ND | 0.50 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 2.0 | " | | | | | | | |
| Tert-butyl alcohol | ND | 10 | " | | | | | | | |
| Di-isopropyl ether | ND | 2.0 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 2.0 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 1.0 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *7.18* | | *"* | *8.00* | | *89.8* | *77.1-110* | | | |
| *Surrogate: Dibromofluoromethane* | *7.45* | | *"* | *8.00* | | *93.1* | *66.3-111* | | | |
| *Surrogate: Toluene-d8* | *6.75* | | *"* | *8.00* | | *84.4* | *84.7-109* | | | *S-GC* |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5020 Phone
949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091215 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1091215-BS1)** | | | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| Chlorobenzene | 19.6 | 1.0 | ug/l | 20.0 | | 98.0 | 75-125 | | | |
| 1,1-Dichloroethene | 20.8 | 1.0 | " | 20.0 | | 104 | 75-125 | | | |
| Trichloroethene | 22.5 | 1.0 | " | 20.0 | | 113 | 75-125 | | | |
| Benzene | 22.1 | 0.50 | " | 20.0 | | 110 | 75-125 | | | |
| Toluene | 20.1 | 0.50 | " | 20.0 | | 100 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *7.42* | | *"* | *8.00* | | *92.8* | *77.1-110* | | | |
| *Surrogate: Dibromofluoromethane* | *7.81* | | *"* | *8.00* | | *97.6* | *66.3-111* | | | |
| *Surrogate: Toluene-d8* | *6.08* | | *"* | *8.00* | | *76.0* | *84.7-109* | | | *S-GC* |
| **Matrix Spike (1091215-MS1)** | | **Source: T111244-01** | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| Chlorobenzene | 20.1 | 1.0 | ug/l | 20.0 | ND | 101 | 75-125 | | | |
| 1,1-Dichloroethene | 22.1 | 1.0 | " | 20.0 | 2.54 | 97.9 | 75-125 | | | |
| Trichloroethene | 21.6 | 1.0 | " | 20.0 | 0.870 | 104 | 75-125 | | | |
| Benzene | 436 | 0.50 | " | 20.0 | ND | NR | 75-125 | | | QM-01 |
| Toluene | 38.1 | 0.50 | " | 20.0 | 19.6 | 92.5 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *6.95* | | *"* | *8.00* | | *86.9* | *77.1-110* | | | |
| *Surrogate: Dibromofluoromethane* | *7.50* | | *"* | *8.00* | | *93.8* | *66.3-111* | | | |
| *Surrogate: Toluene-d8* | *6.65* | | *"* | *8.00* | | *83.1* | *84.7-109* | | | *S-GC* |
| **Matrix Spike Dup (1091215-MSD1)** | | **Source: T111244-01** | | Prepared: 09/12/11 | Analyzed: 09/13/11 | | | | | |
| Chlorobenzene | 20.3 | 1.0 | ug/l | 20.0 | ND | 102 | 75-125 | 1.04 | 20 | |
| 1,1-Dichloroethene | 20.6 | 1.0 | " | 20.0 | 2.54 | 90.2 | 75-125 | 7.26 | 20 | |
| Trichloroethene | 20.8 | 1.0 | " | 20.0 | 0.870 | 99.5 | 75-125 | 3.78 | 20 | |
| Benzene | 471 | 0.50 | " | 20.0 | ND | NR | 75-125 | 7.65 | 20 | QM-01 |
| Toluene | 36.2 | 0.50 | " | 20.0 | 19.6 | 82.9 | 75-125 | 5.14 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *7.36* | | *"* | *8.00* | | *92.0* | *77.1-110* | | | |
| *Surrogate: Dibromofluoromethane* | *7.29* | | *"* | *8.00* | | *91.1* | *66.3-111* | | | |
| *Surrogate: Toluene-d8* | *6.56* | | *"* | *8.00* | | *82.0* | *84.7-109* | | | *S-GC* |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## PAH compounds by Semivolatile GCMS - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091216 - EPA 3510C GCMS/ECD** | | | | | | | | | | |
| **Blank (1091216-BLK1)** | | | | Prepared: 09/12/11 | Analyzed: 09/15/11 | | | | | |
| Acenaphthene | ND | 10.0 | ug/l | | | | | | | |
| Acenaphthylene | ND | 10.0 | " | | | | | | | |
| Anthracene | ND | 10.0 | " | | | | | | | |
| Benzo (a) anthracene | ND | 10.0 | " | | | | | | | |
| Benzo (b) fluoranthene | ND | 10.0 | " | | | | | | | |
| Benzo (k) fluoranthene | ND | 10.0 | " | | | | | | | |
| Benzo (g,h,i) perylene | ND | 20.0 | " | | | | | | | |
| Benzo (a) pyrene | ND | 10.0 | " | | | | | | | |
| Chrysene | ND | 10.0 | " | | | | | | | |
| Dibenz (a,h) anthracene | ND | 10.0 | " | | | | | | | |
| Fluoranthene | ND | 5.00 | " | | | | | | | |
| Indeno (1,2,3-cd) pyrene | ND | 10.0 | " | | | | | | | |
| Fluorene | ND | 10.0 | " | | | | | | | |
| Naphthalene | ND | 5.00 | " | | | | | | | |
| Phenanthrene | ND | 10.0 | " | | | | | | | |
| Pyrene | ND | 10.0 | " | | | | | | | |
| *Surrogate: Terphenyl-dl4* | *40.4* | | *"* | *100* | | *40.4* | *33-141* | | | |
| **LCS (1091216-BS1)** | | | | Prepared: 09/12/11 | Analyzed: 09/15/11 | | | | | |
| Acenaphthene | 59.7 | 10.0 | ug/l | 100 | | 59.7 | 46-118 | | | |
| Pyrene | 95.9 | 10.0 | " | 100 | | 95.9 | 26-127 | | | |
| *Surrogate: Terphenyl-dl4* | *37.0* | | *"* | *100* | | *37.0* | *33-141* | | | |
| **LCS Dup (1091216-BSD1)** | | | | Prepared: 09/12/11 | Analyzed: 09/15/11 | | | | | |
| Acenaphthene | 61.5 | 10.0 | ug/l | 100 | | 61.5 | 46-118 | 2.97 | 31 | |
| Pyrene | 63.5 | 10.0 | " | 100 | | 63.5 | 26-127 | 40.7 | 31 | QR-04 |
| *Surrogate: Terphenyl-dl4* | *40.3* | | *"* | *100* | | *40.3* | *33-141* | | | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/19/11 16:09 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| QR-04 | The pecent recovery and/or RPD was outside acceptance criteria. Results accepted based upon percent recovery results in duplicate QC sample and the CCV and CCB results. |
| QM-4X | The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits. |
| QM-01 | The % recovery is outside of established control limits due to matrix interference and/or sample dilution due to matrix effect. The batch was accepted based on acceptable LCS recovery. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

# Chain of Custody Record

Client: MUREX
Address: 2640 Walnut Ave, Unit F, Tustin, CA
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire

Date: 9.12.2011 Page: 1 Of 1
Project Name: CENCO
Collector: FS/EL Client Project #: 1003-001-200
Batch #: T111294 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | Container Type | 8260 | 8260 + OXY | 8260 BTEX, OXY only | 8270 | 8021 BTEX | 8015M (gasoline) | 8015M (diesel) | 8015M Ext./Carbon Chain | 6010/7000 Title 22 Metals | PAHs | | | | Laboratory ID # | Comments/Preservative | Total # of containers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_SVEIC_090911_01 | 9.9.2011 | 1130 | GW | VOAs | | X | | | | X | | | | X | | | | 01 | | 7 |
| LL_WIO_091211_01 | 9.12.2011 | 9:00 | GW | VOAs | | X | | | | X | | | | X | | | | 02 | | 7 |
| LL_IAS1_091211_01 | 9.12.2011 | 10:05 | GW | VOAs | | X | | | | X | | | | X | | | | 03 | | 7 |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time |
|---|---|---|---|
| [signature] | 9.12.2011 1340 | [signature] | 9/12/11 1340 |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Date / Time |
| | | | |

Total # of containers: 21
Chain of Custody seals Y/N/NA: N
Seals intact? Y/N/NA: N/A
Received good condition/cold: Y 2.4°

Turn around time:

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 101276

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE



# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T111244

Client Name: MUREX  Project: CENCO

Received by: DAN  Date/Time Received: 9/12/11 1340

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 2.6 °C +/- the CF (- 0.2°C) = 2.4 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☒ Yes | ☐ No* | ☐ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☒ Yes | ☐ No* | ☐ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date BC 9/12/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

24 June 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 06/20/11 15:56. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP1A_062011 | T110814-01 | Air | 06/20/11 11:28 | 06/20/11 15:56 |
| LL_MP1B_062011 | T110814-02 | Air | 06/20/11 11:29 | 06/20/11 15:56 |
| LL_MP1C_062011 | T110814-03 | Air | 06/20/11 11:30 | 06/20/11 15:56 |
| LL_MP2A_062011 | T110814-04 | Air | 06/20/11 11:40 | 06/20/11 15:56 |
| LL_MP2B_062011 | T110814-05 | Air | 06/20/11 11:41 | 06/20/11 15:56 |
| LL_MP2C_062011 | T110814-06 | Air | 06/20/11 11:42 | 06/20/11 15:56 |
| LL_MP3A_062011 | T110814-07 | Air | 06/20/11 11:47 | 06/20/11 15:56 |
| LL_MP3B_062011 | T110814-08 | Air | 06/20/11 11:48 | 06/20/11 15:56 |
| LL_MP3C_062011 | T110814-09 | Air | 06/20/11 11:49 | 06/20/11 15:56 |
| LL_MP4A_062011 | T110814-10 | Air | 06/20/11 12:08 | 06/20/11 15:56 |
| LL_MP4B_062011 | T110814-11 | Air | 06/20/11 12:09 | 06/20/11 15:56 |
| LL_MP4C_062011 | T110814-12 | Air | 06/20/11 12:10 | 06/20/11 15:56 |
| LL_MP5A_062011 | T110814-13 | Air | 06/20/11 13:00 | 06/20/11 15:56 |
| LL_MP5B_062011 | T110814-14 | Air | 06/20/11 13:01 | 06/20/11 15:56 |
| LL_MP5C_062011 | T110814-15 | Air | 06/20/11 13:02 | 06/20/11 15:56 |
| LL_VE1A_062011 | T110814-16 | Air | 06/20/11 13:25 | 06/20/11 15:56 |
| LL_VE1C_062011 | T110814-18 | Air | 06/20/11 13:27 | 06/20/11 15:56 |
| LL_AI1A_062011 | T110814-19 | Air | 06/20/11 14:52 | 06/20/11 15:56 |
| LL_AI1B_062011 | T110814-20 | Air | 06/20/11 14:53 | 06/20/11 15:56 |
| LL_AI1C_062011 | T110814-21 | Air | 06/20/11 14:54 | 06/20/11 15:56 |
| LL_AI1B_062011_02 | T110814-22 | Air | 06/20/11 15:10 | 06/20/11 15:56 |
| LL_AI1C_062011_02 | T110814-23 | Air | 06/20/11 15:15 | 06/20/11 15:56 |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1A_062011
### T110814-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **1400000** | 1000 | ppm(v) | 200 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| C6-C12 (GRO) | ND | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *88.5 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1A_062011

### T110814-01 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **65** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **14** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **19** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1A_062011
### T110814-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| o-Xylene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *105 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *97.8 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *106 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **9.13** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **17.4** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1B_062011
### T110814-02 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **140000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **3400** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *85.4 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1B_062011

### T110814-02 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **520** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **13** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **64** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **95** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1B_062011

### T110814-02 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **6.4** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *108 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *99.6 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.2 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **24.7** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **5.10** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1C_062011
### T110814-03 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **2100000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **20000** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *88.3 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1C_062011

### T110814-03 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **10** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **9.2** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **5.7** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **11** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **520** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **11** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **110** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **110** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **14** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP1C_062011
### T110814-03 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *128 %* | *80-119* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *93.4 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.6 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **28.9** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.07** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2A_062011
### T110814-04 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **6500000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **82000** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.2 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2A_062011
### T110814-04 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **6.2** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **5.7** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **6.2** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **200** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **40** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **58** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **69** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2A_062011
### T110814-04 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **9.6** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *120 %* | *80-119* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *90.8 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *94.9 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **23.1** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **3.16** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2B_062011
### T110814-05 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **560000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **20000** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.6 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2B_062011

### T110814-05 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **230** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **15** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **33** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **35** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2B_062011
### T110814-05 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| o-Xylene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *100 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *88.9 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *94.5 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **19.6** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **9.70** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2C_062011
### T110814-06 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **360000** | 500 | ppm(v) | 100 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **31000** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *100 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2C_062011
### T110814-06 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **120** | 5.0 | " | " | " | " | " | " | |
| Toluene | ND | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **30** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **32** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP2C_062011
### T110814-06 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| o-Xylene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *117 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *95.8 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.2 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **11.9** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **17.3** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3A_062011
### T110814-07 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4200000** | 500 | ppm(v) | 100 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **12000** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *62.9 %* | *72.6-146* | | " | " | " | " | *QM-01* |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3A_062011
### T110814-07 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **5.6** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **9.0** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **98** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **82** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **23** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **61** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3A_062011
### T110814-07 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **13** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *104 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *89.2 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.5 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **16.3** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **11.9** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3B_062011
## T110814-08 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **340000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **4200** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.3 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3B_062011
### T110814-08 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **5.8** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **500** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **120** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **35** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **72** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3B_062011
### T110814-08 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **13** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *82.6 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *86.6 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *93.6 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **26.6** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **2.55** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3C_062011
### T110814-09 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4300000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **5100** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *67.2 %* | *72.6-146* | | " | " | " | " | *QM-01* |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3C_062011
### T110814-09 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **8.5** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **7.4** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **7.0** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **13** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **460** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **32** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **100** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **140** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **13** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP3C_062011
### T110814-09 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *118 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *91.5 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *91.1 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **27.7** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.88** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4A_062011
### T110814-10 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **1500000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **19000** | 50 | ug/l | 1 | 1062117 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *57.9 %* | *72.6-146* | | " | " | " | " | *QM-01* |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4A_062011
### T110814-10 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **6.6** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **82** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **6.4** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **22** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **29** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4A_062011
### T110814-10 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| o-Xylene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *118 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *95.1 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *104 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **5.90** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **18.9** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4B_062011
## T110814-11 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **8600000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **39000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.7 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | 06/22/11 | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4B_062011
### T110814-11 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **8.2** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **540** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **42** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **65** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **77** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4B_062011
### T110814-11 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **7.6** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *97.0 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *91.8 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *92.8 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **28.9** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.64** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4C_062011
### T110814-12 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **9500000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **80000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.2 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4C_062011

### T110814-12 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **11** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **11** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **9.4** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **440** | 120 | " | 25 | " | " | " | " | |
| **Toluene** | **12** | 5.0 | " | 1 | " | " | " | " | |
| **Ethylbenzene** | **130** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **65** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP4C_062011
### T110814-12 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **6.8** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *123 %* | *80-119* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *95.1 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *91.8 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **27.3** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.52** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5A_062011
### T110814-13 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **8500000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **19000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.0 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5A_062011
### T110814-13 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **5.2** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **420** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **34** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **23** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **50** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5A_062011
### T110814-13 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **9.0** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *101 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *89.8 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **18.9** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **9.29** | 0.10 | " | " | " | " | " | " | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5B_062011
### T110814-14 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **9300000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **61000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.0 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5B_062011
### T110814-14 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **950** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **100** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **40** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **68** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5B_062011
### T110814-14 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **8.0** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *93.2 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *87.9 %* | *89.3-110* | | " | " | " | " | *S-GC* |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **26.3** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.99** | 0.10 | " | " | " | " | " | " | |

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Daniel J Chávez

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5C_062011
### T110814-15 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **9500000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **82000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| **Chlorobenzene** | **9.7** | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5C_062011
### T110814-15 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **11** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **8.2** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **12** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **17** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **670** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **28** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **140** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **460** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **37** | 5.0 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_MP5C_062011
### T110814-15 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *139 %* | *80-119* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *82.6 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *94.2 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **28.1** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **2.00** | 0.10 | " | " | " | " | " | " | |

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SunStar Laboratories, Inc.
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_VE1A_062011
### T110814-16 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **1000000** | 100 | ppm(v) | 20 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **29000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *100 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_VE1A_062011

### T110814-16 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **15** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **15** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **19** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **31** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **170** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **12** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **140** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **290** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **26** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_VE1A_062011

### T110814-16 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/23/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *97.0 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *95.4 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.6 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **4.98** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **20.5** | 0.10 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_VE1C_062011

### T110814-18 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4400000** | 500 | ppm(v) | 100 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **96000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.9 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| **Chlorobenzene** | **10** | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_VE1C_062011

### T110814-18 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **20** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **19** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **18** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **29** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **580** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **11** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **200** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **260** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **24** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_VE1C_062011

### T110814-18 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *148 %* | *80-119* | | " | " | " | " | *S-GC* |
| *Surrogate: Dibromofluoromethane* | | *88.0 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *91.9 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **28.0** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.23** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1A_062011
### T110814-19 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4400000** | 500 | ppm(v) | 100 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **39000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *95.8 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1A_062011

### T110814-19 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **5.6** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **9.1** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **360** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **210** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **47** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **130** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1A_062011

### T110814-19 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **32** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *89.4 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *98.8 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *88.5 %* | *89.3-110* | | " | " | " | " | *S-GC* |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **16.6** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **9.26** | 0.10 | " | " | " | " | " | " | |

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Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1B_062011
### T110814-20 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4000000** | 500 | ppm(v) | 100 | 1062105 | 06/21/11 | 06/23/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **31000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.6 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1B_062011

### T110814-20 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **8.1** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **330** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **210** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **43** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **100** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1B_062011

### T110814-20 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **26** | 5.0 | ug/l | 1 | 1062116 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.8 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *91.1 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *93.1 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **18.1** | 0.10 | % | 1 | 1062103 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **10.6** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1C_062011
### T110814-21 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **7400000** | 500 | ppm(v) | 100 | 1062106 | 06/21/11 | 06/23/11 | 8015M | E |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **74000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1C_062011

### T110814-21 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **6.0** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **6.0** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **5.4** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **9.9** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **470** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **55** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **71** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **96** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **16** | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1C_062011

### T110814-21 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *107 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *96.8 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **27.0** | 0.10 | % | 1 | 1062104 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **2.32** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1B_062011_02
### T110814-22 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **5500000** | 500 | ppm(v) | 100 | 1062106 | 06/21/11 | 06/23/11 | 8015M | E |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **36000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *85.4 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1B_062011_02

### T110814-22 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **7.7** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **360** | 5.0 | " | " | " | " | " | " | |
| **Toluene** | **230** | 5.0 | " | " | " | " | " | " | |
| **Ethylbenzene** | **43** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **97** | 5.0 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1B_062011_02
### T110814-22 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| **o-Xylene** | **25** | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *81.0 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *109 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *91.2 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **18.8** | 0.10 | % | 1 | 1062104 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **10.4** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1C_062011_02
### T110814-23 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **10000000** | 500 | ppm(v) | 100 | 1062106 | 06/21/11 | 06/23/11 | 8015M | E |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **67000** | 50 | ug/l | 1 | 1062110 | 06/21/11 | 06/23/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *99.7 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.0 | " | " | " | " | " | " | |
| Bromoform | ND | 5.0 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.0 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.0 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.0 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Chloroform | ND | 5.0 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.0 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1C_062011_02

### T110814-23 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.0 | " | " | " | " | " | " | |
| **Isopropylbenzene** | **6.6** | 5.0 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.0 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.0 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.0 | " | " | " | " | " | " | |
| **n-Propylbenzene** | **7.0** | 5.0 | " | " | " | " | " | " | |
| Styrene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.0 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.0 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | " | " | " | " | " | |
| **1,3,5-Trimethylbenzene** | **5.8** | 5.0 | " | " | " | " | " | " | |
| **1,2,4-Trimethylbenzene** | **11** | 5.0 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.0 | " | " | " | " | " | " | |
| **Benzene** | **460** | 120 | " | 25 | " | " | 06/23/11 | " | |
| **Toluene** | **51** | 5.0 | " | 1 | " | " | 06/22/11 | " | |
| **Ethylbenzene** | **75** | 5.0 | " | " | " | " | " | " | |
| **m,p-Xylene** | **98** | 5.0 | " | " | " | " | " | " | |
| **o-Xylene** | **16** | 5.0 | " | " | " | " | " | " | |

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Providing Quality Analytical Services Nationwide

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## LL_AI1C_062011_02
### T110814-23 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | ug/l | 1 | 1062111 | 06/21/11 | 06/22/11 | EPA 8260B | |
| Tert-butyl alcohol | ND | 20 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.0 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *106 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *99.9 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *93.0 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **28.1** | 0.10 | % | 1 | 1062104 | 06/21/11 | 06/23/11 | GC | |
| **Oxygen** | **1.36** | 0.10 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Methane by GC - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062105 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1062105-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Methane | ND | 5.0 | ppm(v) | | | | | | | |
| **Duplicate (1062105-DUP1)** | | **Source: T110814-01** | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Methane | 1320000 | 1000 | ppm(v) | | 1360000 | | | 3.05 | 20 | |
| **Batch 1062106 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1062106-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Methane | ND | 5.0 | ppm(v) | | | | | | | |
| **Duplicate (1062106-DUP1)** | | **Source: T110814-21** | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Methane | 8390000 | 500 | ppm(v) | | 7420000 | | | 12.2 | 20 | E |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062110 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1062110-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| C6-C12 (GRO) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *173* | | *"* | *200* | | *86.4* | *72.6-146* | | | |
| **LCS (1062110-BS1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| C6-C12 (GRO) | 5020 | 50 | ug/l | 5500 | | 91.3 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *194* | | *"* | *200* | | *97.1* | *72.6-146* | | | |
| **LCS Dup (1062110-BSD1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| C6-C12 (GRO) | 5220 | 50 | ug/l | 5500 | | 94.9 | 75-125 | 3.84 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *197* | | *"* | *200* | | *98.5* | *72.6-146* | | | |
| **Batch 1062117 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1062117-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| C6-C12 (GRO) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *47.9* | | *"* | *200* | | *23.9* | *72.6-146* | | | *QM-01* |
| **LCS (1062117-BS1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| C6-C12 (GRO) | 4840 | 50 | ug/l | 5500 | | 88.1 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *57.5* | | *"* | *200* | | *28.8* | *72.6-146* | | | *QM-01* |
| **LCS Dup (1062117-BSD1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| C6-C12 (GRO) | 5410 | 50 | ug/l | 5500 | | 98.3 | 75-125 | 11.0 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *180* | | *"* | *200* | | *89.9* | *72.6-146* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062111 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1062111-BLK1)** | | | | Prepared: 06/21/11 Analyzed: 06/22/11 | | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | " | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062111 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1062111-BLK1)** | | | | Prepared: 06/21/11 Analyzed: 06/22/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | ug/l | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | " | | | | | | | |
| Tert-butyl alcohol | ND | 20 | " | | | | | | | |
| Di-isopropyl ether | ND | 5.0 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 5.0 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 5.0 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *37.8* | | *"* | *40.0* | | *94.4* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *51.7* | | *"* | *40.0* | | *129* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *38.2* | | *"* | *40.0* | | *95.4* | *89.3-110* | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062111 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1062111-BS1)** | | | | Prepared: 06/21/11 | Analyzed: 06/22/11 | | | | | |
| Chlorobenzene | 105 | 5.0 | ug/l | 100 | | 105 | 75-125 | | | |
| 1,1-Dichloroethene | 106 | 5.0 | " | 100 | | 106 | 75-125 | | | |
| Trichloroethene | 96.8 | 5.0 | " | 100 | | 96.8 | 75-125 | | | |
| Benzene | 100 | 5.0 | " | 100 | | 100 | 75-125 | | | |
| Toluene | 90.4 | 5.0 | " | 100 | | 90.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.0* | | *"* | *40.0* | | *108* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *46.8* | | *"* | *40.0* | | *117* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *37.1* | | *"* | *40.0* | | *92.8* | *89.3-110* | | | |
| **LCS Dup (1062111-BSD1)** | | | | Prepared: 06/21/11 | Analyzed: 06/22/11 | | | | | |
| Chlorobenzene | 114 | 5.0 | ug/l | 100 | | 114 | 75-125 | 8.02 | 20 | |
| 1,1-Dichloroethene | 120 | 5.0 | " | 100 | | 120 | 75-125 | 12.4 | 20 | |
| Trichloroethene | 99.6 | 5.0 | " | 100 | | 99.6 | 75-125 | 2.80 | 20 | |
| Benzene | 105 | 5.0 | " | 100 | | 105 | 75-125 | 4.86 | 20 | |
| Toluene | 94.6 | 5.0 | " | 100 | | 94.6 | 75-125 | 4.43 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *45.0* | | *"* | *40.0* | | *112* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *51.8* | | *"* | *40.0* | | *129* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *35.9* | | *"* | *40.0* | | *89.8* | *89.3-110* | | | |
| **Batch 1062116 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1062116-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/22/11 | | | | | |
| Bromobenzene | ND | 5.0 | ug/l | | | | | | | |
| Bromochloromethane | ND | 5.0 | " | | | | | | | |
| Bromodichloromethane | ND | 5.0 | " | | | | | | | |
| Bromoform | ND | 5.0 | " | | | | | | | |
| Bromomethane | ND | 5.0 | " | | | | | | | |
| n-Butylbenzene | ND | 5.0 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.0 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.0 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.0 | " | | | | | | | |
| Chlorobenzene | ND | 5.0 | " | | | | | | | |
| Chloroethane | ND | 5.0 | " | | | | | | | |
| Chloroform | ND | 5.0 | " | | | | | | | |
| Chloromethane | ND | 5.0 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.0 | " | | | | | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062116 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1062116-BLK1)** | | | | Prepared: 06/21/11 Analyzed: 06/22/11 | | | | | | |
| 4-Chlorotoluene | ND | 5.0 | ug/l | | | | | | | |
| Dibromochloromethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | " | | | | | | | |
| Dibromomethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.0 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.0 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.0 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.0 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.0 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.0 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.0 | " | | | | | | | |
| Isopropylbenzene | ND | 5.0 | " | | | | | | | |
| p-Isopropyltoluene | ND | 5.0 | " | | | | | | | |
| Methylene chloride | ND | 5.0 | " | | | | | | | |
| Naphthalene | ND | 5.0 | " | | | | | | | |
| n-Propylbenzene | ND | 5.0 | " | | | | | | | |
| Styrene | ND | 5.0 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | " | | | | | | | |
| Tetrachloroethene | ND | 5.0 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.0 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.0 | " | | | | | | | |
| Trichloroethene | ND | 5.0 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.0 | " | | | | | | | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062116 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1062116-BLK1)** | | | | Prepared: 06/21/11 Analyzed: 06/22/11 | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/l | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | " | | | | | | | |
| Vinyl chloride | ND | 5.0 | " | | | | | | | |
| Benzene | ND | 5.0 | " | | | | | | | |
| Toluene | ND | 5.0 | " | | | | | | | |
| Ethylbenzene | ND | 5.0 | " | | | | | | | |
| m,p-Xylene | ND | 5.0 | " | | | | | | | |
| o-Xylene | ND | 5.0 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 5.0 | " | | | | | | | |
| Tert-butyl alcohol | ND | 20 | " | | | | | | | |
| Di-isopropyl ether | ND | 5.0 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 5.0 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 5.0 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.0 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *33.0* | | *"* | *40.0* | | *82.5* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *46.9* | | *"* | *40.0* | | *117* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *41.2* | | *"* | *40.0* | | *103* | *89.3-110* | | | |
| **LCS (1062116-BS1)** | | | | Prepared: 06/21/11 Analyzed: 06/22/11 | | | | | | |
| Chlorobenzene | 75.7 | 5.0 | ug/l | 100 | | 75.7 | 75-125 | | | |
| 1,1-Dichloroethene | 104 | 5.0 | " | 100 | | 104 | 75-125 | | | |
| Trichloroethene | 91.6 | 5.0 | " | 100 | | 91.6 | 75-125 | | | |
| Benzene | 97.6 | 5.0 | " | 100 | | 97.6 | 75-125 | | | |
| Toluene | 96.1 | 5.0 | " | 100 | | 96.1 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *39.2* | | *"* | *40.0* | | *97.9* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *47.0* | | *"* | *40.0* | | *118* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *40.0* | | *"* | *40.0* | | *100* | *89.3-110* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062116 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS Dup (1062116-BSD1)** | | | | Prepared: 06/21/11 Analyzed: 06/22/11 | | | | | | |
| Chlorobenzene | 82.6 | 5.0 | ug/l | 100 | | 82.6 | 75-125 | 8.72 | 20 | |
| 1,1-Dichloroethene | 104 | 5.0 | " | 100 | | 104 | 75-125 | 0.384 | 20 | |
| Trichloroethene | 92.2 | 5.0 | " | 100 | | 92.2 | 75-125 | 0.599 | 20 | |
| Benzene | 98.8 | 5.0 | " | 100 | | 98.8 | 75-125 | 1.22 | 20 | |
| Toluene | 97.2 | 5.0 | " | 100 | | 97.2 | 75-125 | 1.19 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *38.6* | | *"* | *40.0* | | *96.5* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *46.0* | | *"* | *40.0* | | *115* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *100* | *89.3-110* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Fixed Gases ASTM D1946-90 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1062103 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1062103-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Carbon Dioxide | ND | 0.10 | % | | | | | | | |
| Oxygen | ND | 0.10 | " | | | | | | | |
| **Duplicate (1062103-DUP1)** | | **Source: T110814-01** | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Carbon Dioxide | 8.85 | 0.10 | % | | 9.13 | | | 3.10 | 20 | |
| Oxygen | 16.9 | 0.10 | " | | 17.4 | | | 2.83 | 20 | |
| **Batch 1062104 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1062104-BLK1)** | | | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Carbon Dioxide | ND | 0.10 | % | | | | | | | |
| Oxygen | ND | 0.10 | " | | | | | | | |
| **Duplicate (1062104-DUP1)** | | **Source: T110814-21** | | Prepared: 06/21/11 | Analyzed: 06/23/11 | | | | | |
| Carbon Dioxide | 26.8 | 0.10 | % | | 27.0 | | | 0.733 | 20 | |
| Oxygen | 2.23 | 0.10 | " | | 2.32 | | | 4.08 | 20 | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 06/24/11 17:33 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| QM-01 | The % recovery is outside of established control limits due to matrix interference and/or sample dilution due to matrix effect. The batch was accepted based on acceptable LCS recovery. |
| E | The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 6·20·2011 Page: 1 OF 2
Project Name: CENCO
Collector: Frane Sosic Client Project #: 1003-001-200
Batch #: T110814 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | Fixed gasses ($O_2$ + $CO_2$) | 8015M (including $CH_4$) | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP1A_062011 | 6.20.2011 | 1128 | AIR | | | | | | | | | X | X | | | | 1 | | 01 |
| LL_MP1B_062011 | | 1129 | | | | | | | | | | X | X | | | | 1 | | 02 |
| LL_MP1C_062011 | | 1130 | | | | | | | | | | X | X | | | | 1 | | 03 |
| LL_MP2A_062011 | | 1140 | | | | | | | | | | X | X | | | | 1 | | 04 |
| LL_MP2B_062011 | | 1141 | | | | | | | | | | X | X | | | | 1 | | 05 |
| LL_MP2C_062011 | | 1142 | | | | | | | | | | X | X | | | | 1 | | 06 |
| LL_MP3A_062011 | | 1147 | | | | | | | | | | X | X | | | | 1 | | 07 |
| LL_MP3B_062011 | | 1148 | | | | | | | | | | X | X | | | | 1 | | 08 |
| LL_MP3C_062011 | | 1149 | | | | | | | | | | X | X | | | | 1 | | 09 |
| LL_MP4A_062011 | | 1208 | | | | | | | | | | X | X | | | | 1 | | 10 |
| LL_MP4B_062011 | | 1209 | | | | | | | | | | X | X | | | | 1 | | 11 |
| LL_MP4C_062011 | | 1210 | | | | | | | | | | X | X | | | | 1 | | 12 |
| LL_MP5A_062011 | | 1300 | | | | | | | | | | X | X | | | | 1 | | 13 |
| LL_MP5B_062011 | | 1301 | | | | | | | | | | X | X | | | | 1 | | 14 |
| LL_MP5C_062011 | | 1302 | | | | | | | | | | X | X | | | | 1 | | 15 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F.Sosic | 6·20·2011 1556 | | 6/20/11 1556 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 15 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 6·20·2011 Page: 2 Of 2
Project Name: CENCO
Collector: F. Sosic Client Project #: 1003-001-200
Batch #: T110814 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | 8260 (VOCs NO OXY) | 8260 + OXY | 1,4-Dioxane | 8270 Semi-Volatiles (PAHs, etc) | 8021 BTEX | 8015M (TPH gasoline) | 8015M (TPH diesel) | Hexavalent Chromium (7199) | 6010/7000 Title 22 Metals | PCBs | Fixed gasses ($O_2$ + $CO_2$) | 8015 M (including $CH_4$) | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_VEIA_062011 | 6·20·2011 | 1325 | AIR | | | | | | | | | | | X | X | | 1 | | 16 |
| LL_VEIB_062011 | | 1326 | | | | | | | | | | | | X | X | | 1 | | 17 |
| LL_VEIC_062011 | | 1327 | | | | | | | | | | | | X | X | | 1 | | 18 |
| LL_AIIA_062011 | | 1452 | | | | | | | | | | | | X | X | | 1 | | 19 |
| LL_AIIB_062011 | | 1453 | | | | | | | | | | | | X | X | | 1 | | 20 |
| LL_AIIC_062011 | | 1454 | | | | | | | | | | | | X | X | | 1 | | 21 |
| LL_AIIB_062011_02 | | 1510 | | | | | | | | | | | | X | X | | 1 | | 22 |
| LL_AIIC_062011_02 | | 1515 | | | | | | | | | | | | X | X | | 1 | | 23 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 6·20·2011 1556 | | 6/20/11 1556 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| | | | |

| | |
|---|---|
| Total # of containers | 8 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE



# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T110814

Client Name: Murex  Project: Lenco

Received by: Dan M  Date/Time Received: 6/20/11 1556

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 20.2 °C +/- the CF (- 0.2°C) = 20.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☐ Yes | ☐ No* | ☒ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date DM 6/20/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5027 Fax**

14 November 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 07/28/11 15:51. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_MP6A_072811 | T111018-01 | Air | 07/28/11 14:01 | 07/28/11 15:51 |
| LL_MP6B_072811 | T111018-02 | Air | 07/28/11 14:02 | 07/28/11 15:51 |
| LL_MP6C_072811 | T111018-03 | Air | 07/28/11 14:03 | 07/28/11 15:51 |
| LL_MP7A_072811 | T111018-04 | Air | 07/28/11 14:09 | 07/28/11 15:51 |
| LL_MP7B_072811 | T111018-05 | Air | 07/28/11 14:10 | 07/28/11 15:51 |
| LL_MP7C_072811 | T111018-06 | Air | 07/28/11 14:11 | 07/28/11 15:51 |
| LL_MP8A_072811 | T111018-07 | Air | 07/28/11 14:16 | 07/28/11 15:51 |
| LL_MP8B_072811 | T111018-08 | Air | 07/28/11 14:17 | 07/28/11 15:51 |
| LL_MP8C_072811 | T111018-09 | Air | 07/28/11 14:18 | 07/28/11 15:51 |
| LL_MP9A_072811 | T111018-10 | Air | 07/28/11 14:24 | 07/28/11 15:51 |
| LL_MP9B_072811 | T111018-11 | Air | 07/28/11 14:25 | 07/28/11 15:51 |
| LL_MP9C_072811 | T111018-12 | Air | 07/28/11 14:26 | 07/28/11 15:51 |
| LL_MP10A_072811 | T111018-13 | Air | 07/28/11 14:29 | 07/28/11 15:51 |
| LL_MP10B_072811 | T111018-14 | Air | 07/28/11 14:30 | 07/28/11 15:51 |
| LL_MP10C_072811 | T111018-15 | Air | 07/28/11 14:31 | 07/28/11 15:51 |
| LL_VE2A_072811 | T111018-16 | Air | 07/28/11 14:43 | 07/28/11 15:51 |
| LL_VE2B_072811 | T111018-17 | Air | 07/28/11 14:57 | 07/28/11 15:51 |
| LL_VE2C_072811 | T111018-18 | Air | 07/28/11 15:16 | 07/28/11 15:51 |
| LL_AI2A_072811 | T111018-19 | Air | 07/28/11 15:23 | 07/28/11 15:51 |
| LL_AI2B_072811 | T111018-20 | Air | 07/28/11 15:32 | 07/28/11 15:51 |
| LL_AI2C_072811 | T111018-21 | Air | 07/28/11 15:45 | 07/28/11 15:51 |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP6A_072811
### T111018-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **61000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **0.76** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **18.4** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP6B_072811
### T111018-02 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3300000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **23.2** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.54** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP6C_072811

### T111018-03 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3300000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.7** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.12** | 0.10 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP7A_072811
### T111018-04 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3900000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.0** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.10** | 0.10 | " | " | " | " | " | " | |

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Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP7B_072811

### T111018-05 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3600000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **24.1** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.00** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP7C_072811
### T111018-06 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3000000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **27.7** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.32** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP8A_072811

### T111018-07 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **1700000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **14.7** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **9.49** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP8B_072811
### T111018-08 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4100000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.0** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.32** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP8C_072811

### T111018-09 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **4000000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **24.3** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.26** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP9A_072811
### T111018-10 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **900000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **8.90** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **13.6** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP9B_072811
### T111018-11 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3800000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **23.0** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.75** | 0.10 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP9C_072811

### T111018-12 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3500000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **24.0** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.04** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP10A_072811
### T111018-13 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **100000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **4.01** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **13.3** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP10B_072811
### T111018-14 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3000000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.2** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.15** | 0.10 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_MP10C_072811
### T111018-15 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3200000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.3** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.09** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_VE2A_072811

### T111018-16 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **2800000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.3** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.72** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_VE2B_072811

### T111018-17 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3700000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **17.5** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **0.61** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_VE2C_072811

### T111018-18 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3200000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **25.2** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.14** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_AI2A_072811
### T111018-19 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3100000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **15.7** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.50** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_AI2B_072811
### T111018-20 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3800000** | 500 | ppm(v) | 100 | 1072909 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **22.0** | 0.10 | % | 1 | 1072911 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.66** | 0.10 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## LL_AI2C_072811
### T111018-21 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **3500000** | 500 | ppm(v) | 100 | 1072910 | 07/29/11 | 08/02/11 | 8015M | ME-01 |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **24.3** | 0.10 | % | 1 | 1072912 | 07/29/11 | 07/29/11 | GC | |
| **Oxygen** | **1.58** | 0.10 | " | " | " | " | " | " | |

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## Methane by GC - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1072909 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1072909-BLK1)** | | | | Prepared: 07/29/11 | Analyzed: 08/02/11 | | | | | |
| Methane | ND | 5.0 | ppm(v) | | | | | | | |
| **Duplicate (1072909-DUP1)** | | **Source: T111018-01** | | Prepared: 07/29/11 | Analyzed: 08/02/11 | | | | | |
| Methane | 60000 | 5.0 | ppm(v) | | 60800 | | | 1.47 | 20 | |

SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## Fixed Gases ASTM D1946-90 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1072911 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1072911-BLK1)** | | | | Prepared & Analyzed: 07/29/11 | | | | | | |
| Carbon Dioxide | ND | 0.10 | % | | | | | | | |
| Oxygen | 0.34 | 0.10 | " | | | | | | | |
| **Duplicate (1072911-DUP1)** | | **Source: T111018-01** | | Prepared & Analyzed: 07/29/11 | | | | | | |
| Carbon Dioxide | 0.73 | 0.10 | % | | 0.76 | | | 3.22 | 20 | |
| Oxygen | 17.7 | 0.10 | " | | 18.4 | | | 3.90 | 20 | |
| **Batch 1072912 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1072912-BLK1)** | | | | Prepared & Analyzed: 07/29/11 | | | | | | |
| Carbon Dioxide | ND | 0.10 | % | | | | | | | |
| Oxygen | 0.22 | 0.10 | " | | | | | | | |
| **Duplicate (1072912-DUP1)** | | **Source: T111018-21** | | Prepared & Analyzed: 07/29/11 | | | | | | |
| Carbon Dioxide | 24.2 | 0.10 | % | | 24.3 | | | 0.463 | 20 | |
| Oxygen | 1.52 | 0.10 | " | | 1.58 | | | 4.07 | 20 | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 11/14/11 09:41 |

## Notes and Definitions

| | |
|---|---|
| ME-01 | Methane results are biased high due to possible coelution of non-target hydrocarbons. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 7.28.2011 Page: 1 OF 2
Project Name: CENCO
Collector: EL/FS Client Project #: 1003-001-200
Batch #: T111018 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | Fixed gases ($O_2$ + $CO_2$) | 8015M (including $CH_4$) | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_MP6A_072811 | 7.28.2011 | 1401 | AIR | | | | | | | | | X | X | | | | 1 | | 01 |
| LL_MP6B_072811 | | 1402 | | | | | | | | | | X | X | | | | 1 | | 02 |
| LL_MP6C_072811 | | 1403 | | | | | | | | | | X | X | | | | 1 | | 03 |
| LL_MP7A_072811 | | 1409 | | | | | | | | | | X | X | | | | 1 | | 04 |
| LL_MP7B_072811 | | 1410 | | | | | | | | | | X | X | | | | 1 | | 05 |
| LL_MP7C_072811 | | 1411 | | | | | | | | | | X | X | | | | 1 | | 06 |
| LL_MP8A_072811 | | 1416 | | | | | | | | | | X | X | | | | 1 | | 07 |
| LL_MP8B_072811 | | 1417 | | | | | | | | | | X | X | | | | 1 | | 08 |
| LL_MP8C_072811 | | 1418 | | | | | | | | | | X | X | | | | 1 | | 09 |
| LL_MP9A_072811 | | 1424 | | | | | | | | | | X | X | | | | 1 | | 10 |
| LL_MP9B_072811 | | 1425 | | | | | | | | | | X | X | | | | 1 | | 11 |
| LL_MP9C_072811 | | 1426 | | | | | | | | | | X | X | | | | 1 | | 12 |
| LL_MP10A_072811 | | 1429 | | | | | | | | | | X | X | | | | 1 | | 13 |
| LL_MP10B_072811 | | 1430 | | | | | | | | | | X | X | | | | 1 | | 14 |
| LL_MP10C_072811 | | 1431 | | | | | | | | | | X | X | | | | 1 | | 15 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosie | 7.28.2011 1551 | | 7/28/11 1551 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 21 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 7.28.2011 Page: 2 OF 2
Project Name: CENCO
Collector: FS/EL Client Project #: 1003-001-200
Batch #: T111018 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | Fixed gases ($O_2$ + $CO_2$) | 8015M (including $CH_4$) | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_VE2A_072811 | 7.28.2011 | 1443 | AIR | | | | | | | | | X | X | | | | 1 | | 16 |
| LL_VE2B_072811 | | 1457 | | | | | | | | | | X | X | | | | 1 | | 17 |
| LL_VE2C_072811 | | 1516 | | | | | | | | | | X | X | | | | 1 | | 18 |
| LL_AI2A_072811 | | 1523 | | | | | | | | | | X | X | | | | 1 | | 19 |
| LL_AI2B_072811 | | 1532 | | | | | | | | | | X | X | | | | 1 | | 20 |
| LL_AI2C_07281 | | 1545 | | | | | | | | | | X | X | | | | 1 | | 21 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| F. Sosic | 7.28.2011 1551 | | 7/28/11 1551 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 21 |
| Chain of Custody seals | N |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE



# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T111018

Client Name: MUREX Project: CENCO

Received by: DAN Date/Time Received: 7/28/11 1551

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

Total number of coolers received 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 20.2 °C +/- the CF (- 0.2°C) = 20.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☐Yes | ☐No* | ☒N/A |
| Custody Seals Intact on Cooler/Sample | ☐Yes | ☐No* | ☒N/A |
| Sample Containers Intact | ☒Yes | ☐No* | |
| Sample labels match COC ID's | ☒Yes | ☐No* | |
| Total number of containers received match COC | ☒Yes | ☐No* | |
| Proper containers received for analyses requested on COC | ☒Yes | ☐No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐Yes | ☐No* | ☒N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 7/29/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
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**949.297.5027 Fax**

21 September 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 09/14/11 10:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_SVE1A_091311_01 | T111262-01 | Air | 09/13/11 13:30 | 09/14/11 10:15 |
| LL_SVE1B_091311_01 | T111262-02 | Air | 09/13/11 13:36 | 09/14/11 10:15 |
| LL_SVE1C_091311_01 | T111262-03 | Air | 09/13/11 13:40 | 09/14/11 10:15 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## LL_SVE1A_091311_01
### T111262-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **25000** | 5.0 | ppm(v) | 1 | 1091312 | 09/13/11 | 09/16/11 | 8015M | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **5.59** | 0.10 | % | 1 | 1091313 | 09/13/11 | 09/15/11 | GC | |
| **Oxygen** | **0.56** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## LL_SVE1B_091311_01
## T111262-02 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **63000** | 5.0 | ppm(v) | 1 | 1091312 | 09/13/11 | 09/16/11 | 8015M | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **12.3** | 0.10 | % | 1 | 1091313 | 09/13/11 | 09/15/11 | GC | |
| **Oxygen** | **1.29** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## LL_SVE1C_091311_01
### T111262-03 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **51000** | 5.0 | ppm(v) | 1 | 1091312 | 09/13/11 | 09/16/11 | 8015M | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **2.45** | 0.10 | % | 1 | 1091313 | 09/13/11 | 09/15/11 | GC | |
| **Oxygen** | **0.50** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## Methane by GC - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091312 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1091312-BLK1)** | | | | Prepared: 09/13/11 | Analyzed: 09/16/11 | | | | | |
| Methane | ND | 5.0 | ppm(v) | | | | | | | |
| **Duplicate (1091312-DUP1)** | | **Source: T111252-01** | | Prepared: 09/13/11 | Analyzed: 09/16/11 | | | | | |
| Methane | 47.4 | 5.0 | ppm(v) | | 40.9 | | | 14.7 | 20 | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## Fixed Gases ASTM D1946-90 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1091313 - General Prep VOC-GC** | | | | | | | | | | |
| **Duplicate (1091313-DUP1)** | | **Source: T111252-01** | | Prepared: 09/13/11 | Analyzed: 09/15/11 | | | | | |
| Carbon Dioxide | 2.34 | 0.20 | % | | 2.65 | | | 12.3 | 20 | |
| Oxygen | 9.50 | 0.20 | " | | 11.7 | | | 20.9 | 20 | |

SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 09/21/11 16:33 |

## Notes and Definitions

| | |
|---|---|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Daniel Chavez, Project Manager

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 9/13/11 Page: 1 OF 1
Project Name: CENCO
Collector: EL / ES Client Project #: 1003-001-200
Batch #: T111262 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) including $CH_4$ | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | Fixed gases ($O_2$ + $CO_2$) | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL-SVE1A-091311-01 | 9/13/11 | 13:30 | Air | X | | | | | | | | X | | | | | 1 | | 01 |
| LL-SVE1B-091311-01 | 9/13/11 | 13:36 | Air | X | | | | | | | | X | | | | | 1 | | 02 |
| LL-SVE1C-091311-01 | 9/13/11 | 13:40 | Air. | X | | | | | | | | X | | | | | 1 | | 03 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| [signature] | 9-13-11 / 16:01 | [signature] | |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| [signature] | 9/14/11 10:15 AM | [signature] | 9/14/11 1015 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 3 |
| Chain of Custody seals | N/A |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes

TEMP 20.0°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE



# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T111262

Client Name: MUREX  Project: CENCO

Received by: DAN  Date/Time Received: 9/14/11 10:15

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 20.2 °C +/- the CF (- 0.2°C) = 20.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☐ Yes | ☐ No* | ☒ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date BC 9/14/11

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

07 October 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 09/22/11 10:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_IAS1INF-092111 | T111313-01 | Air | 09/21/11 16:20 | 09/22/11 10:05 |

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## LL_IAS1INF-092111

### T111313-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **530** | 50 | ug/l | 1 | 1092923 | 09/22/11 | 09/30/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *92.5 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.00 | ug/l | 1 | 1092922 | 09/29/11 | 09/30/11 | EPA 8260B | O-05 |
| Bromochloromethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Bromodichloromethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Bromoform | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Bromomethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| n-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| sec-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| tert-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Carbon tetrachloride | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Chlorobenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Chloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Chloroform | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Chloromethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 2-Chlorotoluene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 4-Chlorotoluene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Dibromochloromethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2-Dibromo-3-chloropropane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2-Dibromoethane (EDB) | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Dibromomethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,3-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,4-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Dichlorodifluoromethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1-Dichloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2-Dichloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| cis-1,2-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| trans-1,2-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | O-05 |

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Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## LL_IAS1INF-092111
### T111313-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| 1,2-Dichloropropane | ND | 5.00 | ug/l | 1 | 1092922 | 09/29/11 | 09/30/11 | EPA 8260B | O-05 |
| 1,3-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 2,2-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| cis-1,3-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| trans-1,3-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Hexachlorobutadiene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Isopropylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| p-Isopropyltoluene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Methylene chloride | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Naphthalene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| n-Propylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Styrene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1,2,2-Tetrachloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1,1,2-Tetrachloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Tetrachloroethene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2,3-Trichlorobenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1,2-Trichloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1,1-Trichloroethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Trichloroethene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Trichlorofluoromethane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2,3-Trichloropropane | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,3,5-Trimethylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,2,4-Trimethylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Vinyl chloride | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Benzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Toluene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Ethylbenzene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| m,p-Xylene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| o-Xylene | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Tert-amyl methyl ether | ND | 5.00 | " | " | " | " | " | " | O-05 |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## LL_IAS1INF-092111

### T111313-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Tert-butyl alcohol | ND | 20.0 | ug/l | 1 | 1092922 | 09/29/11 | 09/30/11 | EPA 8260B | O-05 |
| Di-isopropyl ether | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Ethyl tert-butyl ether | ND | 5.00 | " | " | " | " | " | " | O-05 |
| Methyl tert-butyl ether | ND | 5.00 | " | " | " | " | " | " | O-05 |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.00 | " | " | " | " | " | " | O-05 |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *80-119* | | " | " | " | " | *O-05* |
| *Surrogate: Dibromofluoromethane* | | *96.8 %* | *66.4-140* | | " | " | " | " | *O-05* |
| *Surrogate: Toluene-d8* | | *98.5 %* | *89.3-110* | | " | " | " | " | *O-05* |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1092923 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1092923-BLK1)** | | | | Prepared: 09/22/11 | | Analyzed: 09/30/11 | | | | |
| C6-C12 (GRO) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *95.9* | | *"* | *100* | | *95.9* | *72.6-146* | | | |
| **LCS (1092923-BS1)** | | | | Prepared: 09/22/11 | | Analyzed: 09/30/11 | | | | |
| C6-C12 (GRO) | 5200 | 50 | ug/l | 5500 | | 94.5 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *91.6* | | *"* | *100* | | *91.6* | *72.6-146* | | | |
| **LCS Dup (1092923-BSD1)** | | | | Prepared: 09/22/11 | | Analyzed: 09/30/11 | | | | |
| C6-C12 (GRO) | 4880 | 50 | ug/l | 5500 | | 88.7 | 75-125 | 6.43 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *96.2* | | *"* | *100* | | *96.2* | *72.6-146* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1092922 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1092922-BLK1)** | | | | Prepared: 09/29/11 Analyzed: 09/30/11 | | | | | | |
| Bromobenzene | ND | 5.00 | ug/l | | | | | | | |
| Bromochloromethane | ND | 5.00 | " | | | | | | | |
| Bromodichloromethane | ND | 5.00 | " | | | | | | | |
| Bromoform | ND | 5.00 | " | | | | | | | |
| Bromomethane | ND | 5.00 | " | | | | | | | |
| n-Butylbenzene | ND | 5.00 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.00 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.00 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.00 | " | | | | | | | |
| Chlorobenzene | ND | 5.00 | " | | | | | | | |
| Chloroethane | ND | 5.00 | " | | | | | | | |
| Chloroform | ND | 5.00 | " | | | | | | | |
| Chloromethane | ND | 5.00 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.00 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.00 | " | | | | | | | |
| Dibromochloromethane | ND | 5.00 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.00 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.00 | " | | | | | | | |
| Dibromomethane | ND | 5.00 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.00 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.00 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.00 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.00 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.00 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.00 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.00 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.00 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.00 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.00 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.00 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.00 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.00 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.00 | " | | | | | | | |
| Isopropylbenzene | ND | 5.00 | " | | | | | | | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1092922 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1092922-BLK1)** | | | | Prepared: 09/29/11 Analyzed: 09/30/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.00 | ug/l | | | | | | | |
| Methylene chloride | ND | 5.00 | " | | | | | | | |
| Naphthalene | ND | 5.00 | " | | | | | | | |
| n-Propylbenzene | ND | 5.00 | " | | | | | | | |
| Styrene | ND | 5.00 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.00 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.00 | " | | | | | | | |
| Tetrachloroethene | ND | 5.00 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.00 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.00 | " | | | | | | | |
| Trichloroethene | ND | 5.00 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.00 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.00 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.00 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.00 | " | | | | | | | |
| Vinyl chloride | ND | 5.00 | " | | | | | | | |
| Benzene | ND | 5.00 | " | | | | | | | |
| Toluene | ND | 5.00 | " | | | | | | | |
| Ethylbenzene | ND | 5.00 | " | | | | | | | |
| m,p-Xylene | ND | 5.00 | " | | | | | | | |
| o-Xylene | ND | 5.00 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 5.00 | " | | | | | | | |
| Tert-butyl alcohol | ND | 20.0 | " | | | | | | | |
| Di-isopropyl ether | ND | 5.00 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 5.00 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 5.00 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.00 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.2* | | *"* | *40.0* | | *111* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *39.2* | | *"* | *40.0* | | *97.9* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *39.8* | | *"* | *40.0* | | *99.6* | *89.3-110* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1092922 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1092922-BS1)** | | | | Prepared: 09/29/11 | Analyzed: 09/30/11 | | | | | |
| Chlorobenzene | 81.1 | 5.00 | ug/l | 100 | | 81.1 | 75-125 | | | |
| 1,1-Dichloroethene | 90.6 | 5.00 | " | 100 | | 90.6 | 75-125 | | | |
| Trichloroethene | 95.6 | 5.00 | " | 100 | | 95.6 | 75-125 | | | |
| Benzene | 89.2 | 5.00 | " | 100 | | 89.2 | 75-125 | | | |
| Toluene | 81.4 | 5.00 | " | 100 | | 81.4 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.3* | | *"* | *40.0* | | *111* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *40.6* | | *"* | *40.0* | | *101* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *44.0* | | *"* | *40.0* | | *110* | *89.3-110* | | | |
| **LCS Dup (1092922-BSD1)** | | | | Prepared: 09/29/11 | Analyzed: 10/01/11 | | | | | |
| Chlorobenzene | 84.0 | 5.00 | ug/l | 100 | | 84.0 | 75-125 | 3.51 | 20 | |
| 1,1-Dichloroethene | 85.2 | 5.00 | " | 100 | | 85.2 | 75-125 | 6.15 | 20 | |
| Trichloroethene | 101 | 5.00 | " | 100 | | 101 | 75-125 | 5.89 | 20 | |
| Benzene | 87.9 | 5.00 | " | 100 | | 87.9 | 75-125 | 1.52 | 20 | |
| Toluene | 78.4 | 5.00 | " | 100 | | 78.4 | 75-125 | 3.63 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *48.2* | | *"* | *40.0* | | *121* | *80-119* | | | *S-GC* |
| *Surrogate: Dibromofluoromethane* | *41.2* | | *"* | *40.0* | | *103* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *42.6* | | *"* | *40.0* | | *106* | *89.3-110* | | | |

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:45 |

## Notes and Definitions

| | |
|---|---|
| S-GC | Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s). |
| O-05 | This sample was extracted outside of the EPA recommended holding time. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 9-21-11 Page: 1 OF 1
Project Name: CENCO
Collector: E. Lin Client Project #: 1003-001-200
Batch #: T111312 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | ASTM D1946 | | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_IAS1INF_092111 | 9.21.11 | 16:20 | Air | X | | | | | | | | X | | | | | 1 | | 01 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time | | |
|---|---|---|---|---|---|
| [signature] | 9-21-11/17:40 | [signature] | 9-21-11 17:46 | Total # of containers | 1 |
| | | | | Chain of Custody seals | N |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time | Seals intact? Y/N/NA | N/A |
| [signature] | 9-22-11 10:05 | [signature] | 9/22/11 1005 | Received good condition/cold | Y |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time | **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T111312

Client Name: MUREX  Project: CENCO

Received by: DAN  Date/Time Received: 9/22/11 1005

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 20.2 °C +/- the CF (- 0.2°C) = 20.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☐ Yes | ☐ No* | ☒ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date BC 9/22/11

Comments:

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**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

07 October 2011

Jeremy Squire
Murex
2640 Walnut Ave. Unit F
Tustin, CA 92780

RE: Cenco

Enclosed are the results of analyses for samples received by the laboratory on 09/30/11 13:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| LL_SVE1C_093011 | T111391-01 | Air | 09/30/11 09:25 | 09/30/11 13:38 |
| LL_W10_093011 | T111391-02 | Air | 09/30/11 09:38 | 09/30/11 13:38 |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## LL_SVE1C_093011

### T111391-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **13000** | 5.0 | ppm(v) | 1 | 1100112 | 10/01/11 | 10/04/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1800** | 50 | ug/l | 1 | 1100402 | 10/04/11 | 10/05/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *119 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.00 | ug/l | 1 | 1100409 | 10/04/11 | 10/07/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.00 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.00 | " | " | " | " | " | " | |
| Bromoform | ND | 5.00 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.00 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.00 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.00 | " | " | " | " | " | " | |
| Chloroform | ND | 5.00 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.00 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.00 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.00 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.00 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## LL_SVE1C_093011

### T111391-01 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.00 | ug/l | 1 | 1100409 | 10/04/11 | 10/07/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.00 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.00 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.00 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.00 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| Styrene | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.00 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.00 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.00 | " | " | " | " | " | " | |
| Benzene | ND | 5.00 | " | " | " | " | " | " | |
| Toluene | ND | 5.00 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.00 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## LL_SVE1C_093011

### T111391-01 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| o-Xylene | ND | 5.00 | ug/l | 1 | 1100409 | 10/04/11 | 10/07/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.00 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20.0 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.00 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.00 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.00 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *100 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *101 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **2.75** | 0.10 | % | 1 | 1100111 | 10/01/11 | 10/05/11 | GC | |
| **Oxygen** | **7.38** | 0.10 | " | " | " | " | " | " | |
| **Nitrogen** | **78.1** | 0.10 | " | " | " | " | " | " | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## LL_W10_093011

### T111391-02 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Methane by GC** | | | | | | | | | |
| **Methane** | **2700** | 5.0 | ppm(v) | 1 | 1100112 | 10/01/11 | 10/04/11 | 8015M | |
| **Purgeable Petroleum Hydrocarbons by EPA 8015C** | | | | | | | | | |
| **C6-C12 (GRO)** | **1900** | 50 | ug/l | 1 | 1100402 | 10/04/11 | 10/05/11 | EPA 8015C | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *72.6-146* | | " | " | " | " | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| Bromobenzene | ND | 5.00 | ug/l | 1 | 1100409 | 10/04/11 | 10/07/11 | EPA 8260B | |
| Bromochloromethane | ND | 5.00 | " | " | " | " | " | " | |
| Bromodichloromethane | ND | 5.00 | " | " | " | " | " | " | |
| Bromoform | ND | 5.00 | " | " | " | " | " | " | |
| Bromomethane | ND | 5.00 | " | " | " | " | " | " | |
| n-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| sec-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| tert-Butylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| Carbon tetrachloride | ND | 5.00 | " | " | " | " | " | " | |
| Chlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| Chloroethane | ND | 5.00 | " | " | " | " | " | " | |
| Chloroform | ND | 5.00 | " | " | " | " | " | " | |
| Chloromethane | ND | 5.00 | " | " | " | " | " | " | |
| 2-Chlorotoluene | ND | 5.00 | " | " | " | " | " | " | |
| 4-Chlorotoluene | ND | 5.00 | " | " | " | " | " | " | |
| Dibromochloromethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dibromo-3-chloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dibromoethane (EDB) | ND | 5.00 | " | " | " | " | " | " | |
| Dibromomethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,3-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,4-Dichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| Dichlorodifluoromethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1-Dichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | |

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## LL_W10_093011

### T111391-02 (Air)

### SunStar Laboratories, Inc.

**Volatile Organic Compounds by EPA Method 8260B in Air**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ND | 5.00 | ug/l | 1 | 1100409 | 10/04/11 | 10/07/11 | EPA 8260B | |
| trans-1,2-Dichloroethene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,3-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 2,2-Dichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | |
| cis-1,3-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | |
| trans-1,3-Dichloropropene | ND | 5.00 | " | " | " | " | " | " | |
| Hexachlorobutadiene | ND | 5.00 | " | " | " | " | " | " | |
| Isopropylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| p-Isopropyltoluene | ND | 5.00 | " | " | " | " | " | " | |
| Methylene chloride | ND | 5.00 | " | " | " | " | " | " | |
| Naphthalene | ND | 5.00 | " | " | " | " | " | " | |
| n-Propylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| Styrene | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,2,2-Tetrachloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,1,2-Tetrachloroethane | ND | 5.00 | " | " | " | " | " | " | |
| Tetrachloroethene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,3-Trichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,2-Trichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,1-Trichloroethane | ND | 5.00 | " | " | " | " | " | " | |
| Trichloroethene | ND | 5.00 | " | " | " | " | " | " | |
| Trichlorofluoromethane | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,3-Trichloropropane | ND | 5.00 | " | " | " | " | " | " | |
| 1,3,5-Trimethylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| 1,2,4-Trimethylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| Vinyl chloride | ND | 5.00 | " | " | " | " | " | " | |
| Benzene | ND | 5.00 | " | " | " | " | " | " | |
| Toluene | ND | 5.00 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 5.00 | " | " | " | " | " | " | |
| m,p-Xylene | ND | 5.00 | " | " | " | " | " | " | |

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SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## LL_W10_093011

### T111391-02 (Air)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **SunStar Laboratories, Inc.** | | | | | | | | | |
| **Volatile Organic Compounds by EPA Method 8260B in Air** | | | | | | | | | |
| o-Xylene | ND | 5.00 | ug/l | 1 | 1100409 | 10/04/11 | 10/07/11 | EPA 8260B | |
| Tert-amyl methyl ether | ND | 5.00 | " | " | " | " | " | " | |
| Tert-butyl alcohol | ND | 20.0 | " | " | " | " | " | " | |
| Di-isopropyl ether | ND | 5.00 | " | " | " | " | " | " | |
| Ethyl tert-butyl ether | ND | 5.00 | " | " | " | " | " | " | |
| Methyl tert-butyl ether | ND | 5.00 | " | " | " | " | " | " | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.00 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *80-119* | | " | " | " | " | |
| *Surrogate: Dibromofluoromethane* | | *101 %* | *66.4-140* | | " | " | " | " | |
| *Surrogate: Toluene-d8* | | *99.1 %* | *89.3-110* | | " | " | " | " | |
| **Fixed Gases ASTM D1946-90** | | | | | | | | | |
| **Carbon Dioxide** | **0.44** | 0.10 | % | 1 | 1100111 | 10/01/11 | 10/05/11 | GC | |
| **Oxygen** | **12.3** | 0.10 | " | " | " | " | " | " | |
| **Nitrogen** | **84.1** | 0.10 | " | " | " | " | " | " | |

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

**25712 Commercentre Drive**
**Lake Forest, California 92630**
**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Methane by GC - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1100112 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1100112-BLK1)** | | | | Prepared: 10/01/11 | Analyzed: 10/04/11 | | | | | |
| Methane | ND | 5.0 | ppm(v) | | | | | | | |
| **Duplicate (1100112-DUP1)** | | **Source: T111391-01** | | Prepared: 10/01/11 | Analyzed: 10/04/11 | | | | | |
| Methane | 13100 | 5.0 | ppm(v) | | 13400 | | | 2.09 | 20 | |

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**Lake Forest, California 92630**
**949.297.5020 Phone**
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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1100402 - EPA 5030 GC** | | | | | | | | | | |
| **Blank (1100402-BLK1)** | | | | Prepared: 10/04/11 | | Analyzed: 10/05/11 | | | | |
| C6-C12 (GRO) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *115* | | *"* | *100* | | *115* | *72.6-146* | | | |
| **LCS (1100402-BS1)** | | | | Prepared: 10/04/11 | | Analyzed: 10/05/11 | | | | |
| C6-C12 (GRO) | 5710 | 50 | ug/l | 5500 | | 104 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *107* | | *"* | *100* | | *107* | *72.6-146* | | | |
| **LCS Dup (1100402-BSD1)** | | | | Prepared: 10/04/11 | | Analyzed: 10/05/11 | | | | |
| C6-C12 (GRO) | 5710 | 50 | ug/l | 5500 | | 104 | 75-125 | 0.0435 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *102* | | *"* | *100* | | *102* | *72.6-146* | | | |

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| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1100409 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1100409-BLK1)** | | | | Prepared: 10/04/11 Analyzed: 10/07/11 | | | | | | |
| Bromobenzene | ND | 5.00 | ug/l | | | | | | | |
| Bromochloromethane | ND | 5.00 | " | | | | | | | |
| Bromodichloromethane | ND | 5.00 | " | | | | | | | |
| Bromoform | ND | 5.00 | " | | | | | | | |
| Bromomethane | ND | 5.00 | " | | | | | | | |
| n-Butylbenzene | ND | 5.00 | " | | | | | | | |
| sec-Butylbenzene | ND | 5.00 | " | | | | | | | |
| tert-Butylbenzene | ND | 5.00 | " | | | | | | | |
| Carbon tetrachloride | ND | 5.00 | " | | | | | | | |
| Chlorobenzene | ND | 5.00 | " | | | | | | | |
| Chloroethane | ND | 5.00 | " | | | | | | | |
| Chloroform | ND | 5.00 | " | | | | | | | |
| Chloromethane | ND | 5.00 | " | | | | | | | |
| 2-Chlorotoluene | ND | 5.00 | " | | | | | | | |
| 4-Chlorotoluene | ND | 5.00 | " | | | | | | | |
| Dibromochloromethane | ND | 5.00 | " | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 5.00 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 5.00 | " | | | | | | | |
| Dibromomethane | ND | 5.00 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.00 | " | | | | | | | |
| Dichlorodifluoromethane | ND | 5.00 | " | | | | | | | |
| 1,1-Dichloroethane | ND | 5.00 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 5.00 | " | | | | | | | |
| 1,1-Dichloroethene | ND | 5.00 | " | | | | | | | |
| cis-1,2-Dichloroethene | ND | 5.00 | " | | | | | | | |
| trans-1,2-Dichloroethene | ND | 5.00 | " | | | | | | | |
| 1,2-Dichloropropane | ND | 5.00 | " | | | | | | | |
| 1,3-Dichloropropane | ND | 5.00 | " | | | | | | | |
| 2,2-Dichloropropane | ND | 5.00 | " | | | | | | | |
| 1,1-Dichloropropene | ND | 5.00 | " | | | | | | | |
| cis-1,3-Dichloropropene | ND | 5.00 | " | | | | | | | |
| trans-1,3-Dichloropropene | ND | 5.00 | " | | | | | | | |
| Hexachlorobutadiene | ND | 5.00 | " | | | | | | | |
| Isopropylbenzene | ND | 5.00 | " | | | | | | | |

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949.297.5027 Fax

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1100409 - EPA 5030 GCMS** | | | | | | | | | | |
| **Blank (1100409-BLK1)** | | | | Prepared: 10/04/11 Analyzed: 10/07/11 | | | | | | |
| p-Isopropyltoluene | ND | 5.00 | ug/l | | | | | | | |
| Methylene chloride | ND | 5.00 | " | | | | | | | |
| Naphthalene | ND | 5.00 | " | | | | | | | |
| n-Propylbenzene | ND | 5.00 | " | | | | | | | |
| Styrene | ND | 5.00 | " | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 5.00 | " | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.00 | " | | | | | | | |
| Tetrachloroethene | ND | 5.00 | " | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | | | | | | | |
| 1,1,2-Trichloroethane | ND | 5.00 | " | | | | | | | |
| 1,1,1-Trichloroethane | ND | 5.00 | " | | | | | | | |
| Trichloroethene | ND | 5.00 | " | | | | | | | |
| Trichlorofluoromethane | ND | 5.00 | " | | | | | | | |
| 1,2,3-Trichloropropane | ND | 5.00 | " | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 5.00 | " | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 5.00 | " | | | | | | | |
| Vinyl chloride | ND | 5.00 | " | | | | | | | |
| Benzene | ND | 5.00 | " | | | | | | | |
| Toluene | ND | 5.00 | " | | | | | | | |
| Ethylbenzene | ND | 5.00 | " | | | | | | | |
| m,p-Xylene | ND | 5.00 | " | | | | | | | |
| o-Xylene | ND | 5.00 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 5.00 | " | | | | | | | |
| Tert-butyl alcohol | ND | 20.0 | " | | | | | | | |
| Di-isopropyl ether | ND | 5.00 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 5.00 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 5.00 | " | | | | | | | |
| 1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113) | ND | 5.00 | " | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.0* | | *"* | *40.0* | | *108* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *40.0* | | *"* | *40.0* | | *100* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *40.2* | | *"* | *40.0* | | *100* | *89.3-110* | | | |

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**949.297.5020 Phone**
**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Volatile Organic Compounds by EPA Method 8260B in Air - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1100409 - EPA 5030 GCMS** | | | | | | | | | | |
| **LCS (1100409-BS1)** | | | | Prepared: 10/04/11 | Analyzed: 10/07/11 | | | | | |
| Chlorobenzene | 84.8 | 5.00 | ug/l | 100 | | 84.8 | 75-125 | | | |
| 1,1-Dichloroethene | 73.0 | 5.00 | " | 100 | | 73.0 | 75-125 | | | QM-01 |
| Trichloroethene | 71.2 | 5.00 | " | 100 | | 71.2 | 75-125 | | | QM-01 |
| Benzene | 83.4 | 5.00 | " | 100 | | 83.4 | 75-125 | | | |
| Toluene | 80.6 | 5.00 | " | 100 | | 80.6 | 75-125 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.6* | | *"* | *40.0* | | *109* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *40.2* | | *"* | *40.0* | | *101* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *40.3* | | *"* | *40.0* | | *101* | *89.3-110* | | | |
| **LCS Dup (1100409-BSD1)** | | | | Prepared: 10/04/11 | Analyzed: 10/07/11 | | | | | |
| Chlorobenzene | 81.2 | 5.00 | ug/l | 100 | | 81.2 | 75-125 | 4.40 | 20 | |
| 1,1-Dichloroethene | 81.6 | 5.00 | " | 100 | | 81.6 | 75-125 | 11.0 | 20 | |
| Trichloroethene | 74.0 | 5.00 | " | 100 | | 74.0 | 75-125 | 3.85 | 20 | QM-01 |
| Benzene | 82.8 | 5.00 | " | 100 | | 82.8 | 75-125 | 0.722 | 20 | |
| Toluene | 75.8 | 5.00 | " | 100 | | 75.8 | 75-125 | 6.14 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *43.0* | | *"* | *40.0* | | *107* | *80-119* | | | |
| *Surrogate: Dibromofluoromethane* | *40.1* | | *"* | *40.0* | | *100* | *66.4-140* | | | |
| *Surrogate: Toluene-d8* | *40.6* | | *"* | *40.0* | | *102* | *89.3-110* | | | |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Fixed Gases ASTM D1946-90 - Quality Control

## SunStar Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1100111 - General Prep VOC-GC** | | | | | | | | | | |
| **Blank (1100111-BLK1)** | | | | Prepared: 10/01/11 | Analyzed: 10/05/11 | | | | | |
| Carbon Dioxide | ND | 0.10 | % | | | | | | | |
| Oxygen | 25.2 | 0.10 | " | | | | | | | |
| Nitrogen | 84.6 | 0.10 | " | | | | | | | |
| **Duplicate (1100111-DUP1)** | | **Source: T111391-01** | | Prepared: 10/01/11 | Analyzed: 10/05/11 | | | | | |
| Carbon Dioxide | 2.62 | 0.10 | % | | 2.75 | | | 4.58 | 20 | |
| Oxygen | 6.98 | 0.10 | " | | 7.38 | | | 5.60 | 20 | |
| Nitrogen | 86.9 | 0.10 | " | | 78.1 | | | 10.7 | 20 | |

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**949.297.5027 Fax**

| | | |
|---|---|---|
| Murex | Project: Cenco | |
| 2640 Walnut Ave. Unit F | Project Number: 1003-001-200 | **Reported:** |
| Tustin CA, 92780 | Project Manager: Jeremy Squire | 10/07/11 16:47 |

## Notes and Definitions

| | |
|---|---|
| QM-01 | The % recovery is outside of established control limits due to matrix interference and/or sample dilution due to matrix effect. The batch was accepted based on acceptable LCS recovery. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

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Daniel Chavez, Project Manager

**SunStar Laboratories, Inc.**
**25712 Commercentre Dr**
**Lake Forest, CA 92630**
**949-297-5020**

# Chain of Custody Record

Client: Murex Environmental, Inc.
Address: 2640 Walnut Ave, Unit F
Phone: (714) 508-0800 Fax: (714) 508-0880
Project Manager: Jeremy Squire (714) 604-5836

Date: 9/30/11 Page: 1 OF 1
Project Name: CENCO
Collector: E. Lin Client Project #: 1003-001-200
Batch #: T111391 EDF #:

| Sample ID | Date Sampled | Time | Sample Type | TPH (8015 M) | VOCs (8260 B) | BTEX (8021) | PAHs | Grain size analysis | Air permeability | Moisture content | Fraction of organic content | Fixed gases ($O_2$ + $CO_2$) | 8015M (including $CH_4$) | | | | Total # of containers | Comments/Preservative | Laboratory ID # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LL_SVE1C_093011 | 9/30/11 | 9:25 | Air | | | | | | | | | X | X | | | | 1 | 682 | 01 |
| LL_W10_093011 | 9/30/11 | 9:38 | Air | | | | | | | | | X | X | | | | 1 | 0076 | 02 |

| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
|---|---|---|---|
| Eddie Lin | 9/30/11 13:38 | [signature] | 9/30/11 1338 |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |
| Relinquished by: (signature) | Date / Time | Received by: (signat | Date / Time |

| | |
|---|---|
| Total # of containers | 2 |
| Chain of Custody seals | ✓ |
| Seals intact? Y/N/NA | N/A |
| Received good condition/cold | Y |
| **Turn around time:** | |

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE



# SAMPLE RECEIVING REVIEW SHEET

**BATCH #** T111391

Client Name: Murex  Project: Cenco

Received by: Dan M  Date/Time Received: 9/30/11 1338

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0  **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 20.2 °C +/- the CF (- 0.2°C) = 20.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

| | | | |
|---|---|---|---|
| Samples outside temp. but received on ice, w/in 6 hours of final sampling. | ☐ Yes | ☐ No* | ☒ N/A |
| Custody Seals Intact on Cooler/Sample | ☐ Yes | ☐ No* | ☒ N/A |
| Sample Containers Intact | ☒ Yes | ☐ No* | |
| Sample labels match COC ID's | ☒ Yes | ☐ No* | |
| Total number of containers received match COC | ☒ Yes | ☐ No* | |
| Proper containers received for analyses requested on COC | ☒ Yes | ☐ No* | |
| Proper preservative indicated on COC/containers for analyses requested | ☐ Yes | ☐ No* | ☒ N/A |

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked  Cooler/Sample Review - Initials and date [illegible] 9/30/11

Comments:

# Appendix E

1280 N Red Gum Street Anaheim, CA 92806 • 714-632-1400

# 25 CFM AIS
## Air Injection System

**Standard Features:**

- Small Footprint
- 25 CFM / 150 PSI Delivery
- Pressure Gauges
- Temperature Gauges
- Flow Regulator
- Flow Monitoring
- Pressure Relief Valve
- Inlet Filtration

**Standard Options:**

Multiple Point Timers / Solenoids

Remote Telemetry

Totally Enclosed Trailer Mounting

Custom Air Flows / Pressures Available

**Standard Performance Specifications:**

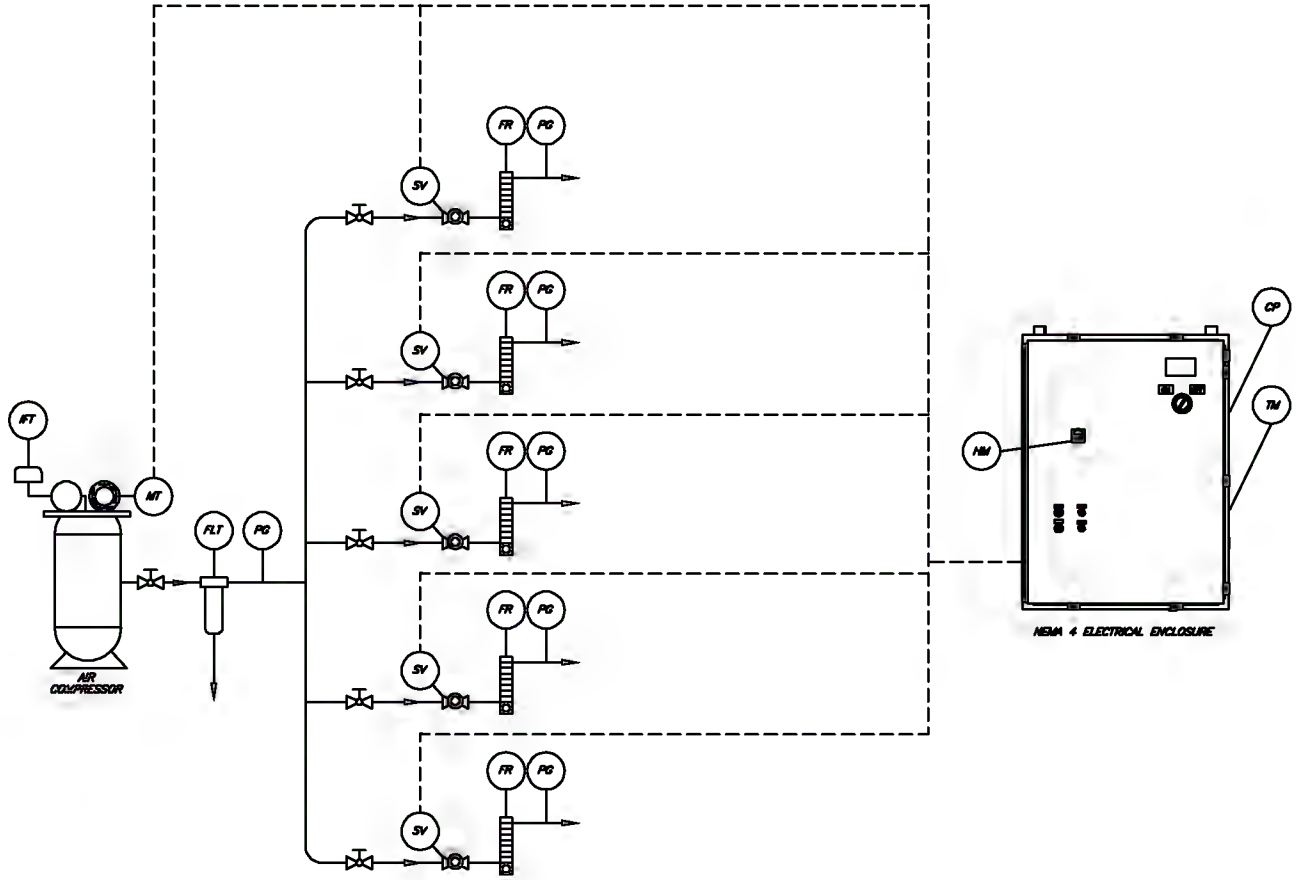
Skid Dimensions = 4' Width x 4' Depth x 6' Height

Heavy Duty Construction Throughout

Electrical Requirement = 240 Volt/3 Phase/60 Amp

Electrical Requirement = 240 Volt/1 Phase/100 Amp

Process Flow = 25 CFM and up to 150 PSI




# MAKO INDUSTRIES

AIR INJECTION SYSTEM

PROCESS INSTRUMENTATION DRAWING

| DATE: | FILE: |
|---|---|
| 9/15/08 | 25 CFM AIS.PID |

# 25 CFM AIS

1280 N Red Gum Street Anaheim, CA 92806 • 714-632-1400

# 250 CFM Makocat (MV)

## Electric Catalytic Oxidizer / Medium Vacuum System

**Standard Features:**

- Small Footprint Skid Mounting
- Entrained Liquid Separator
- Small Footprint Skid Mounting
- Entrained Liquid Separator
- Dilution / Process Valves
- Stainless Steel Transfer Pump
- Positive Displacement Blower
- Blower Re-circulation Valve
- 10 Horsepower TEFC Motor
- Sound Enclosure
- Oxidizer Chamber
- Platinum Coated Catalyst Cell
- Nickel Chrome Heating Element
- Stainless Steel Heat Exchanger
- Digital Temperature Controller
- Digital Dilution Controller
- Pitot Tube / Pressure Transmitter
- Digital Chart Recorder

**Standard Options:**

Trailer Mounted System • Remote Telemetry
Totally Enclosed System • Single Phase System
UL Listed Electrical Enclosure E306379

**Standard Performance Specifications:**

Skid Dimensions = 5' Width x 5' Length x 13' Height

3/16" Heavy Duty Steel Construction Throughout

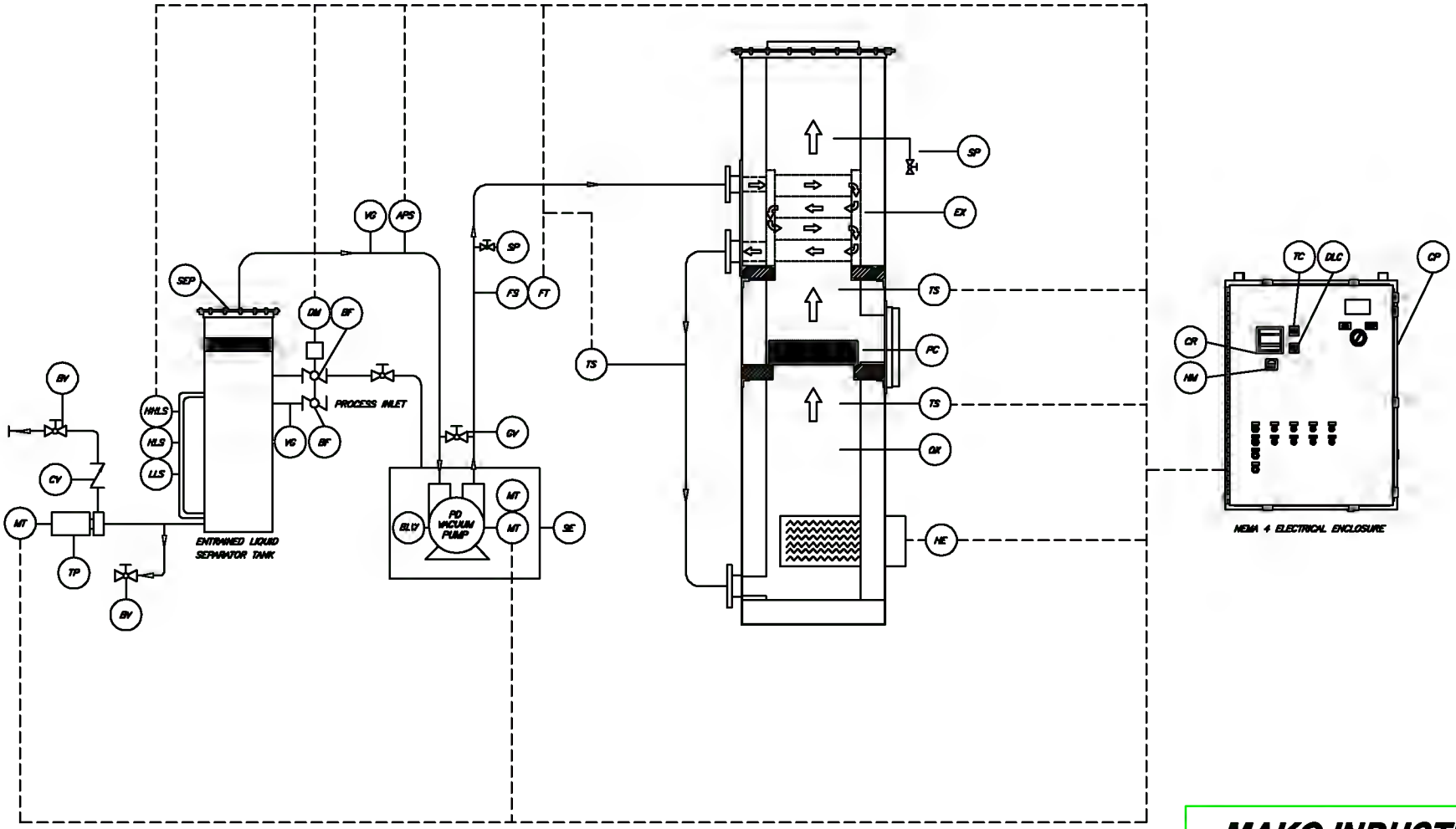
Electrical Requirement = 208/240 Volt/3 Phase/150 Amp

Electrical Requirement = 208/240 Volt/1 Phase/200 Amp

Process Flow = 250 CFM and up to 12" Hg. Vacuum

VOC Loading = 3,500 PPMV Maximum

Destruction Efficiency = 98%+




# MAKO INDUSTRIES

ELECTRIC CATALYTIC OXIDIZER

PROCESS INSTRUMENTATION DRAWING

| DATE: | FILE: |
|---|---|
| 9/15/08 | 250 Makocat.PID |

# 250 CFM Makocat (MV)

1280 N Red Gum Street Anaheim, CA 92806 • 714-632-1400

# 250 CFM Makotherm (MV)

## Thermal-Catalytic Oxidizer / Medium Vacuum System

**Standard Features:**

- Small Footprint Skid Mounting
- Entrained Liquid Separator
- Dilution / Process Valves
- Stainless Steel Transfer Pump
- Positive Displacement Blower
- Blower Re-circulation Valve
- 10 Horsepower TEFC Motor
- Sound Enclosure
- Oxidizer Chamber
- Excess Air Packaged Burner
- Supplemental Fuel Train
- Flame Arrestor
- Digital Temperature Controller
- Digital Dilution Controller
- Pitot Tube / Pressure Transmitter
- Digital Chart Recorder

**Standard Options:**

Trailer Mounted System • Stainless Steel Heat Exchanger

Platinum Coated Catalyst Cell • Remote Telemetry

Totally Enclosed System • Single Phase System

UL Listed Electrical Enclosure E306379

**Standard Performance Specifications:**

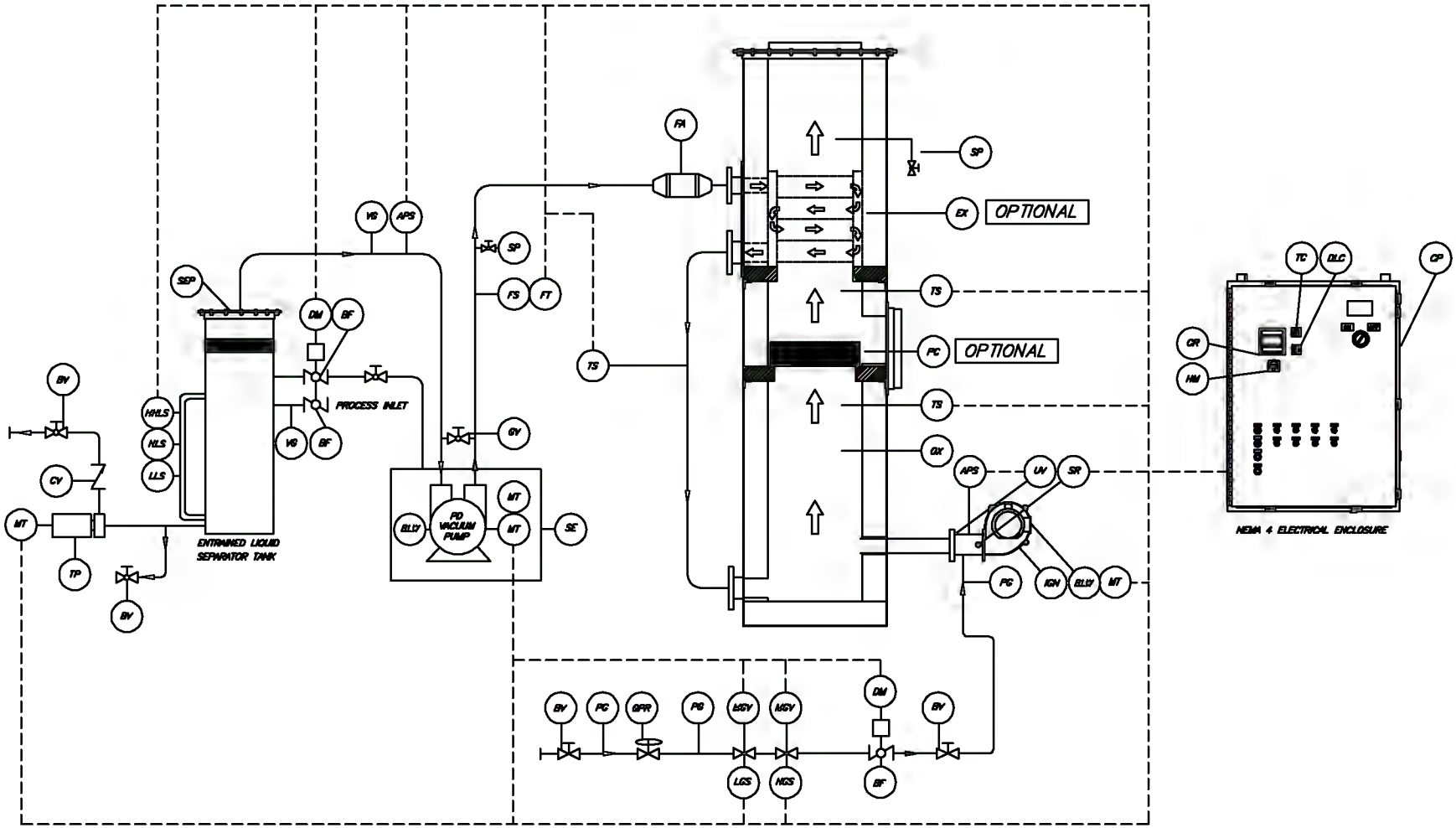
Skid Dimensions = 5' Width x 5' Length x 13' Height

3/16" Heavy Duty Steel Construction Throughout

Electrical Requirement = 208/240 Volt/3 Phase/60 Amp

Electrical Requirement = 208/240 Volt/1 Phase/100 Amp

Fuel Requirement = LPG or Natural Gas / 5 PSI / 400SCFH




# MAKO INDUSTRIES

THERMAL–CATALYTIC OXIDIZER

PROCESS INSTRUMENTATION DRAWING

| DATE: | FILE: |
|---|---|
| 9/15/08 | 250 Makotherm.PID |

## 250 CFM Makotherm (MV)

# Appendix F

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765

# PERMIT TO OPERATE


Permit No.
F97261
A/N 481789

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

ID 153913

Legal Owner
or Operator: MAKO INDUSTRIES
1280 RED GUM ST
ANAHEIM, CA 92806

**Equipment Location:** VARIOUS LOCATIONS IN SCAQMD

**Equipment Description :**

UNDERGROUND SOIL VAPOR EXTRACTION AND TREATMENT SYSTEM, SOLLECO, MODEL 500, SERIAL NO. M1257, FOR NON-HALOGENATED HYDROCARBON SOIL REMEDIATION SITES ONLY CONSISTING OF:

1. VAPOR EXTRACTION WELL(S).

2. EXTRACTION BLOWE,R MAXIMUM FLOW RATE 500 SCFM.

3. CATALYTIC/THERMAL OXIDIZER UNIT CONSISTING OF:

   A. CATALYTIC OXIDIZER, PLATINUM CATALYST ON STAINLESS STEEL, MONOLITHIC TYPE, PROPANE OR NATURAL GAS-FIRED, 1,500,000 BTU PER HOUR MAXIMUM OR ELECTRICALLY HEATED, 80 KW, WITH AN INTEGRAL HEAT EXCHANGER, A COMBUSTION BLOWER, 125 SCFM MAXIMUM AND AN AUTOMATIC TEMPERATURE CONTROLLER.

   B. THERMAL OXIDIZER, PROPANE OR NATURAL GAS-FIRED, WITH AN AUTOMATIC TEMPERATURE CONTROL SYSTEM.

**Conditions :**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THIS EQUIPMENT SHALL ONLY BE USED TO EXTRACT AND TREAT NON-CHLORINATED PETROLEUM HYDROCARBON VAPORS. THIS SHALL BE DEMONSTRATED BY AN ONSITE SOIL CHARACTERIZATION ANALYSIS REPORT.

**ORIGINAL**

4. UPON COMPLETION, ANY VAPOR EXTRACTION WELLS AND DUCTS SHALL BE CAPPED TO PREVENT VAPORS FROM VENTING TO THE ATMOSPHERE. VAPORS SHALL NOT BE EXTRACTED FROM THE SOIL UNLESS THEY ARE VENTED TO THE VAPOR CONTROL SYSTEM, WITH NO DETECTABLE LEAK BETWEEN THE OUTLET OF THE BLOWER AND THE OUTLET OF THE VAPOR CONTROL SYSTEM.

5. AN IDENTIFICATION TAG OR NAMEPLATE SHALL BE DISPLAYED ON THE EQUIPMENT TO SHOW MANUFACTURER, MODEL, SERIAL NUMBER, FLOW RATING, AND VOLUME OF CATALYST. THE TAG(S) OR PLATE(S) SHALL BE ISSUED BY THE MANUFACTURER AND SHALL BE AFFIXED TO THE EQUIPMENT IN A PERMANENT AND CONSPICUOUS POSITION.

6. UPON THE FIFTH DAY AFTER PLACEMENT OF THIS EQUIPMENT INTO OPERATION AT A NEW SITE, THE DISTRICT SHALL BE NOTIFIED VIA PHONE AT 1-877-810-6995 OF THE EXACT NATURE OF THE PROJECT AS FOLLOWS:

   A. THE PERMIT NUMBER OF THE PORTABLE EQUIPMENT.
   B. THE NAME AND PHONE NUMBER OF A CONTACT PERSON.
   C. THE LOCATION WHERE THE PORTABLE EQUIPMENT WILL BE OPERATED.
   D. THE ESTIMATED TIME THE PORTABLE EQUIPMENT WILL BE LOCATED AT THE SITE.
   E. DESCRIPTION OF THE PROJECT.
   F. IF LESS THAN 1/4 MILE, THE DISTANCE TO THE NEAREST SENSITIVE RECEPTOR. (SENSITIVE RECEPTOR IS DEFINED AS LONG-TERM HEALTH CARE FACILITIES, REHABILITATION CENTERS, CONVALESCENT CENTERS, RETIREMENT HOMES, RESIDENCES, SCHOOLS, PLAYGROUNDS, CHILDCARE CENTERS, AND ATHLETIC FACILITIES).

   IN CASE OF A VENT TEST, THE DISTRICT SHALL BE NOTIFIED 24 HOURS PRIOR TO PLACING THE EQUIPMENT INTO OPERATION.

7. THIS EQUIPMENT SHALL NOT BE OPERATED MORE THAN 12 CONSECUTIVE MONTHS AT ANY ONE FACILITY WITHIN THE SCAQMD. ANY EQUIPMENT THAT REPLACES THIS EQUIPMENT AT THIS SITE AND IS INTENDED TO PERFORM THE SAME FUNCTION SHALL BE INCLUDED IN CALCULATING THE TIME PERIOD.

8. A FLOW INDICATOR SHALL BE INSTALLED AND MAINTAINED AT ALL INLET STREAMS TO THE VAPOR CONTROL SYSTEM TO INDICATE THE TOTAL AIR FLOW RATE IN STANDARD CUBIC FEET PER MINUTE (SCFM). THE TOTAL FLOW RATE SHALL NOT EXCEED 625 SCFM IN EITHER THERMAL OR CATALYTIC MODE. IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW INDICATOR, A CONVERSION CHART SHALL BE AVAILABLE TO INDICATE THE CORRESPONDENT FLOW RATE, IN SCFM, TO THE PRESSURE READING.

9. THERMAL OXIDIZER

   A. A TEMPERATURE MEASUREMENT AND RECORDING DEVICE WITH AN ACCURACY OF PLUS OR MINUS 20 DEGREES FAHRENHEIT SHALL BE INSTALLED AND MAINTAINED AT THE OUTLET OF THE COMBUSTION CHAMBER.

**ORIGINAL**

B. WHENEVER THE VAPOR CONTROL SYSTEM IS OPERATING IN THE THERMAL MODE, THE TEMPERATURE AT THE OUTLET OF THE COMBUSTION CHAMBER SHALL NOT BE LESS THAN 1400 DEGREES FAHRENHEIT.

10. CATALYTIC OXIDIZER

A. A TEMPERATURE MEASUREMENT AND RECORDING DEVICE WITH AN ACCURACY OF PLUS OR MINUS 20 DEGREES FAHRENHEIT SHALL BE INSTALLED AND MAINTAINED AT THE INLET OF THE FIRST STAGE CATALYST BED.

B. WHENEVER THE VAPOR CONTROL SYSTEM IS OPERATING IN THE CATALYTIC MODE, THE TEMPERATURE AT INLET OF THE FIRST STAGE OF THE CATALYST BED SHALL NOT BE LESS THAN 600 DEGREES FAHRENHEIT.

11. VOLATILE ORGANIC COMPOUND (VOC) CONCENTRATION SHALL BE MEASURED AT THE OUTLET OF THE VAPOR CONTROL SYSTEM AT LEAST ONCE EVERY 7 OPERATING DAYS BY USING A FLAME IONIZATION DETECTOR OR A DISTRICT APPROVED ORGANIC VAPOR ANALYZER CALIBRATED IN PARTS PER MILLION BY VOLUME (PPMV) AS HEXANE (IF ANOTHER CALIBRATING AGENT WAS USED, IT SHALL BE CORRELATED TO AND EXPRESSED AS HEXANE).

12. VOC CONCENTRATION AT THE OUTLET OF THE VAPOR CONTROL SYSTEM SHALL NOT EXCEED 75 PPMV, MEASURED AS HEXANE.

13. WITHIN ONE WEEK OF START-UP AND ONCE A MONTH THEREAFTER, AT EACH LOCATION, GRAB SAMPLES OF THE EXHAUST SHALL BE TAKEN AND ANALYZED FOR BENZENE CONCENTRATION. BENZENE CONCENTRATION IN THE EXHAUST F THE VAPOR CONTROL YSSTEM SHALL NOT EXCEED 0.15 PPM. RESULTS OF THE ANALYSES SHALL BE RECORDED AND MAINTAINED.

14. EQUIPMENT INTERLOCKS SHALL BE PROVIDED FOR LOW OPERATING TEMPERATURES OF THE THERMAL AND CATALYTIC OXIDIZERS.

15. THE EXIT TO THE EXHAUST STACK SHALL HAVE A MINIMUM HEIGHT OF 13 FEET MEASURED FROM GRADE.

16. RECORDS SHALL BE MAINTAINED TO PROVE COMPLIANCE WITH THESE CONDITIONS. RECORDS SHALL BE KEPT FOR AT LEAST TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

**ORIGINAL**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765

**PERMIT TO OPERATE**

**Permit No.**
**F97261**
**A/N 481789**

**NOTICE**

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

Dorris M. Bailey

By Dorris M.Bailey/WC01
6/3/2008

**ORIGINAL**

# Appendix G

## Baseline Gas Monitoring - First Purge

PROJECT: 1003-001-411

DATE: 6-17-11

SITE AREA: AREA 1

SAMPLED BY: F. Sosic

**PURGE CALCULATIONS**

| | MP Wells | VE Wells | AI Wells |
|---|---|---|---|
| PUMP FLOW RATE: | | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

| | $O_2$ % | $CO_2$ PPM | $CH_4$ PPM % | $H_2S$ PPM | VOCs PPM | Time sampled | Comments | Date |
|---|---|---|---|---|---|---|---|---|
| MP-1A | 20.6 | 10000 | 15250 | 0 | 6591 | 836 | | 6·20·11 |
| MP-1B | 7.5 | 10000 | 50000 | 7 | 10000 | 843 | | 6·20·11 |
| MP-1C | 18.5 | 10000 | 50000 | 3 | 10000 | 850 | | 6·20·11 |
| MP-2A | 18.6 | 10000+ | 50000+ | 0 | 1211 | 856 | | 6·20·11 |
| MP-2B | 20.5 | 7600 | 30000 | 2 | 9612 | 901 | | 6·20·11 |
| MP-2C | 0.4 | 10000 | 50000 | 3.5 | 10000 | 905 | | 6·20·11 |
| MP-3A | 16 | 10000 | 50000 | 3 | 3157 | 910 | | 6·20·11 |
| MP-3B | 18.1 | 10000 | 50000 | 3.5 | 4492 | 920 | | 6·20·11 |
| MP-3C | 0.5 | 10000 | 50000 | 5.0 | 10000 | 922 | | 6·20·11 |
| MP-4A | 15.7 | 10000 | 50000 | 4.0 | 4975 | 955 | | 6·20·11 |
| MP-4B | 0.1 | 10000 | 50000 | 4.5 | 9880 | 959 | | 6·20·11 |
| MP-4C | 0.4 | 10000 | 50000 | 3.5 | 10000 | 1003 | | 6·20·11 |
| MP-5A | 14.7 | 10000 | 50000 | 0 | 5601 | 1021 | | 6·20·11 |
| MP-5B | 0.4 | 10000 | 50000 | 10.0 | 10000 | 1024 | | 6·20·11 |
| MP-5C | 0.9 | 10000 | 50000 | 4.5 | 10000 | 1027 | | 6·20·11 |
| 6·17·2011 VE-1A | 20.9 | 1025 | 2900 | 0 | 236 | 1208 | | 6·17·2011 |
| 6·17·2011 VE-1B | 7.7 | 10000+ | 50000+ | 0 | 10000+ | 1233 | | 6·17·2011 |
| 6·17·2011 VE-1C | 1.9 | 10000+ | 50000+ | 0 | 10000+ | 1324 | | 6·17·2011 |
| AI-1A | 8.3 | 10000 | 50000 | 8.0 | 4565 | 1242 | | 6·20·11 |
| AI-1B | 7.4 | 10000 | 50000 | 12.5 | 4764 | 1243 | | 6·20·11 |
| AI-1C | 0.4 | 10000 | 50000 | 8.5 | 10000 | 1244 | | 6·20·11 |

# Baseline Gas Monitoring - 30 Min

PROJECT: 1003-001-411

DATE: 6-17-11

SITE AREA: AREA 1

SAMPLED BY: F. SOSIC

**PURGE CALCULATIONS**

| | MP Wells | VE Wells | AI Wells |
|---|---|---|---|
| PUMP FLOW RATE: | 1.2 cfm | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

| | $O_2$ | $CO_2$ | $CH_4$ | $H_2S$ | VOCs | TIME | Comments | DATE |
|---|---|---|---|---|---|---|---|---|
| MP-1A | 19.4 | 10000 | 37250 | 1 | 4091 | 914 | | 6-20-11 |
| MP-1B | 6.9 | 10000 | 50000 | 6.5 | 10000 | 915 | | 6-20-11 |
| MP-1C | 1.0 | 10000 | 50000 | 4.5 | 10000 | 916 | | 6-20-11 |
| MP-2A | 18.1 | 10000 | 50000 | 2.5 | 2399 | 934 | | 6-20-11 |
| MP-2B | 2.9 | 10000 | 50000 | 9.0 | 10000 | 937 | | 6-20-11 |
| MP-2C | 0.4 | 10000 | 50000 | 6.0 | 10000 | 940 | | 6-20-11 |
| MP-3A | 14.7 | 10000 | 50000 | 3.5 | 3604 | 946 | | |
| MP-3B | 0.8 | 10000 | 50000 | 15.0 | 10000 | 949 | | |
| MP-3C | 0.4 | 10000 | 50000 | 10.0 | 10000 | 950 | | |
| MP-4A | 12.6 | 10000 | 50000 | 2.5 | 4057 | 1030 | | |
| MP-4B | 0.1 | 10000 | 50000 | 6.0 | 10000 | 1032 | | |
| MP-4C | 0.5 | 10000 | 50000 | 4.5 | 10000 | 1034 | | |
| MP-5A | 13.2 | 10000 | 50000 | 4.0 | 4804 | 1100 | | |
| MP-5B | 0.6 | 10000 | 50000 | 6.5 | 10000 | 1101 | | |
| MP-5C | 0.1 | 10000 | 50000 | 4.0 | 10000 | 1102 | | |
| 6-17-2011 VE-1A | 20.3 | 6400 | 30500 | 0 | 2058 | 1242 | | 6-17-11 |
| 6-17-2011 VE-1B | 10.3 | 10000+ | 50000+ | 0 | 10000+ | 1322 | | 6-17-11 |
| 6-17-2011 VE-1C | 1.5% | 10,000+ | 50,000+ | 0 | 10,000+ | 1355 | | 6-17-11 |
| AI-1A | 8.6 | 10000 | 50000 | 7.0 | 4332 | 1317 | | 6-20-11 |
| AI-1A | 7.6 | 10000 | 50000 | 11.0 | 4553 | 1318 | | 6-20-11 |
| AI-1C | 0.5 | 10000 | 50000 | 7.0 | 10000 | 1320 | | 6-20-11 |

# Baseline Gas Monitoring - 2 Hours

PROJECT: 1003-001-411
DATE: 6-17-11

SITE AREA: AREA 1
SAMPLED BY: F. SOSIC

**PURGE CALCULATIONS**

| | MP Wells | VE Wells | AI Wells |
|---|---|---|---|
| PUMP FLOW RATE: | 1.2 cfm | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

(S)

| | | $O_2$ % | $CO_2$ PPM | $CH_4$ PPM % | $H_2S$ PPM | VOCs PPM | Time | Comments | Date |
|---|---|---|---|---|---|---|---|---|---|
| S 1128 | MP-1A | 17.3 | 10000 | 50000 | 0.5 | 2735 | 1040 | | 6-20-11 |
| S 1129 | MP-1B | 1.1 | 10000 | 50000 | 5.5 | 10000 | 1041 | | 6-20-11 |
| S 1130 | MP-1C | 0.1 | 10000 | 50000 | 5.0 | 10000 | 1042 | | 6-20-11 |
| S 1140 | MP-2A | 13 | 10000 | 50000 | 0 | 4115 | 1110 | | 6-20-11 |
| S 1141 | MP-2B | 1.0 | 10000 | 50000 | 5.0 | 10000 | 1112 | | 6-20-11 |
| S 1142 | MP-2C | 0.9 | 10000 | 50000 | 5.5 | 10000 | 1113 | | 6-20-11 |
| S 1147 | MP-3A | 11.7 | 10000 | 50000 | 4.5 | 5776 | 1116 | | 6-20-11 |
| S 1148 | MP-3B | 0.4 | 10000 | 50000 | 14.5 | 10000 | 1118 | | 6-20-11 |
| S 1149 | MP-3C | 1.5 | 10000 | 50000 | 8.0 | 10000 | 1120 | | 6-20-11 |
| S 1208 | MP-4A | 12.3 | 10000 | 50000 | 1.5 | 3130 | 1158 | | 6-20-11 |
| S 1209 | MP-4B | 0.9 | 10000 | 50000 | 6.0 | 10000 | 1159 | | 6-20-11 |
| S 1210 | MP-4C | 0.4 | 10000 | 50000 | 4.0 | 10000 | 1200 | | 6-20-11 |
| S 1300 | MP-5A | 11.0 | 10000 | 50000 | 3.0 | 3009 | 1255 | | 6-20-11 |
| S 1301 | MP-5B | 0.2 | 10000 | 50000 | 10.0 | 9492 | 1256 | | 6-20-11 |
| S 1302 | MP-5C | 0.4 | 10000 | 50000 | 6.0 | 9996 | 1257 | | 6-20-11 |
| S 1325 | VE-1A | 20.2% | 7,800 | 39,250 | 0 | 1507 | 1408 | | 6-17-11 |
| S 1326 | VE-1B | 7.7% | 10,000+ | 50,000+ | 0.0 | 10,000+ | 1433 | | 6-17-11 |
| S 1327 | VE-1C | 1.7% | 10,000+ | 50,000+ | 0.0 | 10,000+ | 1524 | | 6-17-11 |
| S 1452 | AI-1A | 7.4 | 10000 | 50000 | 8.5 | 8998 | 1445 | | 6-20-11 |
| S 1453 | AI-1A | 7.9 | 10000 | 50000 | 10.5 | 5853 | 1446 | | 6-20-11 |
| S 1454 | AI-1C | 0.8 | 10000 | 50000 | 7.5 | 9142 | 1447 | | 6-20-11 |

# Bioventing Pilot-Test Monitoring Form

x = 10,000

PROJECT: 1003-001-~~411~~2000

SAMPLED BY: EL/FS

SITE AREA/ZONE: 1 / A zone.

TEST TYPE: A1 Test 1S

A 6-21-11 $CH_4$ $H_2S$

| Monitoring Location | Date | Time | ~~Purge Vacuum (in. $H_2O$)~~ | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | ~~SVE Flow (CFM)~~ | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| MP-1 A | | 830 | 5X | 9.5 | X | 1219 | 0 | | baseline |
| MP-2 A | | 845 | 5X | 8.5 | X | 1948 | 0 | | |
| MP-3 A | | 900 | 5X | 8.0 | X | 2608 | 0 | | |
| MP-4 A | | 903 | 5X | 6.1 | X | 2502 | 0 | | |
| MP-5 A | | 905 | 5X | 7.3 | X | 2991 | 0 | | |
| VE-1 A | | 907 | 5X | 18.1 | X | 701 | 0 | | |
| 1 | | 915 | 5X | 2.7 | X | 1974 | 0 | | |
| 2 | | 917 | 2.9X | 13.4 | X | 1095 | 0 | | |
| 3 | | 919 | 5X | 10.6 | X | 2837 | 0 | | |
| 4 | | 922 | 5X | 11.4 | X | 1966 | 0 | | |
| 5 | | 924 | 5X | 16.4 | X | 2369 | 0 | | |
| VE | | 926 | .8X | 19.2 | .31X | 1455 | 0 | | |
| 1 | | 929 | 5X | 3.2 | X | 2587 | 0 | | |
| 2 | | 931 | 2.5X | 18.5 | X | 1122 | 0 | | |
| 3 | | 933 | 5X | 11.9 | X | 1978 | 0 | | |
| 4 | | 935 | 5X | 8.5 | X | 2055 | 0 | | |
| 5 | | 939 | 5X | 11.9 | X | 2164 | 0 | | |
| VE | | 941 | .6X | 20.9 | .22X | 1405 | 0 | | |
| 1 | | 947 | 5X | 4 | X | 2825 | 0 | | |
| 2 | | 952 | 1.25X | 20.4 | .66X | 1058 | 0 | | |
| 3 | | 953 | 2.45X | 19.5 | X | 1053 | 0 | | |
| 4 | | 954 | 5X | 13.2 | X | 1249 | 0 | | |
| 5 | | 957 | 4.05X | 19 | X | 831 | 0 | | |
| VE | | 959 | .4X | 20.9 | .1125X | 1061 | 0 | | |

2

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200

SAMPLED BY: EL/FS

SITE AREA/ZONE: 1 / ZONE A

TEST TYPE: AI 15

A 6/21/11 $CH_4$ $H_2S$

| Monitoring Location | Date | Time | ~~Purge Vacuum (in. $H_2O$)~~ | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | ~~SVE Flow (CFM)~~ | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1003 | 5X | 6.1 | X | 2154 | 0 | | |
| 2 | | 1008 | 1.025X | 20.6 | .5X | 801 | 0 | | |
| 3 | | 1013 | 1.4X | 20.4 | .63X | 1137 | | | |
| 4 | | 1019 | 5X | 16.6 | X | 483 | | | |
| 5 | | 1024 | 1.9X | 20.2 | .64X | 685 | | | |
| VE | | 1028 | 2750 | 20.9 | 700 | 619 | | | |
| 1 | | 1035 | 5X | 8.3 | X | 1718 | | | |
| 2 | | 1038 | .79X | 20.6 | .42X | 657 | | | |
| 3 | | 1040 | 1.4X | 20.2 | .65X | 710 | | | |
| 4 | | 1044 | 5X | 17 | X | 904 | | | |
| 5 | | 1047 | 1.73X | 20.1 | .74X | 713 | | | |
| VE | | 1045 | 9200 | 20.9 | 2100 | 507 | | | |
| 1 | | 1051 | 5X | 9.9 | X | 1596 | | | |
| 2 | | 1053 | .93X | 20.6 | .51X | 652 | | | |
| 3 | | 1055 | 2.1X | 19.9 | X | 692 | | | |
| 4 | | 1057 | 3.1X | 19.7 | .98X | 833 | | | |
| 5 | | 1059 | 1.9X | 20.2 | .77X | 638 | | | |
| VE | | 1102 | 2450 | 20.9 | 670 | 357 | | | |
| 1 | | 1110 | 5X | 10.8 | X | 2511 | | | |
| 2 | | 1112 | 1.025X | 20.6 | .6X | 472 | | | |
| 3 | | 1116 | 2.67X | 19.5 | X | 752 | | | |
| 4 | | 1120 | 5X | 13.3 | X | 938 | | | |
| 5 | | 1122 | 2.75X | 19.9 | X | 791 | | | |
| VE | | 1125 | 3200 | 20.9 | 925 | 442 | | | |

3

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411 200.
SAMPLED BY: EL/FS

SITE AREA/ZONE: 1/Zone A
TEST TYPE: A1 15-20

A 6-21-11 $CH_4$ $H_2S$

| Monitoring Location | Date | Time | ~~Purge Vacuum (in. $H_2O$)~~ | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | ~~SVE Flow (CFM)~~ | ~~Air Injection Flow (CFM)~~ | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1137 | 5X | 11.4 | X | 2167 | 0 | | |
| 2 | | 1139 | 1.525X | 20.2 | X | 563 | | | |
| 3 | | 1141 | 5X | 15.7 | X | 1062 | | | |
| 4 | | 1143 | 5X | 10.4 | X | 1351 | | | |
| 5 | | 1145 | 5X | 16.8 | X | 765 | | | |
| VE | | 1147 | 4100 | 20.9 | 1975 | 775 | | | |
| 1 | | 1202 | 5X | 12.3 | X | 1716 | | | |
| 2 | | 1207 | 3.55X | 18.5 | X | 558 | | | |
| 3 | | 1211 | 5X | 14.8 | X | 775 | | | |
| 4 | | 1214 | 5X | 2.4 | X | 3053 | | | |
| 5 | | 1219 | 5X | 14.2 | X | 981 | | | |
| VE | | 1222 | 6450 | 20.4 | 9725 | 1466 | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411200
SAMPLED BY: EL/FS

SITE AREA/ZONE: 1 / Zone A
TEST TYPE: AI 30

6-21-11 $CH_4$ $H_2S$

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1307 | 5X | 10.8 | X | 779 | 0 | | |
| 2 | | 1309 | 5X | 9 | X | 1556 | | | |
| 3 | | 1310 | 5X | 7.6 | X | 1001 | | | |
| 4 | | 1313 | 5X | 1.1 | X | 2028 | | | |
| 5 | | 1317 | 5X | 4.3 | X | 1578 | | | |
| VE | | 1319 | 5X | 16.9 | X | 942 | | | |
| 1 | | 1339 | 5X | 10.7 | X | 1857 | | | |
| 2 | | 1344 | 5X | 7.0 | X | 2197 | | | |
| 3 | | 1346 | 5X | 3.8 | X | 1661 | | | |
| 4 | | 1349 | 5X | 0.8 | X | 1917 | | | |
| 5 | | 1356 | 5X | 1.8 | X | 2046 | | | |
| VE | | 1359 | 5X | 13.7 | X | 1911 | | | |
| 1 | | 1412 | 5X | 8.8 | X | 1194 | | | |
| 2 | | 1416 | 5X | 5.7 | X | 1691 | | | |
| 3 | | 1418 | 5X | 2.2 | X | 1296 | | | |
| 4 | | 1419 | 5X | 1.3 | X | 1927 | | | |
| 5 | | 1425 | 3.2X | 9.9 | 750 | 958 | | | |
| VE | | 1426 | 5X | 10.3 | X | 1416 | | | |
| 1 | | 1446 | 5X | 8.5 | X | 1732 | | | |
| 2 | | 1450 | 5X | 5.7 | X | 1856 | | | |
| 3 | | 1452 | 5X | 2.0 | X | 1726 | | | |
| 4 | | 1454 | 5X | 1.4 | X | 2269 | | | |
| 5 | | 1456 | 5X | 1.8 | X | 3326 | | | |
| VE | | 1458 | 5X | 8.2 | X | 2741 | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: FS / EL

SITE AREA/ZONE: Zone A
TEST TYPE: AI / hr

A 6.21.11 $CH_4$ $H_2S$ 202 °F

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1545 | 5X | 8.1 | X | 1326 | 0 | | |
| 2 | | 1547. | 5X | 5.3 | X | 2559 | | | |
| 3 | | 1549. | 5X | 1.7. | X | 2158 | | | |
| 4 | | 1552 | 5X | 2.0 | X | 2722 | | | |
| 5 | | 1555 | 5X | 2.0 | X | 3570 | | | |
| VE | | 1558 | 5X | 6.6. | X | 1320 | | | |
| | | | | | | | | | |
| 1 | | 1645 | 5X | 6.1 | X | 1921 | | | |
| 2 | | 1649 | 5X | 3.2 | X | 1933 | | | |
| 3 | | 1655 | 5X | 3.9 | X | 2061 | | | |
| 4 | | 1658 | 5X | 1.0 | X | 2170 | | | |
| 5 | | 1704 | 5X | 3.8 | X | 3825 | | | |
| VE | | 1708. | 5X | 5.3 | X | 2517 | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: EL/FS

SITE AREA/ZONE: 1/A

TEST TYPE: A1 - morning base line

A 6-22-11 $CH_4$ $H_2S$

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 858 | 5X | 6.2 | X | 1284 | 0 | | |
| 2 | | 900 | 1.3X | 20.4 | 8675 | 689 | | | |
| 3 | | 902 | 5X | 6.6 | X | 1365 | | | |
| 4 | | 904 | 5X | 1.6 | X | 2191 | | | |
| 5 | | 906 | 5X | 6.5 | X | 2176 | | | |
| VE | | 856 | 1.75X | 20.6 | 7100 | 424 | | | |
| | | | | | | | | | |
| VE | | | 1875 | 70.9 | 1350 | 377 | | | post purge |

1

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: FS / EL

SITE AREA/ZONE: 1 / Zone B

TEST TYPE: AT-20min B

B 6.22.11 $CH_4$ $H_2S$ Compressor Temp (°F)

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 952 | 5X | 0 | X | 8286 | 3.0 | 180 | |
| 2 | | 955 | 5X | 0.1 | X | 4845 | 4.0 | | |
| 3 | | 958 | 5X | 0 | X | 7736 | 6.0 | | |
| 4 | | 1000 | 5X | 0.2 | X | 8871 | 5.0 | | |
| 5 | | 1003 | 1.85X | 20.5 | 3550 | 3224 | 0 | | |
| VE | | 950 | 5X | 1.4 | X | 5281 | 0 | | |
| 1 | | 1009 | 5X | 0 | X | 8156 | 2.5 | 184 | |
| 2 | | 1011 | 5X | 0.2 | X | 8044 | 7.0 | | |
| 3 | | 1012 | 5X | 0.1 | X | 9999 | 7.5 | | |
| 4 | | 1015 | 5X | 0 | X | 7339 | 5.0 | | |
| 5 | | 1018 | 5X | 18.8 | X | 2215 | 1.0 | | |
| VE | | 1007 | 5X | 0.7 | X | 9456 | 1.5 | | |
| 1 | | 1032 | 5X | 0 | X | 7095 | 3.0 | 188 | |
| 2 | | 1034 | 5X | 0.2 | X | 9327 | 5.0 | | |
| 3 | | 1037 | 5X | 0.4 | X | X | 7.5 | | |
| 4 | | 1039 | 5X | 0.6 | X | 8657 | 5.5 | | |
| 5 | | 1041 | 5X | 14.0 | X | 3616 | 4.0 | | |
| VE | | 1030 | 5X | 0.6 | X | 6843 | 1.5 | | |
| 1 | | 1056 | 5X | 0 | X | 7910 | 2.5 | 188 | |
| 2 | | 1058 | 5X | 1.0 | X | 6989 | 4.0 | | |
| 3 | | 1100 | 5X | 0.5 | X | 8551 | 7.5 | | |
| 4 | | 1102 | 5X | 0.3 | X | 8929 | 5.0 | | |
| 5 | | 1104 | 5X | 8.8 | X | 4441 | 5.0 | | |
| VE | | 1053 | 5X | 0.4 | X | 6921 | 1.0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: ES/EL

SITE AREA/ZONE: 1/2 one B
TEST TYPE: AT - 20 min

B. 6-22-11 $CH_4$ $H_2S$, Comp. T (°F)

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| VE | | 1115 | 5X | 0.9 | X | 9822 | 1.0 | 189 | |
| 1 | | 1117 | 5X | 0.6 | X | 9094 | 2.0 | | |
| 2 | | 1119 | 5X | 0.6 | X | 6582 | 5.0 | | |
| 3 | | 1121 | 5X | 0.5 | X | 8318 | 7.0 | | |
| 4 | | 1125 | 5X | 0.7 | X | 7765 | 7.0 | | |
| 5 | | 1127 | 5X | 3.1 | X | 7105 | 7.5 | | |
| VE | | 1137 | 5X | 0.5 | X | 9036 | 1.5 | 190 | |
| 1 | | 1139 | 5X | 0.8 | X | X | 3.5 | | |
| 2 | | 1141 | 5X | 0.8 | X | 8783 | 5.5 | | |
| 3 | | 1143 | 5X | 0.3 | X | X | 7.5 | | |
| 4 | | 1145 | 5X | 0.8 | X | X | 5.5 | | |
| 5 | | 1147 | 5X | 1.8 | X | 8327 | 7.0 | | |
| VE | | 1202 | 5X | 1.3 | X | X | 1.0 | 192 | |
| 1 | | 1206 | 5X | 1.3 | X | X | 3.0 | | |
| 2 | | 1208 | 5X | 0.8 | X | 6494 | 4.0 | | |
| 3 | | 1210 | 5X | 0.5 | X | X | 7.5 | | |
| 4 | | 1212 | 5X | 0.5 | X | 9618 | 7.0 | | |
| 5 | | 1214 | 5X | 1.4 | X | 7270 | 8.5 | | |
| VE | | 1232 | 5X | 1.5 | X | X | 1.0 | 196 | |
| 1 | | 1234 | 5X | 0.4 | X | 8327 | 3.5 | | |
| 2 | | 1238 | 5X | 1.0 | X | 7377 | 4.0 | | |
| 3 | | 1243 | 5X | 0.5 | X | X | 7.5 | | |
| 4 | | 1246 | 5X | 0.3 | X | X | 6.0 | | |
| 5 | | 1249 | 5X | 1.4 | X | 8463 | 8.0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: FS/EL

SITE AREA/ZONE: 1/Zone B.

TEST TYPE: A1 - 25min

B 6.22.11 $CH_4$ $H_2S$ Comp T(°F)

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| VE | | 1300 | 5X | 0.7 | X | 8327 | 2.0 | 197 | |
| 1 | | 1301 | 5X | 1.0 | X | 9715 | 4.0 | | |
| 2 | | 1305 | 5X | 1.4 | X | 7755 | 5.0 | | |
| 3 | | 1307 | 5X | 0.8 | X | 9996 | 8.0 | | |
| 4 | | 1309 | 5X | 0.4 | X | 9065 | 5.5 | | |
| 5 | | 1311 | 5X | 0.8 | X | 8376 | 7.5 | | |
| VE | | 1332 | 5X | 0.7 | X | 9366 | 1.0 | 200 | |
| 1 | | 1336 | 5X | 0.9 | X | 9957 | 3.0 | | |
| 2 | | 1339 | 5X | 0.8 | X | 9948 | 9.0 | | |
| 3 | | 1342 | 5X | 1.4 | X | 9996 | 8.5 | | |
| 4 | | 1343 | 5X | 2.2 | X | X | 7.5 | | |
| 5 | | 1344 | 5X | 1.3 | X | X | 9.5 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: FS/EL.

SITE AREA/ZONE: Area 1 / Zone B

TEST TYPE: AI - 30min

B 6.22.11 $CH_4$ $H_2S$ Comp T (°F)

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| VE | | 1408 | 5X | 1.8 | X | 9375 | 1.0 | 204 | |
| 1 | | 1412 | 5X | 0.3 | X | X | 3.0 | | |
| 2 | | 1414 | 5X | 0.5 | X | X | 5.5 | | |
| 3 | | 1416 | 5X | 0.9 | X | X | 9.5 | | |
| 4 | | 1417 | 5X | 2.0 | X | X | 6.5 | | |
| 5 | | 1419 | 5X | 1.0 | X | 9482 | 8.0 | | |
| VE | | 1440 | 5X | 4.6 | X | X | 0 | 203 | |
| 1 | | 1443 | 5X | 0.3 | X | 8871 | 3.5 | | |
| 2 | | 1445 | 5X | 0.8 | X | 9378 | 6.0 | | |
| 3 | | 1447 | 5X | 1.3 | X | X | 9.5 | | |
| 4 | | 1449 | 5X | 2.1 | X | 9665 | 8.5 | | |
| 5 | | 1450 | 5X | 1.0 | X | 9225 | 9.0 | | |
| VE | | 1518 | 5X | 1.0 | X | 7018 | 1.0 | 202 | |
| 1 | | 1521 | 5X | 0.8 | X | 8987 | 4.5 | | |
| 2 | | 1523 | 5X | 1.3 | X | 9016 | 7.0 | | |
| 3 | | 1524 | 5X | 1.0 | X | X | 8.5 | | |
| 4 | | 1526 | 5X | 2.8 | X | 6659 | 6.5 | | |
| 5 | | 1527 | 5X | 1.3 | X | 7924 | 7.5 | | |
| VE | | 1549 | 5X | 2.3 | X | 8793 | 1.0 | 201 | |
| 1 | | 1555 | 5X | 1.1 | X | 7833 | 4.5 | | |
| 2 | | 1558 | 5X | 2.3 | X | 5388 | 5.5 | | |
| 3 | | 1601 | 5X | 0.9 | X | 9977 | 16.5 | | |
| 4 | | 1603 | 5X | 2.4 | X | 8221 | 7.5 | | |
| 5 | | 1605 | 5X | 1.7 | X | 8153 | 10.0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: FS/EL

SITE AREA/ZONE: Area 1 / B

TEST TYPE: AT - 1 hr

B 6.22.11 CH4 H2S Comp T (F)

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| VE | | 1645. | 5X | 1.4 | X | 4981 | 1.0 | 199 | |
| 1 | | 1647 | 5X | 0.6 | X | 7629 | 5.0 | | |
| 2 | | 1649 | 5X | 0.9 | X | 5611 | 6.0 | | |
| 3 | | 1651 | 5X | 0.9 | X | 9734 | 9.5 | | |
| 4 | | 1653 | 5X | 3.0 | X | 9414 | 8.0 | | |
| 5 | | 1655. | 5X | 1.3 | X | 6212 | 9.5 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: EL

SITE AREA/ZONE: 1/B

TEST TYPE: AI - Twice a day.

| Monitoring Location | Date 6-23-11 | Time | Purge Vacuum (In. $H_2O$) $CH_4$ | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) $H_2S$ | Air Injection Flow ~~(CFM)~~ FPM | Comments Temp (°F) | pressure |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 6-23-11 | 915 | 5X | 3.4 | X | X | 4.0 | ~~615~~ | 88 | 0 |
| 1 | | 918 | 2X | 3.6 | X | 9224 | 6.0 | 475 | | 0 |
| 2 | | 920 | 3.6X | 6.5 | X | X | 7.5 | | | 0 |
| 3 | | 922 | 5X | 2.9 | X | X | 8.5 | | | 0 |
| 4 | | 928 | 324X | 17.1 | X | X | 3 | | | 0 |
| 5 | | 931 | 5X | 2.2 | X | 4211 | 5.5 | | | 0 |
| | | | | | | | | | | |
| VE | 6/23/11 | 1855 | 5X | 2.4 | X | 8546 | 0 | | 182 | |
| 1 | | 1858 | 5X | 10.3 | X | X | 3.5 | | | |
| 2 | | 1902 | 5X | 12.9 | X | X | 5.0 | | | |
| 3 | | 1907 | 5X | 2.5 | X | 6804 | 7.0 | | | |
| 4 | | 1912 | 12500 | 18.1 | X | 9821 | 4.5 | | | |
| 5. | | 1918 | 5X | 2.4 | X | 5097 | 5.5 | | | |
| | | | | | | | | | left AI flow: 800 fpm | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 6-24-11

SITE AREA/ZONE: 1/B
TEST TYPE: AI - 2x/day

Dist from AS 80'

| Monitoring Location Zone: B | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | ~~SVE Flow (FPM)~~ | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 930 | 5X | 5.9 | X | 4882 | 0 | 760 | | 184 | .008 in $H_2O$ |
| 1 | 935 | 5X | 10.9 | X | 4936 | 2.0 | ~92F | | | |
| 2 | 938 | 5X | 12.5 | X | X | 3.5 | | | | |
| 3 | 941 | 5X | 1.8 | X | 8541 | 5.0 | | | | |
| 4 | 944 | 14250 | 17.5 | X | 3298 | 3.5 | | | | .02 in $H_2O$ |
| 5 | 947 | 5X | 2.0 | X | 4655 | 4.5 | | | | |
| | | | | | | | | | | left AI flow: 940 FPM |
| VE | 1647 | 14000 | 16.8 | X | 4293 | 0.0 | | | 187 | .03 ~43.5' |
| 1 | 1650 | 7250 | 18.6 | 6800 | X | 0.5 | | | | .02 ~39.5' |
| 2 | 1653 | 6000 | 19.3 | 5650 | X | 4.0 | | | | .01 ~38' |
| 3 | 1657 | 22500 | 16.1 | X | X | 6.0 | | | | .01 ~39' |
| 4 | 1702 | 2400 | 20.4 | 2900 | 3940 | 4.8 | | | | .04 ~25' |
| 5 | 1707 | 5X | 3.9 | X | 7348 | 6.0 | | | | .001 ~85' |
| | | | | | | | | | | AI flow: 920 FPM |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 6-25-11

SITE AREA/ZONE: 1/B
TEST TYPE: AI - daily

| Monitoring Location Zone: B | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 1707 | 6350 | 18.4 | 7750 | 2701 | 0 | | | 189°F | turned OFF |
| 1 | 1712 | 7500 | 18.6 | 8650 | X | 0.5 | | | | after Test |
| 2 | 1717 | 7500 | 19.2 | 7400 | X | 4.0 | | | | |
| 3 | 1721 | 21500 | 16.4 | X | X | 7.5 | | | | |
| 4 | 1725 | 2350 | 20.9 | 1525 | 3049 | 4.0 | | | | |
| 5 | 1730 | 5X | 5.7 | X | 4257 | 5.0 | | | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 6/27/11

SITE AREA/ZONE: 1 / B
TEST TYPE: A1-B initial before C tests

| Monitoring Location Zone: | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | ~~SVE Flow (FPM)~~ | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 840 | 5X | 4.6 | X | 1738 | 0 | 0 | | OFF | last test before |
| 1 | 845 | 5X | 6.7 | X | 2019 | 0 | | | | C zone |
| 2 | 850 | 5X | 14.4 | X | 2581 | 0 | | | | |
| 3 | 853 | 20250 | 12.9 | 8100 | X | 5.5 | | | | |
| 4 | 856 | 6900 | 19.6 | 1900 | 2188 | 0.5 | | | | |
| 5 | 859 | 5X | 15.8 | X | 3505 | 1.5 | | | | |

(1)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: FL
DATE: 6/27/11

SITE AREA/ZONE: 1/C
TEST TYPE: AT - 30 min

| Monitoring Location Zone: | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 940 | 5X | 2.8 | X | 5261 | 0 | — | — | OFF | |
| 1 | 945 | 5X | 7.7 | X | 4577 | 0 | | | | |
| 2 | 950 | 5X | 7.9 | X | 8919 | 0 | | | | |
| 3 | 954 | 5X | 0.5 | X | 7056 | 2.0 | | | | |
| 4 | 1002 | 5X | 9.4 | X | 5538 | 0 | | | | |
| 5 | 1008 | 5X | 8.0 | X | 5105 | 0 | | | | |
| VE | 1030 | 14500 | 20.9 | 2125 | 1840 | 0 | 650 | | 160 | 0.02 ON |
| 1 | 1035 | 8650 | 20.9 | 1350 | 2251 | 0 | | | | ↓ |
| 2 | 1040 | 10250 | 20.9 | 1725 | 1939 | 0 | | | | |
| 3 | 1047 | 13750 | 20.9 | 2775 | 1709 | 0 | | | | 0 |
| 4 | 1049 | 5650 | 20.9 | 1000 | 2982 | 0 | | | | |
| 5 | 1055 | 1200 | 20.9 | 0 | 1714 | 0 | | | | 0 |
| VE | 1135 | 42250 | 18.9 | X | 1217 | 0 | | | 198 | |
| 1 | 1139 | 5X | 11.2 | X | 2122 | 0 | | | | |
| 2 | 1143 | 5X | 4.7 | X | 6184 | 0 | | | | |
| 3 | 1147 | 5X | 4.1 | X | 4870 | 0 | | | | |
| 4 | 1150 | 5X | 1.1 | X | 8318 | 0 | | | | |
| 5 | 1153 | 5X | 9.6 | X | 3810 | 0 | | | | |
| VE | 1207 | 5X | 3.7 | X | 7246 | 0 | | | | |
| 1 | 1212 | 5X | 3.1 | X | 6148 | 0 | | | | |
| 2 | 1215 | 5X | 3.2 | X | X | 1.0 | | | | |
| 3 | 1218 | 5X | 1.8 | X | 9432 | 3.5 | | | | |
| 4 | 1221 | 5X | 3.0 | X | 9523 | 2.5 | | | | |
| 5 | 1224 | 5X | 5.7 | X | 9979 | 0 | | | | |

2

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 6/27/11

SITE AREA/ZONE: 1/C
TEST TYPE: A1-30

| Monitoring Location Zone: | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 1240 | 5X | 1.7 | X | X | 2.5 | | | 199 | |
| 1 | 1243 | 5X | 1.5 | X | X | 3.0 | | | | |
| 2 | 1246 | 5X | 2.2 | X | X | 3.8 | | | | |
| 3 | 1249 | 5X | 1.5 | X | 8653 | 4.0 | | | | |
| 4 | 1252 | 5X | 4.2 | X | 9716 | 3.0 | | | | |
| 5 | 1255 | 5X | 2.8 | X | X | 3.0 | | | | |
| VE | 1311 | 5X | 2.5 | X | 7205 | 1.5 | 760 | | 198 | ↑760 fpm |
| 1 | 1314 | 5X | 1.5 | X | 9776 | 3.5 | | | | |
| 2 | 1317 | 5X | 2.1 | X | X | 3.5 | | | | |
| 3 | 1320 | 5X | 1.1 | X | X | 5.0 | | | | |
| 4 | 1323 | 5X | 6.4 | X | 8841 | 3.5 | | | | |
| 5 | 1326 | 5X | 2.5 | X | 8531 | 3.0 | | | | |

3

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: EL

SITE AREA/ZONE: 1 / C

TEST TYPE: A1 - 1hr

6.27.11 $CH_4$ $H_2S$

| Monitoring Location | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments T (°F) | P |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | | 1430 | 5X | 2.0 | X | 6740 | 3.0 | | 198 | 0 |
| 1 | | 1433 | 5X | 0.9 | X | X | 1.0 | | | |
| 2 | | 1436 | 5X | 0.7 | X | X | 3.0 | | | |
| 3 | | 1439 | 5X | 0.6 | X | X | 3.0 | | | |
| 4 | | 1444 | 5X | 4.5 | X | X | 3.0 | | | |
| 5 | | 1447 | 5X | 5.3 | X | X | 1.5 | | | |
| VE | | 1530 | 5X | 1.2 | X | X | 1.0 | | 197 | |
| 1 | | 1533 | 5X | 1.7 | X | X | 1.0 | | | |
| 2 | | 1537 | 5X | 1.0 | X | X | 2.5 | | | |
| 3 | | 1540 | 5X | 1.7 | X | X | 3.5 | | | |
| 4 | | 1543 | 5X | 6.6 | X | 9058 | 1.5 | | | |
| 5 | | 1546 | 5X | 3.6 | X | X | 1.5 | | | |
| VE | | 1630 | 5X | 0.8 | X | 6962 | 0 | | 196 | |
| 1 | | 1633 | 5X | 1.4 | X | X | 0 | | | |
| 2 | | 1636 | 5X | 0.7 | X | X | 2.5 | | | |
| 3 | | 1639 | 5X | 1.4 | X | X | 3.5 | | | |
| 4 | | 1644 | 5X | 6.1 | X | X | 2.5 | | | |
| 5 | | 1648 | 5X | 4.5 | X | X | 1.0 | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 6·28·11

SITE AREA/ZONE: 1/C
TEST TYPE: A1 - 2x/day

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | P | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VE | 900 | 5X | 1.4 | X | 8005 | 0 | 750 | | 180 | 0 | |
| 1 | 904 | 5X | 1.7 | X | X | 0 | | | | | |
| 2 | 908 | 5X | 0.1 | X | X | 0 | | | | | |
| 3 | 912 | 5X | 3.2 | X | 7995 | 0 | | | | | |
| 4 | 916 | 5X | 6.2 | X | 4571 | 0 | | | | | |
| 5 | 920 | 5X | 3.2 | X | 9098 | 0 | | | | | |
| | | | | | | | | | | | |
| VE | 1730 | 5X | 2.7 | X | 8936 | 0 | | | 190 | | |
| 1 | 1734 | 5X | 1.0 | X | 6570 | 0 | | | | | |
| 2 | 1738 | 5X | 2.8 | X | X | 0 | | | | | |
| 3 | 1742 | 5X | 3.3 | X | 8956 | 0 | | | | | |
| 4 | 1746 | 5X | 5.0 | X | 6972 | 0 | | | | | |
| 5 | 1750 | 5X | 6.2 | X | X | 0 | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 6.29.11

SITE AREA/ZONE: 1/C
TEST TYPE: A1 - 2x/day

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) Pres in $H_2O$ | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 905 | 1900 | 20.9 | 225 | 1755 | 0 | | | 180 | |
| 1 | 910 | 5X | 2.2 | X | 7671 | 0 | | | | |
| 2 | 915 | 5X | 3.2 | X | 7023 | 0 | | | | |
| 3 | 921 | 5X | 3.6 | X | 6829 | 0 | | | | |
| 4 | 926 | 5X | 6.2 | X | 4255 | 0 | | | | |
| 5 | 931 | 5X | 3.9 | X | 7630 | 0 | | | | |
| purge VE | 938 | 5X | 13.2 | X | 4615 | 0 | | | | retest |
| | | | | | | | | | | |
| VE | 1555 | 5X | 12.5 | X | X | 0 | | | 189 | |
| 1 | 1559 | 5X | 3.4 | X | X | 0 | | | | |
| 2 | 1603 | 5X | 3.3 | X | 8400 | 0 | | | | |
| 3 | 1607 | 5X | 3.1 | X | 9139 | 4.0 | | | | |
| 4 | 1611 | 5X | 14.9 | X | 4418 | 1.0 | | | | |
| 5 | 1615 | 5X | 12.4 | X | X | 0 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| * VE | 1622 | 5X | 6.2 | X | X | 4.0 | | 0.02 | | Direct |
| 1 | 1624 | 5X | 0 | X | X | 4.0 | | 0.02 | | measurements |
| 2 | 1626 | 5X | 0 | X | X | 4.0 | | 0.015 | | |
| 3 | 1628 | 5X | 0 | X | X | 5.0 | | 0.015 | | |
| 4 | 1630 | 5500 | 19.5 | 7250 | 8167 | 2.5 | | 0.015 | | |
| 5 | 1632 | 5X | 0 | X | X | 3.0 | | 0.02 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 6/30/11

SITE AREA/ZONE: 1/C
TEST TYPE: A1 - 2x/day

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 827 | 5X | 13.9 | X | 9493 | 0 | 750 | 0 | 180 | |
| 1 | 830 | 37250 | 14.2 | X | X | 0 | | 0 | | |
| 2 | 834 | 34250 | 16.7 | X | X | 0 | | 0 | | |
| 3 | 839 | 5X | 7.3 | X | X | 0 | | 0 | | |
| 4 | 844 | 5500 | 19.9 | 6775 | 6584 | 0 | | 0 | | |
| 5 | 848 | 5X | 4.3 | X | 3839 | 0 | | 0 | | |
| | | | | | | | | | | |
| * VE | 855 | 5X | 9.3 | X | | 0 | | | | direct sample |
| 1 | 858 | 43250 | 13.0 | X | | 0 | | | | |
| 2 | 901 | 39750 | 16.1 | X | | 2.0 | | | | |
| 3 | 904 | 5X | 2.9 | X | | 4.0 | | | | |
| 4 | 907 | 2200 | 19.7 | 3100 | | 0 | | | | |
| 5 | 910 | 5X | 0 | X | | 0 | | | | |
| VE | 1445 | 5X | 12.1 | X | X | 1.0 | | 0.02 | 187 | |
| 1 | 1448 | 40250 | 13.7 | X | X | 3.5 | | 0.16* | | 0.02 (re-test w/ |
| 2 | 1451 | 35000 | 16.8 | X | X | 3.5 | | 0.02 | | |
| 3 | 1454 | 5X | 10.2 | X | 9898 | 4.0 | | 0.01 | | |
| 4 | 1457 | 5400 | 20.2 | 3250 | 7904 | 0 | | 0.025 | | |
| 5 | 1500 | 5X | 4.8 | X | 7155 | 1.0 | | 0.02 | | |
| * VE | 1510 | 5X | 10.4 | X | | 6.0 | | | | direct sample |
| 1 | 1513 | 47250 | 13.3 | X | | 4.5 | | | | |
| 2 | 1516 | 41500 | 16.6 | X | | 6.0 | | | | |
| 3 | 1519 | 5X | 10.9 | X | | 8.0 | | | | |
| 4 | 1522 | 1900 | 20.6 | 2850 | | 1.0 | | | | |
| 5 | 1525 | 5X | 0 | X | | 4.0 | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7-1-11

SITE AREA/ZONE: A/C
TEST TYPE: AI last reading sys on before respiration test

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 0832 | 5X | 14.3 | X | X | 0 | | .02 | 186 | |
| | 835 | 29750 | 14.4 | X | X | 0 | | .01 | | |
| 2 | 838 | 26000 | 17.3 | X | X | 0 | | .01 | | |
| 3 | 841 | 5X | 13.9 | X | X | 0 | | .01 | | |
| 4 | 846 | 2700 | 20.1 | 2900 | 4791 | 0 | | .01 | | |
| 5 | 850 | 5X | 7.8 | X | 654 | 0 | | .02 | | |
| * VE | 905 | 5X | 12.3 | X | | 0 | | | | |
| 1 | 857 | 36000 | 13.6 | X | | 0 | | | | |
| 2 | 859 | 34500 | 16.3 | X | | 1.0 | | | | |
| 3 | 901 | 5X | 11.8 | X | | 0 | | | | |
| 4 | 903 | 2050 | 19.7 | 4150 | | 0 | | | | |
| 5 | 855 | 5X | 0 | X | | 0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7/1/11

SITE AREA/ZONE: 1/C
TEST TYPE: AT-MP-4 respiration
5 min interval

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 1012 | 1750 | 20.4 | 2400 | 3296 | 0 | | | 192. | last reading ON |
| | 1015 | 1500 | 20.6 | 1400 | 2667 | 0 | | | | OFF |
| | 1020 | 1350 | 20.6 | 1300 | 2528 | 0 | | | | |
| | 1025 | 1200 | 20.6 | 1025 | 2160 | 0 | | | | |
| | 1030 | 1350 | 20.6 | 1200 | 1055 | 0 | | | | measured $O_2$ first, |
| | 1035 | 1400 | 20.4 | 1425 | 2166 | 0 | | | | new tedlar |
| | 1040 | 1350 | 20.4 | 1425 | 1921 | 0 | | | | |
| | 1045 | 1350 | 20.4 | 1450 | 1910 | 0 | | | | |
| | 1050 | 1325 | 20.4 | 1400 | 1855 | 0 | | | | |
| | 1055 | 1250 | 20.4 | 1350 | 1834 | 0 | | | | |
| | 1100 | 1250 | 20.4 | 1450 | 1779 | 0 | | | | |
| | 1105 | 1150 | 20.6 | 1375 | 1726 | 0 | | | | |
| | 1110 | 1200 | 20.4 | 1425 | 1709 | 0 | | | | |
| | 1115 | 1200 | 20.6 | 1450 | 1717 | 0 | | | | |
| | 1120 | 1100 | 20.6 | 1350 | 1673 | 0 | | | | |
| | 1130 | 2050 | 20.4 | 1750 | 3953 | 0 | | | | 1.5 min purge |
| | 1140 | 1550 | 20.6 | 1325 | 3619 | 0 | | | | leak in tedlar |
| | 1145 | 2100 | 20.4 | 1800 | 4095 | 0 | | | | |
| | 1155 | 2050 | 20.6 | 1725 | 4054 | 0 | | | | |
| | 1205 | 1600 | 20.6 | 1425 | 2900 | 0 | | | | |
| | 1210 | 1650 | 20.6 | 1550 | 3036 | 0 | | | | |
| | 1337 | 2350 | 20.9 | 1650 | 3839 | 0 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EI
DATE: 7-1-11

SITE AREA/ZONE: 1/C
TEST TYPE: AI - respiration
All wells.

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 1222 | 42500 | 13.4 | X | X | 0 | — | — | OFF | 5 min purge |
| 1 | 1226 | 26500 | 16.3 | X | X | 2.5 | | | | 1.5 |
| 2 | 1229 | 25000 | 18.0 | X | X | 3.0 | | | | 1.5 |
| 3 | 1232 | 5X | 14.9 | X | X | 3.0 | | | | 1.5 |
| 4 | 1235 | 3650 | 20.6 | 1800 | 8178 | 0 | | | | 0.5 |
| 5 | 1240 | 5X | 16.6 | X | X | 0 | | | | 1.5 leak? |
| 5 | 1245 | 5X | 0.1 | X | X | 0 | | | | |
| new tedlar 1 | 1356 | 29750 | 16.3 | X | X | 3.0 | | | | |
| 2 | 1358 | 29750 | 17.8 | X | X | 4.0 | | | | |
| 3 | 1400 | 5X | 13.5 | X | X | 5.0 | | | | |
| 4 | 1404 | 2400 | 20.4 | 1750 | X | 0 | | | | |
| 5 | 1407 | 5X | 0 | X | 3184 | 3.0 | | | | |
| VE | 1406 | 5X | 12.1 | X | X | 3.0 | | | | |
| VE | 1610 | 39250 | 14.5 | X | X | 0 | | | | |
| 1 | 1613 | 24250 | 16.7 | X | X | 3.0 | | | | |
| 2 | 1616 | 22250 | 18.5 | X | X | 3.0 | | | | |
| 3 | 1619 | 5X | 15.1 | X | X | 4.5 | | | | |
| 4 | 1622 | 2700 | 20.9 | 2000 | X | 0 | | | | |
| 5 | 1626 | 5X | 1.3 | X | X | 1.0 | | | | |
| 1 | 1634 | 27750 | 16.2 | X | X | 5.0 | | | | |
| 2 | 1632 | 27750 | 17.9 | X | X | 5.0 | | | | |
| 3 | 1630 | 5X | 13.7 | X | X | 4.0 | | | | |
| 4 | 1636 | 1250 | 20.9 | 1800 | X | 0.5 | | | | |
| 5 | 1639 | 5X | 0 | X | X | 4.0 | | | | |
| VE | 1637 | 5X | 12.8 | X | X | 5.0 | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7-5-11

SITE AREA/ZONE: 1C
TEST TYPE: AI - last read.

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 850 | 5X | 5.6 | X | X | 0 | — | | OFF | |
| 1 | 855 | 5X | 12.1 | X | 5108 | 0 | — | | | |
| 2 | 900 | 5X | 7.6 | X | X | 0 | — | | | |
| 3 | 905 | 5X | 5.7 | X | X | 2.5 | — | | | |
| 4 | 910 | 36500 | 13.7 | 8600 | 9295 | 0 | — | | | |
| 5 | 915 | 5X | 2.4 | X | X | 0 | — | | | |
| VE | | | | | | | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7-5-11

SITE AREA/ZONE: 1/A
TEST TYPE: Baseline

| Monitoring Location Zone: A | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| VE | 940 | 9100 | 20.9 | 2850 | 1752 | 0 | | | OFF | |
| 1 | 946 | 8630 | 20.7 | X | 1947 | 0 | | | | |
| 2 | 950 | 2X | 19.1 | X | 1352 | 0 | | | | |
| 3 | 952 | 5X | 17.4 | X | 916 | 0 | | | | |
| 4 | 956 | 4250 | 20.8 | 1400 | 3295 | 0 | | | | |
| 5 | 959 | 5X | 10.7 | X | 3700 | 0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200.
SAMPLED BY: EL/FS
DATE: 7-5-11

SITE AREA/ZONE: 1/A
TEST TYPE: I/E - 30min

| Monitoring Location Zone: A. | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow ~~(EPM)~~ CFM | SVE Flow ~~(EPM)~~ CFM | ~~Compressor~~ Temperature (°F) | Comments Vac |
|---|---|---|---|---|---|---|---|---|---|---|
| System. | | | | | | | 12 | 11. | 800/112 | 3. in Hg |
| 1 | 1027 | 22250 | 19.5 | X | 627. | 0 | | | | 0 |
| 2 | 1030 | 3650 | 20.9 | 2550 | 933. | 0 | | | | 0 |
| 3 | 1032 | 32000 | 19.5 | X | 834 | 0 | | | | 0 |
| 4 | 1033. | 5X | 15.5 | X | 1939 | 0 | | | | 0 |
| 5 | 1034 | 26750 | 19.8 | X | 2921 | 0 | | | | 0 |
| | | | | | | | | | | |
| 1 | 1106. | 5X | 17.9. | X | 562. | 0 | | | | |
| 2 | 1108 | 16000 | 20.2 | X | 564 | 0 | | | | |
| 3 | 1110 | 25000 | 19.8 | X | 674 | 0 | | | | |
| 4 | 1112. | 5X | 17.5. | X. | 832 | 0 | | | | |
| 5 | 1113. | 5X | 15.6 | X | 2007. | 0 | | | | |
| | | | | | | | | | | |
| 1 | 1137 | 5X | 17.3 | X | 506 | 0 | | | | |
| 2 | 1140 | 10,250 | 20.9 | 7225 | 436 | 0 | | | | |
| 3 | 1143 | 5X | 16.7 | X | 1131 | 0 | | | | |
| 4 | 1154 | 5X | 14.9 | X | 1551 | 0 | | | | |
| 5 | 1157 | 5X | 14.2 | X | 1466 | 3.0 | | | | |
| | | | | | | | | | | |
| 1 | 1223 | 5X | 16.6 | X | 528 | 0 | | | | |
| 2 | 1225 | 5X | 17.9. | X. | 276 | 0 | | | | |
| 3 | 1227 | 5X | 16.3 | X | 1158 | 0 | | | | |
| 4 | 1230 | 5X | 3.5 | X | 3183. | 4.0 | | | | |
| 5 | 1233 | 5X | 12.8 | X | 1043 | 3.0 | | | | |

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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200
SAMPLED BY: EL/FS
DATE: 7-5-11

SITE AREA/ZONE: 1/A
TEST TYPE: VE/AI 30 min

| Monitoring Location Zone: A | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1250 | 5X | 16.3 | X | 569 | 0 | | | | |
| 2 | 1253 | 5X | 16.8 | X | 406 | 0 | | | | |
| 3 | 1255 | 5X | 14.2 | X | 119 | 0 | | | | |
| 4 | 1256 | 5X | 2.8 | X | 2801 | 3.0 | | | | |
| 5 | 1257 | 5X | 10.0 | X | 1932 | 3.0 | | | | |
| | | | | | | | | | | |
| 1 | 1408 | 5X | 13.1 | X | 1063 | 3.0 | | | 210 | 230° stack |
| 2 | 1406 | 5X | 5.1 | X | 2284 | 3.0 | | | | |
| 3 | 1404 | 5X | 5.0 | X | 1370 | 3.0 | | | | |
| 4 | 1400 | 5X | 2.4 | X | 2434 | 4.0 | | | | |
| 5 | 1402 | 5X | 9.0 | X | 1627 | 3.0 | | | | |
| | | | | | | | | | | |
| 1 | 1440 | 5X | 11.2 | X | 1468 | 1.0 | | | | 400-700° stack |
| 2 | 1443 | 5X | 4.3 | X | 2471 | 2.5 | | | | |
| 3 | 1447 | 5X | 5.8 | X | 1335 | 3.5 | | | | |
| 4 | 1450 | 5X | 1.3 | X | 3734 | 5.0 | | | | |
| 5 | 1452 | 5X | 5.8 | X | 3674 | 5.5 | | | | |
| | | | | | | | | | | |
| 1 | 1509 | 5X | 10.8 | X | 1818 | 2.0 | | | 209 | |
| 2 | 1510 | 5X | 4.0 | X | 2228 | 4.0 | | | | |
| 3 | 1512 | 5X | 6.8 | X | 1634 | 4.0 | | | | |
| 4 | 1515 | 5X | 1.6 | X | 2322 | 5.5 | | | | |
| 5 | 1517 | 5X | 2.3 | X | 4243 | 6.5 | | | | |
| | | | | | | | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 7-5-11

SITE AREA/ZONE: 1/A
TEST TYPE: VE/AI 30

| Monitoring Location Zone: A. | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1540 | 5X | 11.3 | X | 1432 | 0 | | | | |
| 2 | 1543 | 5X | 4.2 | X | 2168 | 3.0 | | | | |
| 3 | 1545. | 5X | 1.9 | X | 1658 | 4.5 | | | | |
| 4 | 1550 | 5X | 3.3 | X | 1977 | 3.5 | | | | |
| 5. | 1555. | 5X | 0.9 | X | 2910 | 4.5 | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: ELJR
DATE: 7-6-11

SITE AREA/ZONE: 1/A
TEST TYPE: VE/AI

| Monitoring Location Zone: A | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow ~~(FPM)~~ CFM | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| MP1A | 0937 | 5X | 10.3 | X | 1584 | 0 | 10.5 | 0 | 195 | |
| 2 | 0940 | 5X | 6.4 | X | 1652 | 0 | | | | |
| 3 | 0943 | 5X | 4.5 | X | 2153 | 3.0 | | | | |
| 4 | 0947 | 18250 | 20.1 | 5875 | 116 | 0 | | | | |
| 5 | 0950 | 5X | 14.1 | X | 2138 | 0 | | | | |
| MP1 | 1413 | 14250 | 17.5 | X | 1539 | 0 | | | 204 | |
| 2 | 1415 | 41500 | 17.4 | X | 663 | 0 | | | | |
| 3 | 1419 | 5X | 15.9 | X | 863 | 0 | | | | |
| 4 | 1421 | 4600 | 20.9 | 1700 | 1117 | 0 | | | | |
| 5 | 1425 | 5X | 13.0 | X | 556 | 0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7-7-11

SITE AREA/ZONE: 1/A
TEST TYPE: VE/AI 2x

| Monitoring Location Zone: A | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1015 | 14750 | 17.5 | 10000 | 1083 | 0 | 11.5 | 0 | 200 | |
| 2 | 1018 | 40500 | 17.9 | X | 530 | 0 | | | | |
| 3 | 1021 | 5X | 13.4 | X | 1478 | 0 | | | | |
| 4 | 1024 | 5X | 12.1 | X | 1539 | 0 | | | | |
| 5 | 1027 | 5X | 15.4 | X | 1106 | 0 | | | | |
| | | | | | | | | | | |
| 1 | 1750 | 5X | 16.2 | X | 669 | 0 | | 0 | 200 | |
| 2 | 1753 | 5X | 15.3 | X | 1237 | 0 | | | | |
| 3 | 1756 | 5X | 11.0 | X | 1730 | 2.5 | | | | |
| 4 | 1759 | 5X | 0.9 | X | 5108 | 4.0 | | | | |
| 5 | 1803 | 5X | 5.6 | X | 4513 | 3.5 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7/8/11

SITE AREA/ZONE: 1/A
TEST TYPE: AI/VE - 2x

| Monitoring Location Zone: A | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1154 | 5X | 12.3 | X | 753 | 0 | | 0 | 201 | |
| 2 | 1157 | 5X | 9.9 | X | 2166 | 0 | | | | |
| 3 | 1201 | 5X | 6.9 | X | 2007 | 2.5 | | | | |
| 4 | 1205 | 5X | 1.3 | X | 3285 | 4.5 | | | | |
| 5 | 1209 | 5X | 6.8 | X | 2694 | 3.0 | | | | |
| | | | | | | | | | | |
| 1 | 1730 | 5X | 12.9 | X | 1034 | 0 | | 0 | | |
| 2 | 1734 | 5X | 14.4 | X | 1158 | 0 | | | | |
| 3 | 1738 | 5X | 7.5 | X | 2509 | 2.5 | | | | |
| 4 | 1741 | 5X | 1.7 | X | 3529 | 2.5 | | | | |
| 5 | 1745 | 5X | 6.1 | X | 3943 | 3.0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7/11/11

SITE AREA/ZONE: VA
TEST TYPE: VE/AI

| Monitoring Location Zone: A | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | ~~Air Injection Flow (FPM)~~ | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 949 | 5X | 13.0 | X | 1150 | 0 | | | | |
| 2 | 953 | 5X | 14.5 | X | 1432 | 0 | | | | |
| 3 | 956 | 5X | 11.1 | X | 1906 | 0 | | | | |
| 4 | 959 | 5X | 1.9 | X | 3099 | 0 | | | | |
| 5 | 1003 | 5X | 12.6 | X | 3340 | 0 | | | | |
| | | | | | | | | | | |
| 1 | 1110 | 5X | 13.7 | X | 1202 | 0 | | | | |
| 2 | 1116 | 5X | 14.9 | X | 1455 | 0 | | | | |
| 3 | 1124 | 5X | 16.6 | X | 1435 | 0 | | | | |
| 4 | 1132 | 5X | 2.3 | X | 3820 | 3.5 | | | | |
| 5 | 1140 | 5X | 16.1 | X | 2339 | 0 | | | | |
| 1 | 1113 | 4800 | 20.5 | 7350 | 345 | 0 | | | | 1min purge |
| 2 | 1119 | 11000 | 20.4 | 6500 | 285 | 0 | | | | |
| 3 | 1128 | 5X | 17.8 | X | 390 | 0 | | | | |
| 4 | 1136 | 5X | 14.6 | X | 2463 | 0 | | | | |
| 5 | 1142 | 5X | 15.0 | X | 1040 | 0 | | | | |
| | | | | | | | | | | |
| 1 | 1145 | 3200 | 20.9 | 725 | 422 | 0 | | | | |
| 2 | 1147 | 13250 | 20.2 | 8225 | 361 | 0 | | | | |
| 3 | 1151 | 5X | 17.4 | X | 495 | 0 | | | | |
| 4 | 1155 | 5X | 2.1 | X | 3705 | 3.0 | | | | |
| 5 | 1159 | 5X | 15.0 | X | 1581 | 0 | | | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200

SAMPLED BY: EL

SITE AREA/ZONE: 1/B.

TEST TYPE: VE only

7/11/11

| Monitoring Location B. | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | | | $CH_4$ | | ppm. | | $H_2S$ | | |
| 1 | | 1315 | 8600 | 20.4 | 10000 | 434 | 0 | | |
| 2 | | 1318 | 13500 | 20.1 | 10000 | 188 | 0 | | |
| 3 | | 1341 | 5X | 17.0 | X | 695 | 0 | | |
| 4 | | 1343 | 5X | 14 | X | 4505 | 3.0 | | |
| 5 | | 1345 | 5X | 15.7 | X | 1371 | 0 | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 7/11/11

SITE AREA/ZONE: 1/B
TEST TYPE: AI/VE - 30 min

| Monitoring Location Zone: B. | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | Well Pressure (in. $H_2O$) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1358 | 5X. | 0.8 | X | X | 5.0 | | | | OFF - baseline |
| 2 | 1402 | 5X | 2.1 | X | 6464 | 9.0. | | | | 1.5min purge. |
| 3 | 1406. | 5X | 1.1 | X | X | 24.0. | | | | |
| 4 | 1410 | 5X | 5.9 | X. | 3408 | 6.5 | | | | |
| 5 | 1414 | 5X | 1.5 | X | X | 17.0 | | | | |
| 1 | 1501 | 5X | 1.0 | X | X | 5.0. | | | | ON |
| 2 | 1505 | 5X | 3.7 | X | X | 7.5 | | | | |
| 3 | 1510 | 5X. | 7.1 | X | X. | 21 | | | | |
| 4 | 1513 | 5X | 6.6 | X | 3749 | 7.5 | | | | |
| 5 | 1517 | 5X | 7.8 | X | X | 12.5 | | | | |
| 1 | 1622 | 5X | 6.9 | X | 8914 | 5.0 | | | | |
| 2 | 1624 | 5X | 8.7 | X | 4807 | 5.0 | | | | |
| 3 | 1626. | 5X | 2.9 | X | X | 16.5 | | | | |
| 4 | 1632 | 5X. | 5.3 | X | 2597 | 3.5 | | | | |
| 5 | 1637 | 5X | 5.1 | X | X | 9.5 | | | | |
| 1 | 1700. | 5X | 1.2 | X | 8066 | 5.0 | | | | |
| 2 | 1706 | 5X. | 8.3. | X | 7113. | 5.0 | | | | |
| 3 | 1710. | 5X | 1.3 | X | X. | 17.0. | | | | |
| 4 | 1718. | 5X | 10.3 | X | 4041 | 3.5 | | | | |
| 5 | 1722 | 5X. | 2.7 | X. | X | 10.0 | | | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~700
SAMPLED BY: EL
DATE: 7/12/11

SITE AREA/ZONE: 1/B
TEST TYPE: AI-VE 2

| Monitoring Location Zone: B | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10:11 | 5X | 1.2 | X | 8657 | 3.5 | | | | 15s purge |
| 2 | 10:16 | 5X | 9.9 | X | 3816 | 3.0 | | | | |
| 3 | 10:19 | 5X | 3.3 | X | 9490 | 8.0 | | | | |
| 4 | 10:23 | 5X | 16.7 | X | 4458 | 3.0 | | | | |
| 5 | 10:27 | 5X | 7.1 | X | 9417 | 5.5 | | | | |
| | | | | | | | | | | |
| 1 | 15:59 | 5X | 5.2 | X | 5532 | 4.0 | | | | |
| 2 | 16:05 | 44250 | 12.2 | X | 8737 | 7.5 | | | | |
| 3 | 16:08 | 5X | 5.5 | X | 7459 | 9.0 | | | | |
| 4 | 16:18 | 3600 | 19.7 | X | 6457 | 2.5 | | | | |
| 5 | 16:22 | 5X | 2.0 | X | 6778 | 4.0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200
SAMPLED BY: EL
DATE: 7/13/11

SITE AREA/ZONE: 1/B
TEST TYPE: AIVE 2

| Monitoring Location Zone: B. | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 840 | 5X | 5.9 | X | 3897 | 0 | | | | |
| 2 | 844 | 16750 | 19.0 | X | X | 2.0 | | | | |
| 3 | 847 | 25750 | 17.2 | X | X | 8.0 | | | | |
| 4 | 850 | 2300 | 20.5 | 6550 | 2411 | 0 | | | | |
| 5 | 855 | 5X | 0.5 | X | 6904 | 6.0 | | | | |
| | | | | | | | | | | |
| 1 | 1816 | 5X | 6.8 | X | 5616 | 3.0 | | | | |
| 2 | 1819 | 9050 | 19.5 | X | X | 3.0 | | | | |
| 3 | 1822 | 23000 | 17.6 | X | X | 11.0 | | | | |
| 4 | 1830 | 2600 | 20.8 | 5225 | 2841 | 0 | | | | |
| 5 | 1834 | 5X | 4.4 | X | 8626 | 5.5 | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200
SAMPLED BY: E L
DATE: 7/14/11

SITE AREA/ZONE: 1/B
TEST TYPE: VE AI last read

| Monitoring Location Zone: B | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8:47 | 5X. | 6.7 | X | 4839 | 0 | | | | |
| 2 | 8.50 | 8000 | 19.7 | 9700 | X | 0. | | | | |
| 3 | 8:53 | 12750 | 19.1 | X | X | 5.0. | | | | |
| 4 | 9:02 | 1200 | 20.9 | 3250 | 1380. | 0 | | | | |
| 5 | 9.05 | 5X | 0.8 | X | 7184 | 5.0 | | | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200
SAMPLED BY: EL
DATE: 7/14/11

SITE AREA/ZONE: 1/C
TEST TYPE: AIVE

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 913 | 5X | 0.9 | X | 7225 | 0 | | | | base line |
| 2 | 916 | 5X | 1.4 | X | 9961 | 0 | | | | |
| 3 | 919 | 5X | 1.2 | X | 9999 | 2.5 | | | | |
| 4 | 922 | 5X | 4.5 | X | 5061 | 0 | | | | |
| 5 | 926 | 5X | 0.9 | X | 8003 | 0 | | | | leak? |
| | | | | | | | | | | |
| 1 | 1015 | 5X | 1.0 | X | 8422 | 0 | | | | |
| 2 | 1017 | 5X | 1.7 | X | 6747 | 0 | | | | |
| 3 | 1020 | 5X | 3.9 | X | 8370 | 0 | | | | tedlar leak? |
| 4 | 1028 | 5X | 8.6 | X | 3785 | 0 | | | | |
| 5 | 1032 | 5X | 0 | X | 8474 | 0 | | | | |
| | | | | | | | | | | |
| 1 | 1559 | 5X | 1.4 | X | 8205 | 0 | | | | |
| 2 | 1602 | 5X | 7.4 | X | 9218 | 0 | | | | leak? |
| 3 | 1605 | 5X | 0 | X | 7312 | 3.0 | | | | new tedlar |
| 4 | 1610 | 5X | 7.1 | X | 3408 | 0 | | | | |
| 5 | 1615 | 5X | 0.3 | X | 7427 | 0 | | | | |
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## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 7/15/11

SITE AREA/ZONE: 1/C
TEST TYPE: AI/VE

| Monitoring Location Zone: C. | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 824 | 5X | 4.1 | X | X | 0 | | | | |
| 2 | 828 | 5X | 3.4 | X | X | 0. | | | | |
| 3 | 832 | 5X | 0 | X | 8694 | 3.0- | | | | |
| 4 | 838- | 7000 | 20.4 | 6975 | 4170 | 0 | | | | |
| 5 | 841 | 5X | 1.4 | X | 8045 | 0 | | | | |
| | | | | | | | | | | |
| 1 | 1700 | 3X | 17.9 | X | X | 0 | | | | |
| 2 | 1703 | 29500 | 18.7 | X | X | 0 | | | | |
| 3 | 1705 | 5X | 10.6 | X | X | 3.0. | | | | |
| 4 | 1708 | 4550 | 20.9 | 2875 | 5229 | 0- | | | | |
| 5 | 1711 | 5X | 1.0 | X | 9678 | 0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 700
SAMPLED BY: EL
DATE: 7/18/11

SITE AREA/ZONE: 1/C
TEST TYPE: VE/AI(33cfm) 1/day

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12:37 | 4900 | 20.9 | 2500 | X | 0 | | | | |
| 2 | 12:44 | 9750 | 20.9 | 1500 | X | 1.5 | | | | |
| 3 | 12:47 | 31500 | 20.4 | 5400 | X | 6.0 | | | | |
| 4 | 12:51 | 1550 | 20.9 | 50 | 2525 | 0 | | | | |
| 5 | 12:56 | 5X | 0.7 | X | 7825 | 1.0 | | | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411
SAMPLED BY: EL
DATE: 7/19/11

SITE AREA/ZONE: 1/C
TEST TYPE: AI(33)/VE 1/day

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1015 | 3250 | 20.9 | 1950 | X | 0 | | | | |
| 2 | 1019 | 7250 | 20.9 | 1150 | X | 0 | | | | |
| 3 | 1024 | 27500 | 20.0 | 4200 | X | 4.0 | | | | |
| 4 | 1030 | 1300 | 20.9 | 100 | 2062 | 0 | | | | |
| 5 | 10:37 | 5X | 0 | X | X | 0 | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411200
SAMPLED BY: EL
DATE: 7/20/11

SITE AREA/ZONE: 1/C
TEST TYPE: AT (33) VE

| Monitoring Location Zone: C | Time | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | VOCs (ppm) | $H_2S$ (ppm) | Air Injection Flow (FPM) | SVE Flow (FPM) | Compressor Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10:05 | 3200 | 20.9 | 1650 | X | 0 | | | | |
| 2 | 10:08 | 6200 | 20.9 | 925 | X | 0 | | | | |
| 3 | 10:13 | 23750 | 20.4 | 3300 | X | 0 | | | | |
| 4 | 10:18 | 960 | 20.9 | 100 | 1868 | 0 | | | | |
| 5 | 10:23 | 5X | 0 | X | 8799 | 0 | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7-5-11

SITE AREA/ZONE: V/A
SAMPLED BY: EL/JR/FS

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 10:10 | — | 785 | 999 | 3 | 183 |
| | | | | | |
| | | | | | |
| | | | | | |

System Observations:

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 10:16 | 922 | 50250 | 18.4 | 10000 | 0 | 11 | 112 | |
| Effluent | 10:13. | 100 | 950 | 20.9 | 200 | 0. | 11 | 101 | |
| Influent | | | | | | | | | |
| Effluent | | | | | | | | | |

# Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7-6-11

SITE AREA/ZONE: 1/A
SAMPLED BY: EL/JR

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 9:40 | 11.6 | 662. | 840 | 2 | 198 |
| 14:00 | 16.3 | 650 | 805 | 2 | 204 |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| |
| |
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| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 9.55 | 1468 | 50250 | 17 | 10000 | 0 | 10.5 | | |
| Effluent | 9:53 | 7.0 | 9800 | 20.1 | 8500 | 0 | 12 | | |
| Influent | 14:09. | 769 | 50250 | 16.9 | 10000 | 0 | 11.6 | 112.1 | |
| Effluent | 14:05 | 0 | 8300 | 19.7. | 9500 | 0 | 11 | 102.2 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7-7-11

SITE AREA/ZONE: I/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 0945 | 35.8 | 671 | 748 | 2 | 200 |
| 1730 | 43.7 | 690 | 760 | 2 | 200 |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| |
| |
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| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Panel Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 10:03 | 1509 | 50250 | 17.9 | 10000 | 0 | 15.5 | 82 | |
| Effluent | 9:57 | 0 | 8350 | 20.1 | 7650 | 0 | 11.5 | 98 | 115 cfm |
| Influent | 1741 | 1040 | 50250 | 18.5 | 10000 | 0 | 16.3 | 93.7 | flow increased by 5cfm |
| Effluent | 1737 | 0 | 7850 | 20.9 | 6475 | 0 | 11.5 | 93.3 | 107 cfm |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/8/11

SITE AREA/ZONE: VA
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | |
|---|---|---|---|---|---|---|
| 1132 | 61.5 | 683 | 731 | 2 | 201 | 109 |
| 1747 | 67.7 | 644 | 749 | 2 | 200 | 105 |
| | | | | | | |
| | | | | | | |

| System Observations: |
|---|
| |
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| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 1137 | 878 | 50250 | 18.7 | 10000 | 0 | 15.4 | 88.6 | |
| Effluent | 1144 | 36.6 | 8050 | 20.2 | 6850 | 0. | 11.1 | 100.3 | |
| Influent | 1727 | 854 | 50250 | 18.9 | 10000 | 0 | 21 | 91.5 | |
| Effluent | 1724 | 24.2 | 7800 | 20.6 | 6650 | 0 | 11.5 | 91.7 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/11/11

SITE AREA/ZONE: 1/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 932 | 131.6 | 640 | 710 | 0 | 188 |
| 1209 | 134.2 | 640. | 713 | 0.5 | OFF |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| flow |
| 96 |
| 101 |
| |
| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 944. | 903 | 36750 | 19.3 | 10000 | 0 | 22.5 | 70.1 | |
| | 1206 | 845 | 40250. | 19.2 | 10000 | 0 | 20.5 | 83.7 | |
| Effluent | 940 | 37.9 | 6800 | 20.5 | 5450 | 0 | 12.5 | 73.4. | |
| Influent | | | | | | | | | |
| Effluent | | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/11/11

SITE AREA/ZONE: 1/B
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| System overheated around 13:00 after beginning VE in B zone. AI was not started until 14:00 |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 17:36 | 5197 | 5X | 2.2 | X | 3.0 | | | adjusting for higher concentrations |
| Effluent | | | | | | | | | |
| Influent | | | | | | | | | |
| Effluent | | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/12/11

SITE AREA/ZONE: 1/B
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 10:59 | 149.3 | 661 | 935 | 0 | 192 |
| | | | | | |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| |
| |
| |
| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 1050 | 9999 | 50250 | 5.5 | 10000 | 0 | 11 | 81.9 | |
| Effluent | 1041 | 53.7 | 10250 | 18.1 | 10000 | 0 | 9 | 79.1 | |
| Influent | | | | | | | | | |
| Effluent | | | | | | | | | |

# Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/12/11

SITE AREA/ZONE: 1/B
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 15:42 | 146.0 | 645 | 872 | 0 | 200 |
| | | | | | |
| | | | | | |
| | | | | | |

System Observations:

Stable catox temps.
P temp S temp
600~700 800~930

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 15:54 | 9999+ | 50250 | 6.8 | 10000 | 0 | 8 | 85.4 | |
| Effluent | 15:49 | 66.5 | 13500 | 18.8 | 10000 | 0 | 11 | 854 | |
| Influent | | | | | | | | | |
| Effluent | | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/13/11

SITE AREA/ZONE: 1/13
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 8:23 | 162.6 | 660 | 775 | 0 | 188 |
| 17:49 | 172.1 | 638 | 852 | 0 | 192 |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| flow |
| |
| (137) cfm |
| |
| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 8:37 | 3684 | 50250 | 8.6 | 10000 | 0 | 6.6 | 69.6 | |
| Effluent | 8:32 | 51.5 | 8600 | 19.7 | 8450 | 0. | 12.5 | 72.1 | |
| Influent | 18:10 | 3923 | 50250 | 8.5 | 10000 | 0 | 9.3 | 91.4 | |
| Effluent | 18:05 | 38.3 | 13500 | 19.2 | 10000 | 0 | 12.1 | 89.0 | new tedlar |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/14/11

SITE AREA/ZONE: 1/B
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 8:28. | 186.8 | 650 | 791 | 0 | 187 |
| | | | | | |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| |
| |
| |
| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 8 42 | 3141. | 50250 | 9.4 | 10000 | 0 | 6.75 | 67.4 | |
| Effluent ~~/~~ AI | 836 | 58.4 | 7700 | 20.4 | 7800 | 0 | 12.4 | 687. | |
| Influent | | | | | | | | | |
| Effluent | | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/14/11

SITE AREA/ZONE: VC
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 1041 | 189.1 | 649 | 989 | 8 | 188 |
| 1538 | 192.9 | 658 | 989 | 8 | 194 |
| | | | | | |
| | | | | | |

| System Observations: |
|---|
| auto dilution → off at |
| ~11:00 |
| |
| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 1040 | 7532 | 5X | 2.5 | X | 0 | 8 | 67.0 | |
| Effluent | 1037 | 297 | 18000 | 18.0 | 10000 | 0- | 11.8 | 68.4 | |
| Influent | 1556 | 7427 | 5X | 2.7 | X | 0 | 4.5 | 80.6 | |
| Effluent | 1545 | 165 | 14000 | 18.4 | 10000 | 0 | 11.5 | 82.5 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/15/11

SITE AREA/ZONE: I/C
SAMPLED BY: EL/JS

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) |
|---|---|---|---|---|---|
| 824 | 210 | 681 | 895 | 0 | 182 |
| 929 | 2108 | 605 | 756 | 0 | 170 |
| 1635 | 217.9 | 597 | 900 | 0 | 180 |
| | | | | | |

| System Observations: |
|---|
| AT |
| 12 cfm |
| 33 cfm. |
| auto-dilution on |
| |
| |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Temperature (°F) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Influent | 8:17 | 4918 | < 50,000 | 6.8 | >10,000 | 0.0 | 3.6 | | |
| Effluent | 814 | 110 | 9450 | 19.4 | X | 0 | 125 | | |
| Influent | 1640 | 5721 | 5X | 11.2 | X | 0.0 | 4.75 | | |
| Effluent | 1633 | 298 | 8000 | 19.1 | X | 0 | 131 | | |

17.9 30

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/18/11

SITE AREA/ZONE: 1/C
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 12:15 | 285.5 | 621 | 779 | 0 | 190 | 33. | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 12:27 | 9999 | 30250 | 18.4 | 10000 | 0 | 4.5 | |
| Effluent | 12:20 | 338 | 1100 | 20.9 | 2900 | 0. | 140 | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/19/11

SITE AREA/ZONE: 1/C
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:45. | 307 | 612 | 756 | 0 | 186 | 33. | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9 56. | 9999 | 24250 | 18.4. | 10000 | 0. | 45. | increased to 6.5 |
| Effluent | 9 51 | 190. | 1150. | 20.0 | 7025 | 0 | 134 | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 7/20/11

SITE AREA/ZONE: 1/C
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:34 | 330.9 | 611 | 773 | 0 | 180 | 33 | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9:57 | X | 21500 | 18.6 | 10000 | 0 | 8 | |
| Effluent | 947 | 268 | 690 | 20.2 | 7350 | 0 | 132 | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

# Pilot-Test Step Test Form

PROJECT: 1003-001-200
SAMPLED BY: EL/FS/BR/JS
DATE: 9/6/11

SITE AREA/ZONE: 1/A,B
TEST TYPE: Step

Rec. Valve

| | Extraction Flow (CFM) | Dil ctrl | Time | MP-1 ($inH_2O$) | MP-2 ($inH_2O$) | MP-3 ($inH_2O$) | MP-4 ($inH_2O$) | MP-5 ($inH_2O$) | Source Vacuum | Comments | Total Blower (Thu) | Influent PID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| open 4 turns | 22 | 30 | 9:48 am | 0 | 0.04 | 0.1 | 0.3 | 0.12 | 10 | (424) 410 | | 880 |
| " | 50.5 | 70 | 9:56 am | 0 | .18 | .17 | .58 | .19 | 32 | 424 cfm | | 891 |
| " | 147 | 100 | 10:06 am | .04 | .26 | .52 | 1.8 | .5 | 89 | 260 | | 861 |
| closed | 190 | 100 | 10:15 am | .04 | .4(.26) | .8(.62) | 3.0(2.0) | .6(.6) | 88 | 309 | | — |
| | | | not | up to 3 min | | | | | | | | |
| | * step 3 | | sustainable, step 4 not sus. for more than 45 sec | | | | | | | | | |
| | * step 3+4 | | autodil sitting 0% dilution | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | Dil ctrl | | | | | | | | total blwr flow | PID inf | |
| | 36 | 40 | 12:35 pm | 1.8 | 1.6 | 1.0 | 1.9 | .8 | 9 | 480 | 10,000+ max | |
| | 81 | 70 | 12:39 pm | 3.8 | 3.1 | 1.9 | 3.2 | 1.5 | 25 | 448 | 8,077 | |
| | 130 | 83 | 12:44 | 5.3 | 3.3 | 2 | 4.6 | 2.0 | 42 | 405 | 2867 | |
| | | 100 | 12:53 | 9.1(9.2) | 7.2(6.8) | 3.4(2.8) | .6(5.6) | 1.7 | 88 | 482 | — | |
| | * vacuum was too high to get last step PID reading | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

# Pilot-Test Step Test Form

PROJECT: 1003-001-200
SAMPLED BY: EL / JRS / FS / ER
DATE: 9-6-11

SITE AREA/ZONE: 1 / C
TEST TYPE: step test

C

Recovery closed

| Extraction Flow (CFM) | Dil Ctrl | Time | MP-1 ($inH_2O$) | MP-2 ($inH_2O$) | MP-3 ($inH_2O$) | MP-4 ($inH_2O$) | MP-5 ($inH_2O$) | $inH_2O$ source vacuum | total blower flow Comments | Total vocs Int PID |
|---|---|---|---|---|---|---|---|---|---|---|
| 68 | 0 | 1:20 | 1.5 | 1.0 | .5 | .9 | .5 | 12 | 330 | 4513 |
| 121 | 0 | 1:30 | 2.4 | 1.7 | 1.0 | 1.5 (1.7) | 1.0 | 20 | 341 | 6639 (10,000+ max) |
| 144 | 50 | 1:40 | 3.0 | 2.2 | 1.3 | 2.0 | 1.2 | 26 | 430 | 10,000 max |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

open 3 turns

9-7-11 JS & FS ON SITE

AREA 2

| A ZONE | | MP-6 | MP-7 | MP-8 | MP-9 | MP-10 | source vacuum | Total Blower FLOW (CFM) | NOTES |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 10:04 | 1.2 | 0.5 | 0.43 | 0.86 | 0.34 | 6.5 | | Flame not sustainable |
| | 10:09 | 1.4 | 0.45 | 0.59 | 0.99 | 0.41 | 6.5 | | |
| 72 | 10:15 | – | – | – | – | – | 16 | 484 | Closed dil. valve |
| ~88 | 10:24 | 3.3 | 0.43 | 1.5 | 2.6 | 1.1 | 25 | 478 | Product in air line (FPPH) |
| ~176 | 10:37 | 4.9 | 0.48 | 2.0 | 3.8 | 1.5 | 50 | 456 | Product in air line |
| ~279 | 10:42 | 6.1 | 0.50 | 2.4 | 4.6 | 1.8 | 82 | 426 | Product in air line |
| **B ZONE** | | MP-6 | MP-7 | MP-8 | MP-9 | MP-10 | SOURCE VACUUM | Total Blower Flow (CFM) | NOTES |
| ~63 | 12:11 | 1.5 | 0.41 | 0.35 | 0.87 | 0.59 | 14" $H_2O$ | 434 | Product in air line; may be residual from "A" zone |
| ~149 | 12:17 | 2.5 | 0.64 | 0.50 | 1.50 | 0.92 | 33 | 468 | -//- |
| ~191 | 12:21 | 3.6 | 0.93 | 0.74 | 2.1 | 1.5 | 53 | 448 | -//- |
| **C ZONE** | | MP-6 | MP-7 | MP-8 | MP-9 | MP-10 | SOURCE VACUUM | TOTAL BLOWER FLOW (CFM) | NOTES |
| 56 | 12:56 | 0.48 | 0.08 + P | 0.13 | 0.37 | 0.22 | 10 | 402 | (+) Pressure @ MP-7C |
| 110 | 13:03 | 0.60 | 0.10 + P | 0.15 | 0.46 | 0.25 | 15 | 386 | (+) Pressure @ MP-7C |
| 144 | 13:06 | 0.77 | 0.11 + P | 0.20 | 0.59 | 0.31 | 25 | 353 | (+) Pressure @ MP-7C |
| 156 | 13:11 | 0.74 | 0.11 + P | 0.20 | 0.63 | 0.34 | 30 | 332 | (+) Pressure @ MP-7C |
| 172 | 13:16 | 0.95 | 0.11 + P | 0.25 | 0.74 | 0.41 | 35 | 457 | (+) Pressure @ MP-7C |

## Baseline Gas Monitoring - First Purge

PROJECT: 1003-001-~~[illegible]~~ 200

DATE: 7/27/11

SITE AREA: 2

SAMPLED BY: EL

**PURGE CALCULATIONS**

| | MP Wells | VE Wells | AI Wells |
|---|---|---|---|
| PUMP FLOW RATE: | | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

| | $O_2$ | $CO_2$ | $CH_4$ | $H_2S$ | VOCs | Time ~~Comments~~ |
|---|---|---|---|---|---|---|
| MP-6A | 1.2 | X | 5X | 0 | 1763 | 1352 |
| MP-6B | 0 | X | 5X | 0 | 4611 | 1355 |
| MP-6C | 0 | X | 5X | 0 | 4527 | 1359 |
| MP-7A | 0 | X | 5X | 0 | 4318 | 1403 |
| MP-7B | 0 | X | 5X | 0 | 4787 | 1407 |
| MP-7C | 0 | X | 5X | 0 | 2370 | 1413 |
| MP-8A | 0 | X | 5X | 0 | 1973 | 1418 |
| MP-8B | 1.3 | X | 5X | 0 | 4243 | 1423 |
| MP-8C | 0 | X | 5X | 0 | 5532 | 1426 |
| MP-9A | 5.5 | X | 5X | 0 | 1820 | 1513 |
| MP-9B | 0 | X | 5X | 0 | 3588 | 1518 |
| MP-9C | 0 | X | 5X | 0 | 4406 | 1523 |
| MP-10A | 19.3 | X | 19500 | 0 | 1384 | 1806 |
| MP-10B | 0.1 | X | 5X | 0 | 2972 | 1808 |
| MP-10C | 0 | X | 5X | 0 | 4279 | 1810 |
| VE-2A | 20.9 | 4975 | 5250 | 0 | 684 | 841 |
| VE-2B | 5.4 | X | 5X | 0 | 2580 | 854 |
| VE-2C | 6.0 | X | 5X | 0 | 2851 | 906 |
| AI-2A | 1.0 | X | 5X | 0 | 1820 | 918 |
| AI-2B | .3 | X | 5X | 0 | 3819 | 932 |
| AI-2C | 5.1 | X | 5X | 0 | 4043 | 946 |

## Baseline Gas Monitoring - 30 Min

PROJECT: 1003-001-~~411~~ 200

DATE: 7/27/11

SITE AREA: 2

SAMPLED BY: EL

**PURGE CALCULATIONS**

| | MP Wells | VE Wells | AI Wells |
|---|---|---|---|
| PUMP FLOW RATE: | | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

| | $O_2$ | $CO_2$ | $CH_4$ | $H_2S$ | VOCs | Time ~~Comments~~ |
|---|---|---|---|---|---|---|
| MP-6A | 0.4 | X | 5x | 0 | 1897 | 1430 |
| MP-6B | 0 | X | 5x | 0 | 3562 | 1433 |
| MP-6C | 0 | X | 5x | 0 | 4041 | 1436 |
| MP-7A | .3 | X | 5x | 0 | 4311 | 1438 |
| MP-7B | 0 | X | 5x | 0 | 3855 | 1442 |
| MP-7C | 0 | X | 5x | 0 | 2434 | 1444 |
| MP-8A | 0 | X | 5x | 0 | 2509 | 1450 |
| MP-8B | 0 | X | 5x | 0 | 4060 | 1453 |
| MP-8C | .4 | X | 5x | 0 | 4895 | 1456 |
| MP-9A | 2.2 | X | 5x | 0 | 2010 | 1548 |
| MP-9B | .7 | X | 5x | 0 | 2981 | 1550 |
| MP-9C | .1 | X | 5x | 0 | 4474 | 1553 |
| MP-10A | 19.2 | X | 19250 | 0 | 1139 | 1836 |
| MP-10B | 1.2 | X | 5x | 0 | 3369 | 1840 |
| MP-10C | 0 | X | 5x | 0 | 3907 | 1845 |
| VE-2A | 20.4 | 9350 | 11500 | 0 | 821 | 1000 |
| VE-2B | 2.1 | X | 5x | 0 | 1553 | 1003 |
| VE-2C | 4.3 | X | 5x | 0 | 510 | 1007 |
| AI-2A | 17.6 | X | 35000 | 0 | 880 | 1014 |
| AI-2B | 13.1 | X | 5x | 0 | 2535 | 1017 |
| AI-2C | 18.7 | X | 38000 | 0 | 1334 | 1022 |

## Baseline Gas Monitoring - 2 Hours

PROJECT: 1003-001-~~411~~ 200

DATE: 7-27-11

SITE AREA: 2

SAMPLED BY: EL

**PURGE CALCULATIONS**

| | MP Wells | VE Wells | AI Wells |
|---|---|---|---|
| PUMP FLOW RATE: | | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

| | $O_2$ | $CO_2$ | $CH_4$ | $H_2S$ | VOCs | Time ~~Comments~~ |
|---|---|---|---|---|---|---|
| MP-6A | .7 | X | 5X | 0 | 1888 | 1558 |
| MP-6B | .4 | X | 5X | 0 | 3943 | 1601 |
| MP-6C | .4 | X | 5X | 0 | 4641 | 1604 |
| MP-7A | .7 | X | 5X | 0 | 3614 | 1607 |
| MP-7B | 0 | X | 5X | 0 | 4862 | 1609 |
| MP-7C | .4 | X | 5X | 0 | 2564 | 1612 |
| MP-8A | 0 | X | 5X | 0 | 2124 | 1617 |
| MP-8B | .8 | X | 5X | 0 | 4302 | 1620 |
| MP-8C | .4 | X | 5X | 0 | 5993 | 1624 |
| MP-9A | 0 | X | 5X | 0 | 1485 | 1740 |
| MP-9B | .5 | X | 5X | 0 | 360 | 1744 |
| MP-9C | .8 | X | 5X | 0 | 4083 | 1748 |
| MP-10A | 3.8 | X | 5X | 0 | 1634 | 1925 |
| MP-10B | .7 | X | 5X | 0 | 3389 | 1928 |
| MP-10C | .2 | X | 5X | 0 | 4474 | 1931 |
| VE-2A | 13.7 | X | 5X | 0 | 1016 | 1050 |
| VE-2B | 18.1 | X | 46750 | 0 | 1028 | 1058 |
| VE-2C | 7.9 | X | 5X | 0 | 3438 | 1102 |
| AI-2A | 7.1 | X | 5X | 0 | 1557 | 1120 |
| AI-2B | 14.6 | X | 5X | 0 | 1075 | 1124 |
| AI-2C | 14.3 | X | 5X | 0 | 2326 | 1127 |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411700
SAMPLED BY: EL/FS

SITE AREA/ZONE: 2/A
TEST TYPE: AI - 15m

| Monitoring Location A | Date | Time | Purge Vacuum (in. $H_2O$) $CH_4$ | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) $H_2S$ | Air Injection Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 8/1/11 | 9:08 | 5X | 0.7 | X | 1914 | 0 | OFF | baseline |
| 7 | | 9:10 | 5X | 0.5 | X | 4416 | 0 | | |
| 8 | | 9:12 | 5X | 0.6 | X | 2913 | 0 | | |
| 9 | | 9:14 | 5X | 0.9 | X | 1266 | 0 | | |
| 10 | | 9:17 | 5X | 0.5 | X | 999 | 0 | | |
| VE 2 | | 9:21 | 5X | 0 | X | 1818 | 0 | | |
| AI 2 | | 9:24 | 5X | 1.7 | X | 1875 | 0 | | |
| | | | | | | | | | |
| 6 | | 9:36 | 5X | 0.6 | X | 1834 | 0 | 11 | 11 CFM |
| 7 | | 9:37 | 5X | 0.4 | X | 3659 | 0 | | |
| 8 | | 9:38 | 5X | 0.3 | X | 2437 | 0 | | |
| 9 | | 9:40 | 5X | 1.2 | X | 1533 | 0 | | |
| 10 | | 9:42 | 5X | 0.4 | X | 906 | 0 | | |
| VE 2 | | 9:44 | 5X | 0.5 | X | 1475 | 0 | | |
| | | | | | | | | | |
| 6 | | 9:52 | 5X | 0.4 | X | 1519 | 0 | 11 | |
| 7 | | 9:54 | 5X | 0.5 | X | 3170 | 0 | | |
| 8 | | 9:56 | 5X | 0.1 | X | 1794 | 0 | | |
| 9 | | 9:58 | 5X | 0.8 | X | 1584 | 0 | | |
| 10 | | 10:00 | 5X | 0.5 | X | 956 | 0 | | |
| VE2 | | 10:02 | 5X | 0.5 | X | 1268 | 0 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200

SAMPLED BY: EL/FS

SITE AREA/ZONE: 2/A

TEST TYPE: A7-20m

8/1/11

| Monitoring Location A | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments 11CFM |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | CH4 | | H2S | | |
| 6 | | 10:14 | 5X | 0.7 | X | 1991 | 0 | 11 | |
| 7 | | 10:16 | 5X | 1.1 | X | 3689 | 0 | | |
| 8 | | 10:18 | 5X | 0.7 | X | 2219 | 0 | | |
| 9 | | 10:20 | 5X | 7.5 | X | 1084 | 0 | | |
| 10 | | 10:22 | 5X | 0.8 | X | 872 | 0 | | |
| VE | | 10:25 | 5X | 0.4 | X | 1610 | 0 | | |
| 6 | | 10:36 | 5X | 0.5 | X | 1176 | 0 | | |
| 7 | | 10:38 | 5X | 1.1 | X | 3529 | 0 | | |
| 8 | | 10:40 | 5X | 0.6 | X | 2502 | 0 | | |
| 9 | | 10:42 | 5X | 0.8 | X | 1141 | 0 | | |
| 10 | | 10:44 | 5X | 1.2 | X | 1399 | 0 | | |
| VE | | 10:46 | 5X | 0.9 | X | 1505 | 0 | | |
| 6 | | 10:57 | 5X | 0.8 | X | 2016 | 0 | | |
| 7 | | 10:59 | 5X | 1.0 | X | 2919 | 0 | | |
| 8 | | 11:01 | 5X | 0.5 | X | 2587 | 0 | | |
| 9 | | 11:03 | 5X | 0.5 | X | 1603 | 0 | | |
| 10 | | 11:05 | 5X | 1.4 | X | 1209 | 0 | | |
| VE | | 11:07 | 5X | 1.1 | X | 1684 | 0 | | |
| 6 | | 11:17 | 5X | 0.3 | X | 1553 | 0 | | |
| 7 | | 11:19 | 5X | 1.2 | X | 4181 | 0 | | |
| 8 | | 11:21 | 5X | 0.8 | X | 2339 | 0 | | |
| 9 | | 11:22 | 5X | 1.2 | X | 1270 | 0 | | |
| 10 | | 11:23 | 5X | 6.9 | X | 717 | 0 | | |
| VE | | 11:25 | 5X | 0.7 | X | 1819 | 0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200

SAMPLED BY: EL / ES

SITE AREA/ZONE: 2/A

TEST TYPE: AI - 20m

8/1/11

| Monitoring Location A | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments 11 CFM |
|---|---|---|---|---|---|---|---|---|---|
| | | | CH4 | | | | $H_2S$ | | |
| 6 | | 11:38 | 5X | 0.5 | X | 1752 | 0 | 11 | |
| 7 | | 11:40 | 5X | 1.1 | X | 4187 | 0 | | |
| 8 | | 11:41 | 5X | 1.1 | X | 2479 | 0 | | |
| 9 | | 11:43 | 5X | 1.0 | X | 1156 | 0 | | |
| 10 | | 11:45 | 5X | 1.5 | X | 1489 | 0 | | |
| VE | | 11:47 | 5X | 1.1 | X | 1612 | 0 | | |
| 6 | | 11:58 | 5X | 1.1 | X | 1676 | 0 | | |
| 7 | | 12:00 | 5X | 1.5 | X | 4051 | 0 | | |
| 8 | | 12:02 | 5X | 0.7 | X | 2740 | 0 | | |
| 9 | | 12:05 | 5X | 1.2 | X | 1914 | 0 | | |
| 10 | | 12:07 | 5X | 1.7 | X | 1522 | 0 | | |
| VE | | 12:09 | 5X | 0.9 | X | 1573 | 0 | | |
| 6 | | 12:19 | 5X | 0.6 | X | 1768 | 0 | | |
| 7 | | 12:22 | 5X | 1.7 | X | 4236 | 0 | | |
| 8 | | 12:25 | 5X | 0.9 | X | 2713 | 0 | | |
| 9 | | 12:27 | 5X | 1.0 | X | 1656 | 0 | | |
| 10 | | 12:29 | 5X | 1.2 | X | 1310 | 0 | | |
| VE | | 12:30 | 5X | 0.9 | X | 1461 | 0 | | |
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## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-~~411~~ 200

SAMPLED BY: EL/FS

SITE AREA/ZONE: 2/A

TEST TYPE: AI-30min

8/1/11 $CH_4$ $H_2S$

| Monitoring Location A | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comments 11CFM → 22CFM |
|---|---|---|---|---|---|---|---|---|---|
| 6 | | 1350 | 5X | 0.4 | X | 1599 | 0 | 22 | increased AI |
| 7 | | 1353 | 5X | 1.4 | X | 4174 | 0 | | |
| 8 | | 1356 | 5X | 0.8 | X | 2378 | 0 | | |
| 9 | | 1358 | 5X | 1.3 | X | 1607 | 0 | | |
| 10 | | 1402 | 5X | 2.3 | X | 1047 | 0 | | |
| VE | | 1406 | 5X | 1.1 | X | 1559 | 0 | | |
| 6 | | 1421 | 5X | 0.5 | X | 1706 | 0 | | |
| 7 | | 1422 | 5X | 1.8 | X | 3268 | 0 | | |
| 8 | | 1424 | 5X | 1.0 | X | 2714 | 0 | | |
| 9 | | 1426 | 5X | 1.1 | X | 1557 | 0 | | |
| 10 | | 1428 | 5X | 1.9 | X | 1301 | 0 | | |
| VE | | 1430 | 5X | 1.1 | X | 1227 | 0 | | |
| 6 | | 1457 | 5X | 0.5 | X | 1527 | 0 | | |
| 7 | | 1454 | 5X | 1.6 | X | 4028 | 0 | | |
| 8 | | 1456 | 5X | 0.6 | X | 2906 | 0 | | |
| 9 | | 1458 | 5X | 1.1 | X | 1616 | 0 | | |
| 10 | | 1500 | 5X | 0.8 | X | 1634 | 0 | | |
| VE | | 1502 | 5X | 1.0 | X | 1312 | 0 | | |
| 6 | | 1540 | 5X | 0.6 | X | 2036 | 0 | | |
| 7 | | 1541 | 5X | 1.2 | X | 3258 | 0 | | |
| 8 | | 1542 | 5X | 0.9 | X | 2721 | 0 | | |
| 9 | | 1544 | 5X | 0.8 | X | 1941 | 0 | | |
| 10 | | 1545 | 5X | 1.9 | X | 1268 | 0 | | |
| VE | | 1547 | 5X | 1.0 | X | 1809 | 0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/2/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI - twice daily reading

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments 22 CFM |
|---|---|---|---|---|---|---|---|---|
| 6 | 915 | 2219 | 5X | 8.6 | X | 0 | 0 | 192°F comp temp |
| 7 | 917 | 4158 | 5X | 1.4 | X | 0 | 0 | |
| 8 | 920 | 2809 | 5X | 12.1 | X | 0 | 0 | |
| 9 | 922 | 1708 | 5X | 8.9 | X | 0 | 0 | |
| 10 | 926 | 1408 | 5X | 1.2 | X | 0 | 0 | |
| VE | 929 | 1798 | 5X | 3.1 | X | 0 | 0 | |
| | | | | | | | | |
| 6 | 15:42 | 1397. | 5X. | 12.1 | X | 0 | | |
| 7 | 15:45 | 3790 | 5X | 2.4 | X | 0 | | |
| 8 | 1549 | 1801 | 49250 | 14.8 | X | 0. | | |
| 9 | 1554. | 1555 | 5X | 4.0 | X | 0. | | |
| 10 | 1602 | 1395 | 5X. | 1.7 | X | 0 | | |
| VE | [redacted] | [redacted]1724 | 5X. | 6.6 | X | 0 | | |
| | 1610 | | | | | | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/3/11.

SITE AREA/ZONE: 2/A
TEST TYPE: AI twice.

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments Comp temp. 22CFM |
|---|---|---|---|---|---|---|---|---|
| 6 | 13:11 | 2639 | 5X | 14.7 | X | 0 | 0 | 199°F |
| 7 | 13:14 | 4139 | 5X | 7.1 | X | 0 | | |
| 8 | 13:18 | 2839 | 16750 | 17.9 | X | 0 | | |
| 9 | 13:22 | 2571 | 5X | 9.6 | X | 0 | | |
| 10 | 13:30 | 1529 | 5X | 1.9 | X | 0 | | |
| VE | 13:40 | 1761 | 5X | 13.1 | X. | 0 | | |
| | | | | | | | | |
| 6 | 18:13 | 2655 | 48250 | 16.0 | X | 0 | | |
| 7 | 18:17 | 4002 | 5X | 2.8 | X | 0 | | |
| 8 | 18:21 | 2323 | 19500 | 18.5 | X | 0 | | |
| 9 | 18:25 | 2029 | 5X | 11.6 | X | 0 | | |
| 10 | 18:29 | 1754 | 5X | 14 | X | 0 | | |
| VE | 18:45 | 1852 | 5X | 13.9 | X | 0 | | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/4/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI final reading

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments Comp tarp 22 CFM |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:18 | 3538 | 31750 | 16.4 | X | 0 | 0 | 196°F |
| 7 | 10:22 | 3389 | 5X | 3.9 | X | 0 | 0 | |
| 8 | 10:25 | 2290 | 11500 | 18.8 | X | 0 | 0 | |
| 9 | 10:29 | 1804 | 5X | 13.5 | X | 0 | 0 | |
| 10 | 10:33 | 1395 | 5X | 1.9 | X | 0 | 0 | |
| VE | 10:40 | 2316 | 5X | 15.4 | X | 0 | 0 | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8-4/11

SITE AREA/ZONE: 2/B
TEST TYPE: AI - 30

| Monitoring Location Zone: B. | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments AI 11 CFM. |
|---|---|---|---|---|---|---|---|---|
| 6 | 11:18 | 4161 | 5X | 0.3 | X | 0 | 0 | baseline - AI OFF |
| 7 | 11:22 | 4432 | 5X | 7.2 | X | 0 | 0 | leak? |
| 8 | 11:25 | 4422 | 5X | 2.8 | X | 0 | 0 | |
| 9 | 11:29 | 2740 | 5X | 1.0 | X | 0 | 0 | |
| 10 | 11:34 | 3532 | 5X | 0.6 | X | 0 | 0 | |
| VE | 11:15 | 2722 | 5X | 2.5 | X | 0 | 0 | |
| 6 | 12:19 | 3790 | 5X | 0.5 | X | 0 | | ON - 1145 |
| 7 | 12:23 | 4533 | 5X | 0.1 | X | 0 | | 208 °F |
| 8 | 12:27 | 4113 | 5X | 2.3 | X | 0 | | |
| 9 | 12:31 | 3151 | 5X | 1.7 | X | 0 | | |
| 10 | 12:35 | 2835 | 5X | 0.9 | X | 0 | | |
| VE | 12:15 | 3627 | 5X | 0.9 | X | 0 | | |
| 6 | 12:50 | 3372 | 5X | 0.5 | X | 0 | | 209 °F |
| 7 | 12:56 | 4641 | 5X | 0.5 | X | 0 | | |
| 8 | 13:06 | 4031 | 5X | 2.5 | X | 0 | | |
| 9 | 13:12 | 3672 | 5X | 0.9 | X | 0 | | |
| 10 | 13:20 | 2463 | 5X | 0.7 | X | 0 | | |
| VE | 12:46 | 3496 | 5X | 2.7 | X | 0 | | |
| 6 | 14:03 | 3731 | 5X | 0.4 | X | 0 | | 208°F |
| 7 | 14:07 | 4350 | 5X | 0.1 | X | 0 | | |
| 8 | 14:11 | 3567 | 5X | 2.5 | X | 0 | | |
| 9 | 14:15 | 3610 | 5X | 1.7 | X | 0 | | |
| 10 | 14:19 | 2369 | 5X | 1.0 | X | 0 | | |
| VE | 14:00 | 3552 | 5X | 3.2 | X | 0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/4/11

SITE AREA/ZONE: B/2
TEST TYPE: AI -30m-45m

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | AI 11 CFM Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 1437 | 3793 | 5X | 0.8 | X | 0 | | 206°F |
| 7 | 1441 | 4601 | 5X | 1.0 | X | 0 | | |
| 8 | 1446 | 4249 | 5X | 1.9 | X | 0 | | |
| 9 | 1451 | 3082 | 5X | 1.3 | X | 0 | | |
| 10 | 1456 | 3405 | 5X | 1.1 | X | 0 | | |
| VE | 1433 | 3322 | 5X | 0.3 | X | 0 | | |
| 6 | 1518 | 3943 | 5X | 0.5 | X | 0 | | 206°F |
| 7 | 1522 | 4197 | 5X | 1.9 | X | 0 | | |
| 8 | 1528 | 4073 | 5X | 3.5 | X | 0 | | |
| 9 | 1534 | 3744 | 5X | 1.1 | X | 0 | | |
| 10 | 1539 | 2352 | 5X | 0.7 | X | 0 | | |
| VE | 1514 | 3653 | 5X | 0.3 | X | 0 | | |
| 6 | 1605 | 2978 | 5X | 1.0 | X | 0 | | 201°F |
| 7 | 1611 | 4142 | 5X | 1.7 | X | 0 | | |
| 8 | 1617 | 4885 | 5X | 0.3 | X | 0 | | |
| 9 | 1621 | 2694 | 5X | 1.4 | X | 0 | | |
| 10 | 1626 | 3327 | 5X | 0.7 | X | 0 | | |
| VE | 1600 | 2515 | 5X | 1.2 | X | 0 | | |
| 6 | 1650 | 2959 | 5X | 1.0 | X | 0 | | 200°F |
| 7 | 1655 | 4152 | 5X | 1.3 | X | 0 | | new tedlar |
| 8 | 1659 | 4171 | 5X | 0.5 | X | 0 | | |
| 9 | 1705 | 3434 | 5X | 1.1 | X | 0 | | |
| 10 | 1711 | 3135 | 5X | 1.0 | X | 0 | | |
| VE | 1646 | 3421 | 5X | 0.1 | X | 0 | | new tedlar |

(3)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: EL

SITE AREA/ZONE: Z/B.

TEST TYPE: AI - 1 hr.

8/9/11

| Monitoring Location B | Date | Time | ~~Purge Vacuum (in. $H_2O$)~~ $CH_4$ | Oxygen (%) | Carbon Dioxide (%) | VOCs (ppmv) | ~~SVE Flow (CFM)~~ $H_2S$. | Air Injection Flow (CFM) | AI Comments 11 CFM |
|---|---|---|---|---|---|---|---|---|---|
| 6 | | 1748 | 5X | 0.8 | X | 2815 | | | |
| 7 | | 1752 | 5X | 1.9. | X | 4070 | | | |
| 8 | | 1756 | 5X | 0.7 | X | 3565 | | | |
| 9 | | 1802 | 5X | 1.4 | X | 2991 | | | |
| 10 | | 1808. | 5X | 0.9 | X | 2590 | | | |
| VE | | 17.49 | 5X | 0.6. | X | 3060 | | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/5/11

SITE AREA/ZONE: 2/B
TEST TYPE: AI twice daily

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments 11 CFM. |
|---|---|---|---|---|---|---|---|---|
| 6 | 9:49 | 2698. | 5X | 2.7 | X | 0 | 0 | 190°F |
| 7 | 9:54 | 3562 | 5X | 0.4 | X | 0 | 0 | |
| 8 | 9:58 | 3806. | 5X | 2.6 | X | 0 | 0 | |
| 9 | 10:02 | 2871 | 5X | 1.2 | X | 0 | 0 | |
| 10 | 10:07. | 2355 | 5X | 1.2 | X | 0 | 0 | |
| VE | 9:45 | 2558 | 5X | 2.8 | X | 0 | 0 | |
| | | | | | | | | |
| 6 | 15:09 | 3271 | 5X | 1.1 | X | 0 | 0 | 200°F |
| 7 | 15:13 | 4122 | 5X | 0.3 | X | 0 | 0 | |
| 8 | 15:18 | 3474 | 5X | 3.3 | X | 0 | 0 | |
| 9 | 15:23 | 3262. | 5X | 1.3. | X | 0 | 0 | |
| 10 | 15.30 | 2597 | 5X | 1.4 | X | 0 | 0 | |
| VE | 15:05. | 2952 | 5X | 0.4 | X | 0 | 0 | |

## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/6/11

SITE AREA/ZONE: 2/B
TEST TYPE: AJ wknd x1

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 1005 | 3262 | 5X | 3.4 | X | 0 | 0 | 190°F |
| 7 | 1010 | 4038 | 5X | 2.7 | X | 0 | 0 | |
| 8 | 1014 | 4158 | 5X | 10.5 | X | 0 | 0 | |
| 9 | 1018 | 3454 | 5X | 2.3 | X | 0 | 0 | |
| 10 | 1022 | 2991 | 5X | 1.4 | X | 0 | 0 | |
| VE | 1000 | 3105 | 5X | 3.2 | X | 0 | 0 | |
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## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/8/11

SITE AREA/ZONE: 2/B
TEST TYPE: AI twice/day

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments comp temp |
|---|---|---|---|---|---|---|---|---|
| 6 | 1009 | 4096 | 5X | 10.3 | X | 0 | 0 | 189 |
| 7 | 1013 | 2150 | 5X | 11.2 | X | 0 | 0 | |
| 8 | 1017 | 4556 | 5X | 10.8 | X | 0 | 0 | |
| 9 | 1021 | 2724 | 5X | 4.8 | X | 0 | 0 | |
| 10 | 1026 | 3425 | 5X | 1.5 | X | 0 | 0 | |
| VE | 1005 | 2727 | 5X | 3.5 | X | 0 | 0 | |
| | | | | | | | | |
| 6 | 1659 | 4513 | 5X | 11.5 | X | 0 | 0 | |
| 7 | 1703 | 2333 | 5X | 12.4 | X | 0 | 0 | |
| 8 | 1707 | 3252 | 26500 | 18.8 | X | 0 | 0 | |
| 9 | 1711 | 2274 | 5X | 7.2 | X | 0 | 0 | |
| 10 | 1715 | 2844 | 5X | 1.7 | X | 0 | 0 | |
| VE | 1655 | 2545 | 5X | 1.5 | X | 0 | 0 | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/9/11

SITE AREA/ZONE: 2/C
TEST TYPE: AI - 30min

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 9:45 | 2235 | 5X | 5.8 | X | 0 | 0 | baseline - 0 CFM |
| 7 | 9:59 | 2460 | 33750 | 12.9 | X | 0 | 0 | |
| 8 | 10:03 | 2290 | 5X | 9.1 | X | 0 | 0 | |
| 9 | 10:07 | 3923 | 5X | 5.2 | X | 0 | 0 | |
| 10 | 10:11 | 4011 | 5X | 0.3 | X | 0 | 0 | |
| VE | 9:55 | 3715 | 5X | 3.7 | X | 0 | 0 | |
| 6 | 11:02 | 2026 | 5X | 9.4 | X | 0 | 0 | 11 CFM - ON 1034 |
| 7 | 11:07 | 2818 | 32750 | 13.0 | X | 0 | 0 | 188°F |
| 8 | 11:12 | 2026 | 5X | 11.5 | X | 0 | 0 | |
| 9 | 11:16 | 2434 | 5X | 8.3 | X | 0 | 0 | |
| 10 | 11:20 | 3584 | 5X | 3.8 | X | 0 | 0 | |
| VE | 11:25 | 3265 | 5X | 4.0 | X | 0 | 0 | |
| 6 | 11:35 | 1779 | 5X | 8.3 | X | 0 | 0 | 188°F |
| 7 | 11:39 | 2822 | 36250 | 12.3 | X | 0 | 0 | |
| 8 | 11:43 | 1445 | 5X | 10.6 | X | 0 | 0 | |
| 9 | 11:47 | 2382 | 5X | 7.1 | X | 0 | 0 | |
| 10 | 11:51 | 3620 | 5X | 2.2 | X | 0 | 0 | |
| VE | 11:56 | 3252 | 5X | 7.5 | X | 0 | 0 | |
| 6 | 12:07 | 2215 | 5X | 8.0 | X | 0 | 0 | 190°F |
| 7 | 12:11 | 2799 | 35000 | 12.6 | X | 0 | 0 | |
| 8 | 12:15 | 2773 | 5X | 10.5 | X | 0 | 0 | |
| 9 | 12:19 | 3780 | 5X | 7.0 | X | 0 | 0 | |
| 10 | 12:23 | 3956 | 5X | 1.5 | X | 0 | 0 | |
| VE | 12:28 | 3503 | 5X | 4.3 | X | 0 | 0 | |

(2)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/9/11

SITE AREA/ZONE: 2/C
TEST TYPE: AI-30-40

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | comp temp °F | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 13:15 | 2942 | 5X | 8.3 | X | 0 | 0 | | |
| 7 | 13:19 | 2985 | 35000 | 12.4 | X | 0 | 0 | | |
| 8 | 13:23 | 1533 | 5X | 10.7 | X | 0 | 0 | | |
| 9 | 13:28 | 3790 | 5X | 7.7 | X | 0 | 0 | | |
| 10 | 13:32 | 2975 | 5X | 1.9 | X | 0 | 0 | | |
| VE | 13:37 | 4142 | 5X | 3.3 | X | 0 | 0 | | |
| 6 | 13:47 | 2616 | 5X | 8.4 | X | 0 | 0 | | |
| 7 | 13:51 | 2655 | 33500 | 11.8 | X | 0 | 0 | | |
| 8 | 13:55 | 2642 | 5X | 10.6 | X | 0 | 0 | | |
| 9 | 13:59 | 3787 | 5X | 7.5 | X | 0 | 0 | | |
| 10 | 14:04 | 4005 | 5X | 2.8 | X | 0 | 0 | | |
| VE | 14:08 | 3718 | 5X | 3.5 | X | 0 | 0 | | |
| 6 | 1429 | 1998 | 5X | 8.5 | X | 0 | 0 | 200 | |
| 7 | 1433 | 2636 | 36500 | 11.7 | X | 0 | 0 | | |
| 8 | 14:37 | 1514 | 5X | 10.8 | X | 0 | 0 | | |
| 9 | 14:41 | 2430 | 5X | 7.5 | X | 0 | 0 | | |
| 10 | 14:45 | 3676 | 5X | 2.8 | X | 0 | 0 | | |
| VE | 14:49 | 3418 | 5X | 2.7 | X | 0 | 0 | | |
| 6 | 15:08 | 3122 | 5X | 8.0 | X | 0 | 0 | 200 | |
| 7 | 15:12 | 2626 | 36250 | 11.7 | X | 0 | 0 | | |
| 8 | 15:17 | 1553 | 5X | 10.5 | X | 0 | 0 | | |
| 9 | 15:22 | 2936 | 5X | 7.3 | X | 0 | 0 | | |
| 10 | 15:26 | 3467 | 5X | 2.8 | X | 0 | 0 | | |
| VE | 15:31 | 3464 | 5X | 2.8 | X | 0 | 0 | | |

(3)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-411

SAMPLED BY: EL

SITE AREA/ZONE: 2/C

TEST TYPE: AT 1-hr

8/9/11

| Monitoring Location C | Date | Time | Purge Vacuum (in. $H_2O$) | Oxygen (%) | Carbon Dioxide ~~(%)~~ ppm | VOCs (ppmv) | SVE Flow (CFM) | Air Injection Flow (CFM) | Comp temp °F | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | $CH_4$ | | | | $H_2S$ | | | |
| 6 | | 1607 | 5X | 7.5. | X | 3177 | 0 | | 200 | |
| 7 | | 1611 | 35500 | 11.6 | X | 2690 | 0 | | | |
| 8 | | 1615 | 5X | 10.6 | X | 2037 | 0 | | | |
| 9 | | 1620 | 5X | 6.9. | X | 2929 | 0 | | | |
| 10 | | 1625 | 5X | 2.0 | X | 3855. | 0 | | | |
| VE | | 1629 | 5X | 2.8 | X | 3568. | 0 | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/10/11

SITE AREA/ZONE: 2/C
TEST TYPE: AT 7:/day

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | comp temp | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 10:40 | 2580 | 5X | 8.7 | X | 0 | 0 | 188 °F | |
| 7 | 10:45 | 2362 | 39250 | 11.2 | X | 0 | 0 | | |
| 8 | 10:49 | 1430 | 41250 | 10.9 | X | 0 | 0 | | |
| 9 | 10:53 | 2923 | 5X | 8.4 | X | 0 | 0 | | |
| 10 | 10:57 | 3731 | 5X | 1.9 | X | 0 | 0 | | |
| VE | 10:36 | 3206 | 5X | 9.9 | X | 0 | 0 | | |
| | | | | | | | | | |
| 6 | 17:55 | 2039 | 5X | 9.0 | X | 0 | 0 | 194 °F | |
| 7 | 17:59 | 3237 | 39250 | 11.0 | X | 0 | 0 | | |
| 8 | 18:03 | 1485 | 33250 | 11.8 | X | 0 | 0 | | |
| 9 | 18:07 | 3143 | 5X | 9.1 | X | 0 | 0 | | |
| 10 | 18:11 | 4564 | 5X | 1.7 | X | 0 | 0 | | |
| VE | 17:51 | 3867 | 5X | 1.1 | X | 0 | 0 | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/11/11

SITE AREA/ZONE: 2/C
TEST TYPE: AT 2/day

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 9:59 | 1951 | 5X | 10.9 | X | 0 | 0 | |
| 7 | 10:04 | 3342 | 40750 | 10.6 | X | 0 | 0 | |
| 8 | 10:08 | 1911 | 15500 | 14.9 | X | 0 | 0 | |
| 9 | 10:12 | 2874 | 5X | 11.1 | X | 0 | 0 | |
| 10 | 10:17 | 4439 | 5X | 1.9 | X | 0 | 0 | |
| VE | 9:56 | 4158 | 5X | 3.5 | X | 0 | 0 | |
| | | | | | | | | |
| 6 | 1544 | 2295 | 5X | 10.8 | X | 0 | 0 | |
| 7 | 1548 | 2479 | 41250 | 10.4 | X | 0 | 0 | |
| 8 | 1552 | 2059 | 11500 | 15.6 | X | 0 | 0 | |
| 9 | 1557 | 2110 | 48000 | 11.4 | X | 0 | 0 | |
| 10 | 1601 | 3948 | 5X | 1.6 | X | 0 | 0 | |
| VE | 1540 | 4041 | 5X | 18 | X | 0 | 0 | |
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## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/12/11

SITE AREA/ZONE: 2/C
TEST TYPE: AI 2/day

| Monitoring Location Zone: | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:35 | 1452 | 38500 | 12.9 | X | 0 | 0 | |
| 7 | 10:41 | 3402 | 42750 | 10.1 | X | 0 | 0 | |
| 8 | 10:46 | 2106 | 5700 | 12.2 | X | 0 | 0 | |
| 9 | 10:50 | 1662 | 24500 | 14.4 | X | 0 | 0 | |
| 10 | 10:54 | 4311 | 5X | 2.2 | X | 0 | 0 | |
| VE | 10:31 | 4074 | 5X | 2.3 | X | 0 | 0 | |
| | | | | | | | | |
| 6 | 17:09 | 1533 | 28750 | 14.2 | X | 0 | 0 | |
| 7 | 17:13 | 2271 | 42500 | 10.1 | X | 0 | 0 | |
| 8 | 17:17 | 2163 | 4700 | 17.7 | X | 0 | 0 | |
| 9 | 17:21 | 1840 | 20000 | 15.0 | X | 0 | 0 | |
| 10 | 17:26 | 4153 | 5X | 2.1 | X | 0 | 0 | |
| VE | 17:04 | 4372 | 5X | 2.9 | X | 0 | 0 | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/16/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI/VE start

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 8:36. | 2419 | 5X | 7.5 | X | 0. | | baseline |
| 7 | 8:39 | 4412 | 5X | 15.3 | X | 0 | | |
| 8 | 8:43 | 1388 | 35500 | 11.2 | X | 0 | | |
| 9 | 8:47 | 2631 | 5X | 8.2 | X | 0 | | |
| 10 | 8:51 | 1028. | 5X | 5.4 | X | 0 | | |
| VE | 8:32. | 2207 | 5X | 6.3 | X | 0 | | |
| 6 | 11:00 | 3093. | 5X | 7.7 | X | 0. | | |
| 7 | 11:04 | 4557 | 5X | 15.5 | X | 0 | | |
| 8 | 11:09 | 1302 | 34500 | 10.8 | X | 0 | | |
| 9 | 11:14 | 1791 | 44750 | 9.8 | X | 0 | | |
| 10 | 11:19 | 652 | 5X | 9.1 | X | 0 | | |
| | | | | | | | | |
| 6 | 11:32 | 1976 | 5X | 8.1 | X | 0 | -0.12 | |
| 7 | 11:36 | 4729 | 5X | 16.0 | X | 0 | -0.32 | |
| 8 | 11:40 | 1343 | 36000 | 11.1 | X | 0 | 0 | |
| 9 | 11:44 | 1827 | 48500 | 9.6 | X | 0 | -052 | |
| 10 | 11:49 | 1397 | 5X | 8.4 | X | 0 | 0 | |
| | | | | | | | | |
| 6 | 12:03 | 1829 | 5X | 8.3 | X | 0 | | |
| 7 | 12:07 | 4251 | 5X | 16.0 | X | 0 | | |
| 8 | 12:11 | 1440 | 35250 | 11.2 | X | 0 | | |
| 9 | 12:15 | 1619 | 5X | 9.6 | X | 0 | | |
| 10 | 12:21 | 1354 | 5X | 8.6 | X | 0. | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/16/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI/VE - 30-40

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 1335 | 3493 | 48000 | 9.8 | X | 0 | -0.4 | |
| 7 | 1339 | 4717 | 5X | 15.1 | X | 0 | 0.2 | |
| 8 | 1344 | 1413 | 32500 | 11.4 | X | 0 | 0.12 | |
| 9 | 1348 | 1840 | 36250 | 10.8 | X | 0 | -0.2 | |
| 10 | 1352 | 1382 | 5X | 8.5 | X | 0 | -0.08 | |
| | | | | | | | | |
| 6 | 1414 | 3372 | 49250 | 10.0 | X | 0 | | |
| 7 | 1418 | 3352 | 5X | 15.1 | X | 0 | | |
| 8 | 1422 | 1442 | 33750 | 11.2 | X | 0 | | |
| 9 | 1426 | 2503 | 45250 | 10.0 | X | 0 | | |
| 10 | 1431 | 1367 | 5X | 8.0 | X | 0 | | |
| | | | | | | | | |
| 6 | 1446 | 2270 | 47750 | 10.2 | X | 0 | -0.4 | |
| 7 | 1450 | 5093 | 5X | 15.2 | X | 0 | 0.3 | |
| 8 | 1454 | 1352 | 34250 | 11.1 | X | 0 | 0.16 | |
| 9 | 1458 | 2298 | 42750 | 10.8 | X | 0 | -0.2 | |
| 10 | 1504 | 1372 | 5X | 7.2 | X | 0 | -0.1 | |
| | | | | | | | | |
| 6 | 1530 | 3012 | 46250 | 10.9 | X | 0 | | |
| 7 | 1534 | 4847 | 5X | 15.2 | X | 0 | | |
| 8 | 1539 | 1619 | 34750 | 11.0 | X | 0 | | |
| 9 | 1543 | 1997 | 46000 | 9.8 | X | 0 | | |
| 10 | 1548 | 1433 | 5X | 6.9 | X | 0 | | |
| | | | | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/17/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI/VE 2/day

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 9:52 | 3854 | 25750 | 16.2 | X | 0 | -0.18 | |
| 7 | 9:56 | 4177 | 5X | 15.6 | X | 0 | -0.26 | |
| 8 | 10:00 | 1578 | 18250 | 13.7 | X | 0 | 0.12 | |
| 9 | 10:05 | 1825. | 25250 | 11.1 | X | 0 | -0.08 | |
| 10. | 10:09 | 638 | 11750 | 13.1 | X | 0 | -0.1 | |
| | | | | | | | | |
| 6 | 16:59 | 4469. | 22000 | 17.6 | X | 0 | 0.24 | WP checked before |
| 7 | 17:04 | 4523 | 5X | 15.3 | X | 0 | 0.78 | purge |
| 8 | 17:08 | 1933 | 13500 | 15.7 | X | 0 | 0.52 | |
| 9 | 17:12 | 2261 | 45750. | 10.4 | X | 0 | 0.26 | |
| 10 | 17:16 | 1157. | 5X | 2.6 | X | 0 | 0.14 | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/18/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI/VE 2/day

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:39 | 5038 | 19250 | 18.3 | X | 0 | 0.1 | |
| 7 | 10:43 | 1628 | 44250 | 17.5 | X | 0 | 0.04 | |
| 8 | 10:48 | 1313 | 5000 | 18.4 | X | 0 | 0.02 | |
| 9 | 10:52 | 2759 | 30250 | 12.3 | X | 0 | 0.02 | |
| 10 | 10:56 | 982 | 5X | 5.5 | X | 0 | 0.04 | |
| | | | | | | | | |
| 6 | 16:34 | 6412 | 18000 | 19.2 | X | 0 | 0.38 | |
| 7 | 16:38 | 3136 | 5X | 16.7 | X | 0 | 0.84 | |
| 8 | 16:42 | 1520 | 4450 | 19.3 | X | 0 | 0.60 | |
| 9 | 16:48 | 2810 | 33500 | 13.1 | X | 0 | 0.34 | |
| 10 | 16:53 | 1655 | 5X | 1.1 | X | 0 | 0.18 | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/19/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI/VE 2/day

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 8:47 | 5482 | 14750 | 19.1 | X | 0 | -0.22 | |
| 7 | 8:51 | 3709 | 5X | 15.6 | X | 0 | -0.28 | |
| 8 | 8:55 | 1374 | 3400 | 19.9 | X | 0 | 0.03 | |
| 9 | 8:59 | 2860 | 28000 | 12.0 | X | 0 | -0.14 | |
| 10 | 9:04 | 1517 | 5X | 0.9 | X | 0 | -0.14 | |
| | | | | | | | | |
| 6 | 15:56 | 7718 | 14750 | 19.3 | X | 0 | 0.10 | |
| 7 | 16:00 | 2695 | 5X | 15.3 | X | 0 | 0.66 | |
| 8 | 16:04 | 1467 | 3200 | 20.2 | X | 0 | 0.44 | |
| 9 | 16:08 | 3379 | 27500 | 13.7 | X | 0 | 0.16 | |
| 10 | 16:14 | 1406 | 5X | 1.3 | X | 0 | 0.10 | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/22/11

SITE AREA/ZONE: 2/A
TEST TYPE: AE/VE 2/day

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 9:42 | 7645 | 10250 | 20.1 | X | 0 | -0.28 | |
| 7 | 9:46 | 3884 | 5X | 14.8 | X | 0 | -0.14 | |
| 8 | 9:50 | 1114 | 3150 | 20.6 | 9950 | 0 | 0.06 | |
| 9 | 9:55 | 3364 | 15250 | 16.2 | X | 0 | -0.16 | |
| 10 | 9:59 | 540 | 28250 | 10.0 | X | 0 | -0.10 | |
| | | | | | | | | |
| 6 | 18:11 | 8942 | 9450 | 20.6 | X | 0 | -0.06 | |
| 7 | 18:16 | 2786 | 5X | 15.0 | X | 0 | 0.54 | |
| 8 | 18:20 | 1123 | 2750 | 20.9 | 8550 | 0 | 0.34 | |
| 9 | 18:24 | 3949 | 21500 | 16.8 | X | 0 | 0.04 | |
| 10 | 18:28 | 1064 | 5X | 2.4 | X | 0 | 0.04 | |

(1)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/30/11

SITE AREA/ZONE: 7/B
TEST TYPE: AI/VE

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 1133 | 4086 | 5X | 13.3 | X | 0 | | baseline |
| 7 | 1137 | 1301 | 6050 | 18.6 | X | 0 | | |
| 8 | 1141 | 1535 | 5X | 14.4 | X | 0 | | |
| 9 | 1145 | 3429 | 5X | 10.1 | X | 0 | | |
| 10 | 1149 | 3668 | 5X | 0.8 | X | 0 | | |
| | | | | | | | | |
| 6 | 14:15 | 4392 | 5X | 13.8 | X | 0 | | |
| 7 | 14:20 | 1311 | 5550 | 18.8 | X | 0 | | |
| 8 | 14:24 | 1829 | 5X | 14.8 | X | 0 | | |
| 9 | 14:29 | 4517 | 5X | 10.9 | X | 0 | | |
| 10 | 14:34 | 3416 | 5X | 1.1 | X | 0 | | |
| | | | | | | | | |
| 6 | 14:55 | 4301 | 5X | 13.9 | X | 0 | .62 | |
| 7 | 14:59 | 1282 | 5400 | 18.8 | X | 0 | .78 | |
| 8 | 15:03 | 1745 | 5X | 14.7 | X | 0 | .88 | |
| 9 | 15:07 | 4411 | 5X | 11.0 | X | 0 | .70 | |
| 10 | 15:11 | 3572 | 5X | 1.2 | X | 0 | .44 | |
| | | | | | | | | |
| 6 | 15:34 | 4288 | 5X | 13.8 | X | 0 | | |
| 7 | 15:38 | 1099 | 4650 | 19.0 | X | 0 | | |
| 8 | 15:42 | 1723 | 5X | 14.9 | X | 0 | | |
| 9 | 15:46 | 4614 | 5X | 11.1 | X | 0 | | |
| 10 | 15:51 | 3705 | 5X | 1.2 | X | 0 | | |
| | | | | | | | | |

(2)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL.
DATE: 8/30/11.

SITE AREA/ZONE: 2/B
TEST TYPE: HI/VE

| Monitoring Location Zone: B. | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 16:13 | 4332 | 5X | 14.0 | X | 0 | .71 | |
| 7 | 16:18 | 938 | 3250 | 19.1 | X | 0 | .86 | |
| 8 | 16:22 | 1691 | 5X | 14.9 | X | 0 | .96 | |
| 9 | 16:26 | 4762 | 5X | 11.3 | X | 0 | .88 | |
| 10 | 16:32 | 3911 | 5X | 1.5 | X | 0 | .58 | |
| | | | | | | | | |
| 6 | 16:55 | 4209 | 5X | 14.3 | X | 0 | | |
| 7 | 17:00 | 1121 | 4250 | 19.0 | X | 0 | | |
| 8 | 17:04 | 1605 | 5X | 14.8 | X | 0 | | |
| 9 | 17:08 | 4692 | 5X | 11.5 | X | 0 | | |
| 10 | 17:13 | 3875 | 5X | 1.2 | X | 0 | | |
| | | | | | | | | |
| 6 | 17:35 | 4242 | 5X | 14.7 | X | 0 | | |
| 7 | 17:39 | 1132 | 4650 | 18.9 | X | 0 | | |
| 8 | 17:43 | 1596 | 5X | 15.0 | X | 0 | | |
| 9 | 17:47 | 4748 | 5X | 11.5 | X | 0 | | |
| 10 | 17:51 | 3904 | 5X | 1.2 | X | 0 | | |
| | | | | | | | | |
| 6 | 18:05 | 4089 | 5X | 15.2 | X | 0 | .46 | |
| 7 | 18:09 | 1109 | 4700 | 19.1 | X | 0 | .62 | |
| 8 | 18:13 | 1533 | 5X | 15.1 | X | 0 | .72 | |
| 9 | 18:17 | 4759 | 5X | 11.7 | X | 0 | .58 | |
| 10 | 18:21 | 3894 | 5X | 1.1 | X | 0 | .40 | |
| | | | | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/31/11

SITE AREA/ZONE: 2/B
TEST TYPE: AI/VE

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 11:02 | 2975 | 5x | 15.9 | x | 0 | -.14 | |
| 7 | 11:06 | 1404 | 4050 | 19.1 | x | 0 | -.09 | |
| 8 | 11:10 | 1272 | 38000 | 16.2 | x | 0 | +0.06 | |
| 9 | 11:14 | 2517 | 5x | 13.1 | x | 0 | -0.06 | |
| 10 | 11:19 | 2315 | 5x | 2.0 | x | 0 | +0.12 | |
| | | | | | | | | |
| 6 | 17:08 | 3753 | 5x | 16.5 | x | 0 | .44 | |
| 7 | 17:12 | 1266 | 3650 | 19.4 | x | 0 | .58 | |
| 8 | 17:16 | 1392 | 32250 | 16.9 | x | 0 | .68 | |
| 9 | 17:20 | 2471 | 5x | 13.4 | x | 0 | .52 | |
| 10 | 17:24 | 2365 | 5x | 1.8 | x | 0 | .38 | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: FL
DATE: 9-1-11

SITE AREA/ZONE: 2/B
TEST TYPE: AI/VE

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 8:40 | 3109 | 43000 | 17.5 | X | 0 | -0.32 | end AI/VE |
| 7 | 8:44 | 1100 | 2000 | 19.3 | X | 0 | -0.2 | |
| 8 | 8:48 | 1383 | 20250 | 18.1 | X | 0 | -0.14 | |
| 9 | 8:52 | 3059 | 5X | 13.4 | X | 0 | -0.24 | |
| 10 | 8:57 | 2426 | 5X | 1.7 | X | 0 | -0.32 | |

1

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/25/11

SITE AREA/ZONE: 2/C
TEST TYPE: AI/VE

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:56 | 3258 | 5X | 4.6 | X | 0 | | |
| 7 | 11:01 | 4194 | 8200 | 18.3 | X | 0 | | |
| 8 | 11:05 | 1291 | 5X | 5.4 | X | 0 | | |
| 9 | 11:10 | 3968 | 5X | 3.8 | X | 0 | | |
| 10 | 11:15 | 4426 | 5X | 1.2 | X | 0 | | |
| | | | | | | | | |
| 6 | 11:36 | 3237 | 5X | 4.3 | X | 0 | | |
| 7 | 11:40 | 4305 | 8100 | 18.4 | X | 0 | | |
| 8 | 11:45 | 1757 | 5X | 5.6 | X | 0 | | |
| 9 | 11:50 | 3887 | 5X | 3.9 | X | 0 | | |
| 10 | 11:55 | 4564 | 5X | 3.0 | X | 0 | | leak |
| | | | | | | | | |
| 6 | 12:30 | 1999 | 5X | 4.7 | X | 0 | | |
| 7 | 12:35 | 4369 | 8200 | 18.4 | X | 0 | | |
| 8 | 12:40 | 1711 | 5X | 4.6 | X | 0 | | |
| 9 | 12:45 | 3598 | 5X | 3.8 | X | 0 | | |
| 10 | 12:50 | 4032 | 5X | 0.0 | X | 0 | | |
| | | | | | | | | |
| 6 | 14:22 | 2941 | 5X | 5.0 | X | 0 | | |
| 7 | 14:30 | 4305 | 5600 | 19.0 | X | 0 | | |
| 8 | 14:34 | 1277 | 5X | 6.0 | X | 0 | | |
| 9 | 14:39 | 3274 | 5X | 5.4 | X | 0 | | |
| 10 | 14:45 | 4897 | 5X | 0.3 | X | 0 | | |
| | | | | | | | | |

## Bioventing Pilot-Test Monitoring Form

(2)

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/25/11

SITE AREA/ZONE: 2/C
TEST TYPE: AI/VE

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 15:24 | 2541 | 5X | 5.5 | X | 0 | 0.76 | |
| 7 | 15:29 | 4180 | 7750 | 18.5 | X | 0 | 0.26 | |
| 8 | 15:34 | 1598 | 5X | 5.4 | X | 0 | 0.82 | |
| 9 | 15:39 | 3436 | 5X | 4.6 | X | 0 | 0.78 | |
| 10 | 15:45 | 4335 | 5X | 0.8 | X | 0 | 0.60 | |
| | | | | | | | | |
| 6 | 16:25 | 2793 | 5X | 5.4 | X | 0 | | |
| 7 | 16:30 | 4271 | 8100 | 18.5 | X | 0 | | |
| 8 | 16:35 | 1521 | 5X | 5.8 | X | 0 | | |
| 9 | 16:40 | 2308 | 5X | 5.0 | X | 0 | | |
| 10 | 16:45 | 5017 | 5X | 0.3 | X | 0 | | |
| | | | | | | | | |
| 6 | 17:10 | 2466 | 5X | 5.6 | X | 0 | 0.82 | |
| 7 | 17:14 | 4156 | 7800 | 18.6 | X | 0 | 0.32 | |
| 8 | 17:18 | 1673 | 5X | 5.8 | X | 0 | 0.82 | |
| 9 | 17:23 | 3066 | 5X | 5.0 | X | 0 | 0.86 | |
| 10 | 17:27 | 4554 | 5X | 0.6 | X | 0 | 0.70 | |
| | | | | | | | | |
| 6 | 18:07 | 2644 | 5X | 5.6 | X | 0 | | |
| 7 | 18:10 | 4199 | 7790 | 18.7 | X | 0 | | |
| 8 | 18:13 | 1627 | 5X | 5.7 | X | 0 | | |
| 9 | 18:17 | 2712 | 5X | 4.8 | X | 0 | | |
| 10 | 18:22 | 4418 | 5X | 0.7 | X | 0 | | |
| | | | | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: FL
DATE: 8/26/11.

SITE AREA/ZONE: 2/C.
TEST TYPE: AI/VE 2/day

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:38 | 1680 | 5X | 8.0 | X | 0 | -.12 | |
| 7 | 10:41 | 4082 | 7450 | 17.8 | X | 0 | -.24 | |
| 8 | 10:46 | 970 | 5X | 7.5 | X | 0 | -.20 | |
| 9 | 10:50 | 1773 | 5X | 6.4. | X | 0 | -.22 | |
| 10. | 10:54 | 4422 | 5X | 0.9 | X | 0 | -.30 | |
| | | | | | | | | |
| 6 | 16:19 | 1345 | 5X | 7.8 | X | 0 | .66 | |
| 7 | 16:24 | 4239 | 8200 | 17.6 | X | 0 | .28 | |
| 8 | 16:29 | 859 | 14000 | 8.8. | X | 0 | .72 | |
| 9 | 16:35 | 1689 | 5X | 7.4 | X | 0 | .68 | |
| 10. | 16:41 | 4513 | 5X- | 1.3. | X | 0 | .56 | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/29/11

SITE AREA/ZONE: 2/C
TEST TYPE: A1/VE

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 11:36 | 1105 | 7550 | 18.8 | X | 0 | .18 | |
| 7 | 11:40 | 3975 | 10000 | 16.7 | X | 0 | .12 | |
| 8 | 11:44 | 903 | 2800 | 19.6 | X | 0 | .24 | |
| 9 | 11:48 | 1173 | 4050 | 19.1 | X | 0 | .20 | |
| 10 | 11:52 | 4348 | 5X | 1.0 | X | 0 | .14 | |
| | | | | | | | | |
| 6 | 19:15 | 1032 | 7700 | 19.1 | X | 0 | .28 | System OFF |
| 7 | 19:19 | 3253 | 9150 | 17.0 | X | 0 | .8 | |
| 8 | 19:23 | 793 | 2600 | 19.9 | X | 0 | .32 | |
| 9 | 19:27 | 1098 | 3400 | 19.4 | X | 0 | .30 | |
| 10 | 19:31 | 4247 | 5X | 1.1 | X | 0 | .24 | |

# Bioventing Pilot-Test Monitoring Form

①

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/23/11

SITE AREA/ZONE: 2/A
TEST TYPE: AI/VE → respiration

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:32 | 7580 | 9150 | 20.2 | 8500 | 0 | | |
| 7 | 10:37 | 3453 | 5X | 14.7 | X | 0 | | |
| 8 | 10:41 | 1128 | 2850 | 20.2 | X | 0 | | |
| 9 | 10:45 | 3480 | 10000 | 16.0 | X | 0 | | |
| 10 | 10:50 | 748. | 18250 | 13.3 | X | 0 | | |
| | | | | | | | | |
| 6 | 11:01 | 8996. | 7800 | 20.2 | 9500 | 0 | | 10:51 sys OFF |
| 7 | 11:05 | 3891 | 5X | 14.6 | X | 0 | | |
| 8 | 11:09 | 1051 | 2750 | 20.4 | 8625 | 0 | | |
| 9 | 11:13 | 3452 | 15500 | 17.0 | X | 0 | | |
| 10 | 11:16 | 594 | 5X | 6.1 | X | 0 | | |
| | | | | | | | | |
| 6 | 11:35 | 8769. | 8750 | 20.2 | 9350 | 0 | | |
| 7 | 11:39 | 4008 | 5X | 14.8 | X | 0 | | |
| 8 | 11:43 | 1158 | 2800 | 20.6 | 8250 | 0 | | |
| 9 | 11:48 | 4116 | 18000 | 17.2 | X | 0 | | |
| 10 | 11:53 | 978 | 5X | 5.4 | X | 0 | | |
| | | | | | | | | |
| 6 | 12:10 | 8470. | 9450 | 20.2 | 9600 | 0 | | |
| 7 | 12:15 | 4692 | 5X | 14.3 | X | 0 | | |
| 8 | 12:19 | 1143 | 3000 | 20.7 | 7775 | 0 | | |
| 9 | 12:23 | 4207 | 20750 | 17.3 | X | 0 | | |
| 10 | 12:29 | 1184 | 5X | 4.7 | X | 0 | | |
| | | | | | | | | |

(2)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/23/11

SITE AREA/ZONE: 2A
TEST TYPE: respiration - system OFF

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 13:50 | 8477 | 8050 | 20.6 | 8500 | 0 | | |
| 7 | 13:54 | 3285 | 5X | 14.6 | X | 0 | | |
| 8 | 13:58 | 1094 | 1950 | 20.9 | 7800 | 0 | | |
| 9 | 14:03 | 4241 | 20500 | 17.4 | X | 0 | | |
| 10 | 14:08 | 1696 | 5X | 3.0 | X | 0 | | |
| | | | | | | | | |
| 6 | 14:50 | 7558 | 9150 | 20.2 | 9025 | 0 | | |
| 7 | 14:55 | 4358 | 5X | 14.5 | X | 0 | | |
| 8 | 15:00 | 1109 | 2650 | 20.7 | 7900 | 0 | | |
| 9 | 15:04 | 4170 | 22500 | 17.5 | X | 0 | | |
| 10 | 15:10 | 1245 | 5X | 1.3 | X | 0 | | |
| | | | | | | | | |
| 6 | 15:50 | 6920 | 10000 | 20.1 | X | 0 | | |
| 7 | 15:54 | 4621 | 5X | 14.6 | X | 0 | | |
| 8 | 15:59 | 1195 | 2300 | 20.7 | 8050 | 0 | | |
| 9 | 16:05 | 4277 | 22750 | 17.6 | X | 0 | | |
| 10 | 16:10 | 1358 | 5X | 1.4 | X | 0 | | |
| | | | | | | | | |
| 6 | 16:46 | 7223 | 9850 | 20.1 | X | 0 | | |
| 7 | 16:50 | 4342 | 5X | 14.5 | X | 0 | | |
| 8 | 16:55 | 1248 | 2450 | 20.7 | 8150 | 0 | | |
| 9 | 17:00 | 4241 | 22250 | 17.6 | X | 0 | | |
| 10 | 17:04 | 1899 | 5X | 1.4 | X | 0 | | |
| | | | | | | | | |

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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/24/11

SITE AREA/ZONE: 2/A
TEST TYPE: day 2 respiration

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 9:10 | 2062 | 2450 | 20.9 | 3200 | 0 | | air leak? |
| 7 | 9:14 | 4197 | 5X | 14.4 | X | 0 | | |
| 8 | 9:18 | 993 | 2950 | 20.6 | 8550 | 0 | | |
| 9 | 9:22 | 3903. | 17500 | 14.5 | X | 0 | | |
| 10 | 9:27 | 1295 | 5 X | 2.6 | X | 0 | | |
| | | | | | | | | |
| 6 | 9.40 | 4820 | 10750 | 18.9 | X | 0 | | |
| 7 | 9:44. | 3084. | 5X | 14.7 | X | 0 | | |
| 8 | 9:48 | 1034 | 2750 | 20.4 | 9475 | 0 | | |
| 9 | 9:52 | 3753 | 19000 | 16.0 | X | 0 | | |
| 10 | 9:56. | 1138 | 5X. | 4.6 | X | 0 | | |
| | | | | | | | | |
| 6 | 10:10. | 5105 | 10250 | 18.9 | X | 0 | | |
| 7 | 10:15 | 4093 | 5X | 14.0 | X | 0 | | |
| 8 | 10:20 | 1051 | 2750 | 20.2 | 9475 | 0 | | |
| 9 | 10:25 | 3894 | 20,500 | 16.3 | X | 0 | | |
| 10. | 10:30 | 1033 | 5X | 5.7 | X | 0 | | |
| | | | | | | | | |
| 6 | 10.50 | 5065 | 9600 | 19.2 | X | 0 | | |
| 7 | 10.54. | 3577 | 5X | 14.3 | X | 0 | | |
| 8 | 10:58 | 1182 | 2850 | 20.4 | 9325 | 0 | | |
| 9 | 11.02 | 3958 | 20750 | 16.7 | X | 0 | | |
| 10. | 11:06 | 1666 | 5X | 5.5 | X | 0 | | |
| | | | | | | | | |

(2)

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: FL/
DATE: 8/24/11

SITE AREA/ZONE: 2/A.
TEST TYPE: respiration

| Monitoring Location Zone: | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 12:15 | 4995 | 8600 | 19.3 | x | 0 | | |
| 7 | 12:20 | 4308 | 5x | 14.6 | x | 0 | | |
| 8 | 12:25 | 1180 | 2850 | 20.6 | 9525 | 0 | | |
| 9 | 12:29 | 4015 | 21750 | 16.7 | x | 0 | | |
| 10 | 12:33 | 1730 | 5x | 4.5 | x | 0 | | |
| | | | | | | | | |
| 6 | 13:18. | 5579. | 9850 | 19.1 | X | 0 | | |
| 7 | 13:22 | 4729 | 5x | 14.4 | X | 0 | | |
| 8 | 13.26 | 1234 | 2800 | 20.6 | 9300 | 0 | | |
| 9 | 13.30 | 4245 | 22250 | 16.8 | X | 0 | | |
| 10 | 13.34 | 1596 | 5X | 3.8 | X | 0 | | |
| | | | | | | | | |
| 6 | 14:17 | 5644. | 9750 | 19.1 | X | 0. | | |
| 7 | 14.22 | 3739. | 5X. | 14.4 | X | 0 | | |
| 8 | 14:27 | 1200 | 2550 | 20.6 | 9750 | 0 | | |
| 9 | 14.32 | 4312. | 23250 | 16.7 | X | 0 | | |
| 10 | 14.37 | 1227 | 5X | 2.9. | X | 0 | | |
| | | | | | | | | |
| 6 | 16.34 | 5979 | 9050 | 19.0 | X | 0 | | |
| 7 | 16.38 | 3810 | 5x | 14.6 | X | 0 | | |
| 8 | 16:42 | 1216. | 2550 | 20.6 | 9250 | 0 | | |
| 9 | 16.46 | 4288 | 23500 | 16.8 | X | 0 | | |
| 10 | 16:50 | 1752 | 5X | 2.4 | X | 0. | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: El
DATE: 8/25/11

SITE AREA/ZONE: 2/A
TEST TYPE: respiration - A

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 11:17 | 4116 | 15250 | 18.1 | X | 0 | | |
| 7 | 11:21 | 4715 | 5X | 14.0 | X | 0 | | |
| 8 | 11:25 | 1281 | 3250 | 19.7 | X | 0 | | |
| 9 | 11:29 | 4133 | 22000 | 14.3 | X | 0 | | |
| 10 | 11:32 | 1736 | 5X | 1.9 | X | 0 | | |
| | | | | | | | | |
| 6 | 17:45 | 4261 | 15500 | 17.8 | X | 0 | | |
| 7 | 17:49 | 4604 | 5X | 14.4 | X | 0 | | |
| 8 | 17:54 | 1244 | 3350 | 20.1 | X | 0 | | |
| 9 | 17:59 | 4059 | 24250 | 16.0 | X | 0 | | |
| 10 | 18:05 | 2123 | 5X | 1.8 | X | 0 | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/26/11

SITE AREA/ZONE: 2/A
TEST TYPE: respiration

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:22 | 4082. | 12500 | 17.3 | X | 0 | | |
| 7 | 10:26 | 3598 | 5X | 14.2 | X | 0 | | |
| 8 | 10:30 | 1412. | 3350 | 19.2 | X | 0 | | |
| 9 | 10:34 | 3816. | 21250. | 13.3 | X | 0 | | |
| 10. | 10:38. | 1159. | 5X. | 1.5 | X | 0. | | |
| | | | | | | | | |
| 6 | 15:55. | 3652. | 18750 | 16.8 | X | 0. | | |
| 7 | 15:59 | 2705 | 5X | 14.7 | X | 0 | | |
| 8 | 16:04 | 1390 | 3800 | 19.1 | X | 0. | | |
| 9 | 16:11 | 3968 | 24750 | 14.8 | X | 0. | | |
| 10. | 16:16. | 1503. | 5X. | 1.4 | X | 0. | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/29/11

SITE AREA/ZONE: 2/A
TEST TYPE: respiration.

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 11:08 | 2362 | 27500 | 14.8 | X | 0 | | |
| 7 | 11:12 | 3022 | 5X | 14.7 | X | 0 | | |
| 8 | 11:16 | 1367 | 4750 | 18.2 | X | 0 | | |
| 9 | 11:20 | 3167 | 29000 | 12.7 | X | 0 | | |
| 10 | 11:24 | 1784 | 5X | 2.0. | X | 0 | | |
| | | | | | | | | |
| 6 | 18:55 | 2419 | 23000 | 15.1 | X | 0 | | |
| 7 | 18:59 | 2541 | 5X | 15.0 | X | 0 | | |
| 8 | 19:03 | 1381 | 4400 | 18.0 | X | 0 | | |
| 9 | 19:07 | 3749. | 32750 | 13.4 | X | 0 | | |
| 10 | 19:11 | 1668. | 5X | 1.9 | X | 0 | | |
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## Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/30/11.

SITE AREA/ZONE: 2/A
TEST TYPE: respiration

| Monitoring Location Zone: A. | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 11:03 | 1983 | 34500 | 13.9 | X | 0 | | |
| 7 | 11:07 | 3584 | 5X | 14.8 | X | 0 | | |
| 8 | 11:11 | 1456 | 5700 | 17.4 | X | 0 | | |
| 9 | 11:15 | 2958 | 30750 | 13.0 | X | 0 | | |
| 10 | 11:19 | 1202. | 5X | 2.2 | X. | 0 | | |
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# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 9/1/11 9/2/11

SITE AREA/ZONE: 2/A
TEST TYPE: Respiration

| Monitoring Location Zone: A | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 14:59 | 1849 | 33750 | 14.4 | X | 0 | | |
| 7 | 15:03 | 4416 | 27500 | 18.2 | X | 0 | | |
| 8 | 15:07 | 1641 | 6500 | 17.2 | X | 0 | | |
| 9 | 15:10 | 2786 | 30500 | 13.4 | X | 0 | | |
| 10 | 15:13 | 1268 | 5X | 9.1 | X | 0 | | |
| | | | | | | | | |
| 6 | 1715 | 1809 | 36750 | 13.3 | X | 0 | | |
| 7 | 1719 | 4584 | 26000 | 18.4 | X | 0 | | |
| 8 | 1723 | 1571 | 6550 | 17.2 | X | 0 | | |
| 9 | 1727 | 2982 | 33750 | 13.1 | X | 0 | | |
| 10 | 1731 | 825 | 5X | 13.9 | X | 0 | | |
| | | | | | | | | |
| | 9/2/11 | | | | | | | |
| 6 | 10:50 | 1693 | 28500 | 14.4 | X | 0 | | |
| 7 | 10:55 | 4216 | 28250 | 18.1 | X | 0 | | |
| 8 | 10:59 | 1312 | 5300 | 17.6 | X | 0 | | |
| 9 | 11:03 | 2724 | 30500 | 14.0 | X | 0 | | |
| 10 | 11:08 | 1291 | 5X | 5.8 | X | 0 | | |
| | 9/6/11 | | | | | | | |
| 6 | 8:19 | 2254 | 19,500 | 10.1 | X | 0 | | |
| 7 | 8:22 | 3648 | 33,750 | 17.4 | X | 0 | | |
| 8 | 8:25 | 1635 | 11,750 | 14.1 | X | 0 | | |
| 9 | 8:33 | 3375 | 44,000 | 10.4 | X | 0 | | |
| 10 | 8:39 | 417 | 5X | 5.7 | X | 0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 9/1/11 9/2/11

SITE AREA/ZONE: 2/B
TEST TYPE: Respiration

| Monitoring Location Zone: B | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 14:32 | 6239 | 40250 | 17.7 | X | 0 | | |
| 7 | 14:40 | 1187 | 3050 | 19.3 | X | 0 | | |
| 8 | 14:44 | 1650 | 17500 | 18.4 | X | 0 | | |
| 9 | 14:48 | 3012 | 5X | 14.8 | X | 0 | | |
| 10 | 14:52 | 2480 | 5X | 1.6 | X | 0 | | |
| | | | | | | | | |
| 6 | 16:34 | 3842 | 34250 | 18.3 | X | 0 | | |
| 7 | 16:38 | 1157 | 3500 | 19.2 | X | 0 | | |
| 8 | 16:43 | 1569 | 19500 | 18.3 | X | 0 | | |
| 9 | 16:47 | 3635 | 5X | 15.0 | X | 0 | | |
| 10 | 16:52 | 2167 | 5X | 1.4 | X | 0 | | |
| | 9/2/11 | | | | | | | |
| 6 | 12:26 | 4941 | 43000 | 17.2 | X | 0 | | |
| 7 | 12:31 | 945 | 4150 | 18.2 | X | 0 | | |
| 8 | 12:36 | 1357 | 23250 | 17.9 | X | 0 | | |
| 9 | 12:41 | 4264 | 5X | 14.3 | X | 0 | | |
| 10 | 12:46 | 2638 | 5X | 1.6 | X | 0 | | |
| | 9/6/11 | | | | | | | |
| 6 | 7:51 | 2827 | 5X | 16.2 | X | 0 | | |
| 7 | 7:55 | 575 | 9800 | 15.1 | X | 0 | | |
| 8 | 8:00 | 1119 | 29,500 | 17.1 | X | 0 | | |
| 9 | 8:05 | 2971 | 5X | 13.7 | X | 0 | | |
| 10 | 8:10 | 2648 | 5X | 2.7 | X | 0 | | |
| | | | | | | | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 8/30/11

SITE AREA/ZONE: 2/C
TEST TYPE: respiration

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 10:34 | 893 | 9550 | 18.7 | X | 0 | | |
| 7 | 10:39 | 3840 | 10750 | 16.1 | X | 0 | | |
| 8 | 10:44 | 754 | 3650 | 19.0 | X | 0 | | |
| 9 | 10:49 | 1012 | 5650 | 18.2 | X | 0 | | |
| 10 | 10:53 | 3800 | 5X | 1.2 | X | 0 | | |

# Bioventing Pilot-Test Monitoring Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 9/1/11

SITE AREA/ZONE: 2/C
TEST TYPE: Respiration

| Monitoring Location Zone: C | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Well Pressure (in. $H_2O$) | Comments |
|---|---|---|---|---|---|---|---|---|
| 6 | 1528 | 942 | 6700 | 18.4 | X | 0 | | |
| 7 | 15:32 | 3685 | 13250 | 15.3 | X | 0 | | |
| 8 | 15:36 | 681 | 3350 | 19.4 | X | 0 | | |
| 9 | 15:40 | 1077 | 4450 | 18.8 | X | 0 | | |
| 10 | 15:45 | 3113 | 5X | 1.2 | X | 0 | | |
| | | | | | | | | |
| 6 | 1742 | 1042 | 6519 | 18.2 | X | 0 | | |
| 7 | 17:46 | 3714 | 14000 | 15.0 | X | 0 | | |
| 8 | 17:50 | 832 | 3300 | 19.2 | X | 0 | | |
| 9 | 17:54 | 1012 | 4550 | 18.6 | X | 0 | | |
| 10 | 17:59 | 3077 | 5X | 1.4 | X | 0 | | |
| | | | | | | | | |
| | 9-2-11 | | | | | | | |
| 6 | 11:35 | 863 | 4900 | 17.9 | X | 0 | | |
| 7 | 11:40 | 3540 | 15250 | 14.8 | X | 0 | | |
| 8 | 11:45 | 563 | 4800 | 18.8 | X | 0 | | |
| 9 | 11:56 | 1157 | 7250 | 17.4 | X | 0 | | |
| 10 | 11:55 | 3254 | 5X | 1.1 | X | 0 | | |
| | 9/6/11 | | | | | | | |
| 6 | 8:45 | 728 | 16,500 | 14.3 | X | 0 | | |
| 7 | 8:47 | 2763 | 15,000 | 14.9 | X | 0 | | |
| 8 | 8:51 | 458 | 15,000 | 15.1 | X | 0 | | |
| 9 | 8:55 | 2133 | 43,500 | 11.2 | X | 0 | | |
| 10 | 9:00 | 3154 | 5X | 1.7 | X | 0 | | |

WIO
MPII/SVE1
IAS1

TPH
VOCs
PAHs

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/16/11

SITE AREA/ZONE: 2/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 11:20 | 333.9 | 686 | 975 | 0 | 196 | 11 | |
| 15:50. | 338.5. | 645 | 1018 | 0 | 200 | 10.5 | |
| 16:22 | 339.0 | 652 | 933 | 0 | 200 | 10.5 | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 11 25 | 1902 | 50250 | 4.3 | 10000 | 0 | 11 | |
| Effluent | 11:22 | 62.5. | 7800 | 17.5 | 10000 | 0 | 180 | |
| Influent | 15:59. | 2211 | 50250 | 4.7 | 10000 | 0 | 13 | |
| Effluent | 15:56 | 108 | 9600. | 17.7 | 10000 | 0. | 185. | re adjusted system VOC now 22.4ppm. |
| * readjust EFF | 16:21 | 224 | 6050 | 18.6 | 10000 | 0 | 125 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 6/17/11

SITE AREA/ZONE: 2/A
SAMPLED BY: E.L.

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:30 | 356.3 | 686 | 828 | 0 | 190 | 11 | |
| 4 15 | 363. | 680 | 858 | 0 | 208 | 11 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9:49 | 1775 | 50250 | 8.4 | 10000 | 0 | 5.6 | |
| Effluent | 9:45 | 30.1 | 5000 | 19.1 | 10000 | 0 | 122 | |
| Influent | 4:43 | 1680 | 5X | 9.2 | 10000 | 0 | 6.1 | |
| Effluent | 4:33 | 19.3 | 4550 | 19.1 | 10000 | 0 | 116. | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/18/11

SITE AREA/ZONE: 2/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10:35 | 381.3 | 670 | 843 | 0 | 196 | 11 | opened recirc, flow down to 3.5 CFM, opened to 5.5 |
| 16:20 | 387.2 | 658 | 889 | 0 | 203 | 11 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 10:33 | 1723 | 5X | 10.5 | 10000 | 0 | 5.5 | |
| Effluent | 10:29 | 31.8 | 5050 | 19.2 | 10000- | 0 | 112 | |
| Influent | 16:28 | 1492 | 5X | 10.5 | 10000 | 0 | 10.3/6 | reduced to 6 CFM |
| Effluent | 16:24 | 700 | 6350 | 19.3 | 10000 | 0 | 112 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/19/11

SITE AREA/ZONE: 2/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 8:21 | 403.2 | 647 | 743 | 0 | 184 | 11 | |
| 15:58 | 410.3 | 647 | 892 | 0 | 200 | 11 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 10:42 | 2046 | 5X | 11.0 | 10000 | 0 | 2.4 → 5.6 | flow increased |
| Effluent | 10:37 | 71.9 | 5600 | 19.1 | 10000 | 0 | 93 | |
| Influent | 15:52 | 1763 | 5X | 10.7 | 10000 | 0 | 8.4 | |
| Effluent | 15:48 | 94.2 | 6200 | 18.9 | 10000 | 0 | 99 | |

# Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/22/11

SITE AREA/ZONE: 2/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:28 | 476.2 | 695 | 803 | 0 | 190 | 11 | |
| 10:09. | 4768 | 680 | 899 | 0 | 192 | 11 | system adjusted. int flow decreased, main. dilut. flow decreased |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9 40 | 1494 | 50250 | 11.0 | 10000 | 0 | 6.5 | |
| Effluent | 9:36<br>10 08 | 104<br>24.4 | 5600<br>8100 | 19.3<br>18.4 | 10000<br>10000 | 0<br>0 | 98.<br>90 | adjusted for voc burn. |
| Influent | 17:54 | 1175. | 50250 | 11.1 | 10000 | 0 | 7 | |
| Effluent | 17 44 | 13.5. | 8600 | 18.5 | 10000 | 0 | 88. | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/23/11

SITE AREA/ZONE: 2/A
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10:15 | 501.0 | 675 | 897 | 0 | 198. | 11 | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 10:25 | 1453 | 50250 | 11.1 | 10000 | 0 | 6.6 | |
| Effluent | 10:20 | 250 | 9050 | 18.3 | 10000 | 0 | 98. | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/31/11

SITE AREA/ZONE: 2/B
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10:40 | 628.8 | 678 | 812 | 0 | 191 | 11/910 | |
| 16:58 | 635.1 | 641 | 843 | 0 | 200 | 11/100° | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 10:51 | 1838 | 50250 | 8.7 | 10000 | 0 | 3.3 | |
| Effluent | 10:46 | 78.0 | 6650 | 19.6 | 10000 | 0 | 77 | adjusting system for VOCs. |
| Influent | 17:04 | 1911 | 50250 | 9.3 | 10000 | 0 | 3.5 | |
| Effluent | 17:00 | 40.4 | 6750 | 19.6 | 10000 | 0 | 52 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9-1-11.

SITE AREA/ZONE: 2/B
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 8:20 | 650.4 | 690 | 780 | 0 | 180 | 11/68 | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 8:35 | 1195 | 5X | 9.9. | 10000 | 0 | 3 651° | |
| Effluent | 8:30 | 64 | 5800 | 199 | 10000 | 0 | 34 | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/25/11

SITE AREA/ZONE: 2/C
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 12:04 | 502.9 | 657 | 868 | 0 | 208 | 11/112° | System started at 10:38. |
| 16:55 | 507.9 | 696 | 892 | 0 | 200 | 10.7/104° | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 12:18 | 4581. | 50250 | 2.8. | 10000 | 0. | 3.5 | |
| Effluent | 12:14 | 17.3 | 10000 | 18.5 | 10000 | 0 | 109 | |
| Influent | 17:11 | 4295 | 50250 | 4.0 | 10000 | 0 | 4.25 | |
| Effluent | 17:05 | 24.4. | 11250 | 18.6 | 10000 | 0 | 101 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/26/11

SITE AREA/ZONE: 2/C.
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10:20 | 525.3 | 695 | 821 | 0 | 200 | 11/98 | |
| 15:38 | 530.5 | 656 | 916 | 0 | 210 | 11/112 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 10:28 | 4325 | 50250 | 3.0 | 10000 | 0 | 3.0 | |
| Effluent | 10:24 | 23.4 | 9850 | 18.7 | 10000 | 0 | 104 | |
| Influent | 15:43 | 4564 | 50250 | 3.3 | 10000 | 0 | 5.25 | |
| Effluent | 15:39 | 21.3 | 11250 | 18.4 | 10000 | 0 | 99 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/29/11

SITE AREA/ZONE: 2/C
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10:10 | 597.1 | 652 | 836 | 0 | 200 | 11/95°F | |
| 18:50 | 605.7 | 681 | 806 | 0 | 198 | 11/85. | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 10:35 | 1544 | 50250 | 4.6 | 10000 | 0. | 3.5 788°F | |
| Effluent | 10:30, | 38.5. | 8150 | 18.6 | 10000 | 0 | 101 | |
| Influent | 18:49 | 1583 | 50250 | 4.7 | 10000 | 0 | 4.5 879 | |
| Effluent | 18:45 | 56.4 | 6800 | 18.8 | 10000 | 0 | 86 | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 8/30/11

SITE AREA/ZONE: 2/C
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 13:30 | 607.6 | 663 | 878 | 0 | 200 | 11/108 | System started 11:54 |
| 18:25 | 612.5 | 649 | 874 | 0 | 200 | 11/86 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 13:48. | 3561. | 50250 | 9.3 | 10000 | 0 | 4.5 | |
| Effluent | 13.42 | 33.3. | 7000 | 19.1 | 10000 | 0 | 83 | |
| Influent | 18:31 | 3678 | 50250. | 8.7 | 10000 | 0 | 6 | |
| Effluent | 8:27 | 45.7 | 7650 | 19.1 | 10000 | 0 | 55 | |

## Baseline GW & Gas Monitoring - First Purge

PROJECT: 1003-001-411 SITE AREA: 3

DATE: 9/9/11 9/12/11 SAMPLED BY: FS/EL

**PURGE CALCULATIONS**

| | MP Wells | MW | IAS Well |
|---|---|---|---|
| PUMP FLOW RATE: | | | |
| PURGE VOLUME: | | | |
| PURGE TIME: | | | |

| Well | $O_2$ | $CO_2$ | $CH_4$ | $H_2S$ | VOCs | Air Pressure | GW Depth | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| IAS-1 | | | | | | | 100.87 | |
| W-10 | | | | | | | 100.51 | |
| MP-11 A | | | | | | | | |
| MP-11 B | | | | | | | | |
| MP-11 C | | | | | | | 100.76 | |
| | | | | | | | | |
| AS-1 | | | | | | | | |
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| | T(°F) | TDS(g/L) | ORP(mV) | PH | COND (mS/cm) |
|---|---|---|---|---|---|
| W-10 | 24.6 | 1.7 | -84 | 6.22 | 2.62 |

| Turb (NTU) | DO (g/L) |
|---|---|
| 90.3 | 4.42 |

light grey, pungent HC odor.

# VAPOR DATA

PROJECT: 1003-001-200 SITE AREA/ZONE: 3

DATE: 9/13/11 SAMPLED BY: EL

*Readings taken 10-15 min for first 2 hrs. Hourly Thereafter.

| Well | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | ~~Flow (CFM)~~ | Comments |
|---|---|---|---|---|---|---|---|---|
| SVE A | 13:30 | 567 | 42250 | 1.0 | X | 0 | | |
| SVE B | 13:36 | 2581 | 5X | 1.9 | X | 0 | | |
| SVE C | 13:40 | 4574 | 5X | 0.1 | X | 0 | | |
| W-10 | 14:06 | 4742 | 5X | 0 | X | 0 | | |
| IAS-1 | 14:22 | 6972 | 5X | 1.4 | X | 0 | | |

# Air Sparge

9.13.2011 Baseline Measurements

| | Temp (°C) | Cond. (µS/cm) | DO (mg/L) | pH | ORP | TIME |
|---|---|---|---|---|---|---|
| SVE-1C | 24.64 | 2278 | 1.54 | 6.67 | -121.5 | 9:15 |
| W-10 | 24.59 | 2621 | 1.86 | 6.69 | -114.4 | 9:28 |
| IAS-1 9-13 | 24.72 | 2294 | 1.41 | 6.85 | 17.8 | 9:36 |
| SVE-1C 9-14 | 24.58 | 2280 | 1.95 | 6.79 | -94.7 | ~~9.5 PSI @ 5 CFM~~ 11:11 (start-up) |
| W-10 | 24.63 | 2609 | 2.25 | 6.69 | -107.3 | 11:18 |
| IAS-1 | 24.65 | 2303 | 1.35 | 6.84 | 5.0 | 11:29 |
| SVE-1C | 24.65 | 2282 | 1.66 | 6.75 | -116.5 | 11:33 |
| W-10 | 24.61 | 2628 | 1.98 | 6.67 | -90 | 11:41 |
| IAS-1 | 24.69 | 2314 | 1.34 | 6.84 | 5.8 | 11:46 |
| SVE-1C | 24.59 | 2283 | 2.19 | 6.79 | -103.6 | 1218 |
| W-10 | 24.60 | 2620 | 2.30 | 6.69 | -89.9 | 1223 |
| IAS-1 | 24.68 | 2294 | 1.86 | 6.84 | 9.8 | 1229 |
| SVE-1C | | | 6.91 | | | 1346 |
| | | | 6.79 | | | 1350 |
| | | | 6.75 | | | 1354 |
| | | | 6.70 | | | 1358 |
| | | | 6.66 | | | 1402 |
| | | | 6.60 | | | 1406 |
| | | | 8.02 | | -3.0 | 1535 |
| | | | 7.94 | | 35.5 | 1539 |
| | | | 7.74 | | 54 | 1543 |
| | | | 7.30 | | 64.1 | 1547 |
| | | | 7.09 | | 69.5 | 1551 |

oxygen depletion test

(cont.)

(cont.)

Time | Oxygen Depletion Test 9-14-11

16:46 Shut down 15 cfm air sparge test → ysi placed in well SVE1C

| | DO | ORP |
|---|---|---|
| 1657 | 8.98 | 24.5 |
| 1705 | 9.47 | 49.6 |
| 1709 | 8.23 | 61.7 |
| 1713 | 8.60 | 53.0 |
| 1717 | 8.57 | 65.5 |
| 1721 | 7.97 | 65.4 |
| 1723 | 7.82 | 66.8 |
| 1725 | 8.09 | 70.4 |
| 1728 | 7.53 | 73.1 |
| 1730 | 7.59 | 73.0 |
| 1828 | 5.69 | 73.1 |
| 1928 | 4.51 | 90.4 |
| 2028 | 4.20 | 95.5 |
| 2128 | 3.69 | 96.5 |
| 2228 | 3.04 | 99.2 |
| 2328 | 2.64 | 104.4 |
| 9/15 0028 | 2.55 | 106.0 |
| 0128 | 2.49 | 107.2 |
| 0228 | 2.34 | 109.2 |
| 0328 | 2.24 | 110.5 |
| 0428 | 2.06 | 109.9 |
| 0710 | 2.02 | 110.2 |

# VAPOR DATA

PROJECT: 1003-001-200
DATE: 9-14-2011

SITE AREA/ZONE: 3
SAMPLED BY: PS/EL/JRS

| Well | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| SVE1 A | 8:27 | 565 | 12500 | 1.5 | X | 0 | | |
| B | 8:32 | 2433 | 5X | 0 | X | 0 | | |
| C | 8:37 | 4541 | 5X | 0 | X | 0 | | |
| W-10 | 8:42 | 4103 | 5X | 0.2 | X | 0 | | |
| IAS-1 | 8:49 | 5276 | 5X | 2.3 | X | 0 | | |
| SVE1C | 9:52 | 2482 | 3850 | 20.9 | 1100 | 0 | | |
| W-10 | 9:59 | 1519 | 1600 | 20.9 | 1050 | 0 | | |
| IAS-1 | 10:05 | 1322 | 1350 | 20.9 | 250 | 0 | | |
| SVE1C | 12:13 | 4217 | 5X | 3.4 | X | 0 | | |
| W-10 | 12:15 | 3096 | 5X | 2.0 | X | 0 | | |
| IAS-1 | 12:20 | 5171 | 5X | 1.8 | X | 0 | | |
| SVE-1C | 13:25 | 3803 | 5X | 7.7 | X | 0 | | |
| W-10 | 13:26 | 4497 | 5X | 0.7 | X | 0 | | |
| 9-14-2011 IAS-1 | 13:28 | 4981 | 5X | 3.1 | X | 0 | | |
| 9-15-2011 SVE-1C | 7:56 | 3005 | 5X | 6.5 | X | 0 | | |
| W-10 | 8:07 | 125 | 450 | 20.9 | 1250 | 0 | | |
| IAS-1 | 8:04 | 383 | 2600 | 20.9 | 2875 | 0 | | |
| | | | | | | | | |
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# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: EL / FS
DATE: 9/14/11

SITE AREA/ZONE: 3
TEST TYPE: AS

| Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| SVE-1C | 844 | 24.62 | 2277. | 3.20 | 6.29 | -13.5 | | | baseline |
| W-10 | 856 | 24.59 | 2585 | 4.23 | 6.49 | -61.5 | | | |
| IAS-1 | 902. | 24.67 | 2284 | 4.25 | 6.68 | -35.0 | | | |
| | | | | | | | | | |
| SVE-1C | 1013 | 24.58 | 2298 | 5.46 | 6.90 | -48.3 | 5 | 10 | start-up 9:15 |
| W-10 | 1019 | 24.60 | 2594 | 4.54 | 6.66 | -53.6 | | | |
| IAS-1 | 1021 | 24.70 | 2295 | 4.23 | 6.79 | -49.5 | | | |
| | | | | | | | | | |
| SVE-1C | 1213 | 24.64 | 2330 | 3.89 | 6.81 | -21.8 | | | |
| W-10 | 1208 | 24.62 | 2587 | 3.22 | 6.62 | -70. | | | |
| IAS-1 | 1203 | 24.67 | 2293 | 3.04 | 6.88 | -28.3 | | | |
| | | | | | | | | | |
| SVE-1C | 13:19. | 24.64 | 2686 | 8.59 | 7.41 | 92.5 | | | |
| W-10 | 13:20 | 24.61 | 2592 | 1.75 | 6.65 | -52.6 | | | |
| IAS-1 | 13:22 | 24.72 | 2343 | 2.28 | 6.77 | -63.9 | | | |
| | | | | | | | | | |
| SVE-1C | 13:43 | 24.67 | 2601 | 7.08 | 7.27 | 78.5 | | | |
| W-10 | 14:10 | 24.57 | 2593 | 1.83 | 6.67 | -74.2 | | | |
| IAS-1 | 14:14 | 24.70 | 2339 | 1.87 | 6.76 | -69.3 | | | |
| | | | | | | | | | |
| SVE-1C | 1516 | 24.60 | 2772 | 9.25 | 7.50 | -34.6 | 10 | ~25 (over limit of gauge) | Start test @ 14:25 |
| W-10 | 1514 | 24.71 | 2603 | 2.57 | 7.00 | -171.8 | | | +Positive pressure during injection 1440 STOP |
| IAS-1 | 1520 | 24.68 | 2381 | 1.96 | 6.79 | -63.9 | | | 1456 START |
| IAS-1 | 1527 | | | 1.57 | | | | | 1511 STOP |
| | 1528 | | | 1.45 | | | | | |

# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: JS, FS, EL
DATE: 9/14/11.

SITE AREA/ZONE: 3
TEST TYPE: AS

| Well | Time | Temp (~~F°~~) °C | Cond (µS/cm) | DO (~~g/L~~) mg/L | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| SVE-1C | 1657 | 24.55 | 137-1168 | 8.98 | 7.65 | 24.5 | 15 | 30 | |
| W-10 | 1654 | 24.59 | 2564 | 2.56 | 7.05 | -65.1 | 15 | 30 | |
| IAS-1 | 1651 | 24.82 | 2572 | 2.89 | 7.22 | -80.0 | 15 | 30 | |
| | 1652 | 24.84 | 2576 | 1.73 | 6.96 | -161.0 | 15 | 30 | |
| SVE-1C | 1705 | | | 9.47 | | 49.6 | | | |
| ~~W-10~~ SVE-1C | 1709 | | | 8.23 | | 61.7 | | | |
| ~~IAS-1~~ SVE-1C | 1713 | | | 8.60 | | 53.0 | | | |
| SVE-1C | 1717 | | | 8.57 | | 65.5 | | | |
| SVE-1C | 1721 | | | 7.97 | | 65.4 | | | |
| ~~W-10~~ SVE-1C | 1725 | | | 8.09 | | 70.4 | | | |
| ~~IAS-1~~ SVE-1C | 1730 | | | 7.59 | | 73.0 | | | |
| | Set up YSI 650 to log SVE-1C every hour | | | | | | | | |
| SVE-1C | | | | | | | | | |
| W-10 | | | | | | | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | | | | | | | | | |
| W-10 | | | | | | | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | | | | | | | | | |
| W-10 | | | | | | | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |

# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: FS/EL/JRS
DATE: 9.15.2011 & 9.16.2011

SITE AREA/ZONE: 3
TEST TYPE: AS (injection)

| | Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 9.15.11 | SVE-1C | 751 | 24.60 | 2394 | 2.02* | 7.26 | -13.8 | — | — | Baseline prior to start-up of injection |
| | W-10 | 743 | 24.25 | 2519 | 1.36 | 6.98 | -49.2 | — | — | -11- |
| | IAS-1 | 747 | 24.66 | 2406 | 1.47 | 6.78 | -64.0 | — | — | -11- |
| | IAS-1 Measurements (YSI 650 data logger) | | | | | | | | | 8:53 begin injection 10 CFM/~23 psi |
| | SVE-1C IAS-1 | 8:05 | | | 1.49 | | -65.1 | | | |
| | W-10 IAS-1 | 815 | | | 1.27 | | -91.7 | | | |
| | IAS-1 | 825 | | | 1.27 | | -97.6 | | | |
| | | 835 | | | 1.27 | | -98.9 | | | |
| | SVE-1C IAS-1 | 845 | | | 1.28 | | -100.5 | | | |
| | W-10 IAS-1 | 855 | | | 1.29 | | -100.2 | | | |
| | IAS-1 | 905 | | | 1.29 | | -102.7 | | | |
| | | 915 | | | 1.29 | | -103.7 | | | |
| | SVE-1C IAS-1 | 925 | | | 1.30 | | -102.0 | | | |
| | W-10 IAS-1 | 935 | | | 1.31 | | -99.7 | | | |
| | IAS-1 | 945 | | | 1.31 | | -101.8 | | | |
| | | 955 | | | 1.31 | | -102.1 | | | |
| | SVE-1C IAS-1 | 1005 | | | 1.31 | | -102.1 | | | |
| | W-10 IAS-1 | 1015 | | | 1.31 | | -102.5 | | | |
| | IAS-1 | 1025 | | | 1.30 | | -102.8 | | | |
| | | 1035 | | | 1.30 | | -102.8 | | | |
| | SVE-1C IAS-1 | 1045 | | | 1.29 | | -102.6 | | | |
| | W-10 IAS-1 | 1055 | | | 1.29 | | -102.2 | | | |
| | IAS-1 | 1105 | | | 1.29 | | -102.7 | | | |
| | | 1115 | | | 1.28 | | -103.1 | | | |

* YSI data logger measurements collected throughout the night

FAX (562) 944-8522

# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: F. Sosik
DATE: 9.15.2011 & 9.16.2011

SITE AREA/ZONE: 3
TEST TYPE: AS (injection)

IAS-1 Measurements (YSI 650 datalogger)

| Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| SVE-1C | 1125 | | | 1.28 | | -103.3 | | | |
| W-10 | 1135 | | | 1.28 | | -104.8 | | | |
| IAS-1 | 1145 | | | 1.28 | | -104.7 | | | |
| | 1155 | | | 1.27 | | -105.6 | | | |
| SVE-1C | 1205 | | | 1.27 | | -104.9 | | | |
| W-10 | 1215 | | | 1.27 | | -105.5 | | | |
| IAS-1 | 1225 | | | 1.26 | | -106.3 | | | |
| | 1235 | | | 1.26 | | -107.0 | | | |
| SVE-1C | 1245 | | | 1.26 | | -107.4 | | | |
| W-10 | 1255 | | | 1.25 | | -107.9 | | | |
| IAS-1 | 1305 | | | 1.25 | | -108.6 | | | |
| | 1315 | | | 1.25 | | -109.2 | | | |
| SVE-1C | 1325 | | | 1.25 | | -109.6 | | | |
| W-10 | 1335 | | | 1.24 | | -109.4 | | | |
| IAS-1 | 1345 | | | 1.24 | | -110.4 | | | |
| | 1355 | | | 1.24 | | -109.5 | | | |
| SVE-1C | 1405 | | | 1.24 | | -110.1 | | | |
| W-10 | 1415 | | | 1.24 | | -110.8 | | | |
| IAS-1 | 1425 | | | 1.23 | | -110.3 | | | |
| | 1435 | | | 1.23 | | -110.7 | | | |
| SVE-1C | 1445 | | | 1.23 | | -111.3 | | | |
| W-10 | 1455 | | | 1.23 | | -111.6 | | | |
| IAS-1 | 1505 | | | 1.22 | | -112.9 | | | |
| | 1515 | | | 1.22 | | -112.8 | | | |

# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: F. Sosic
DATE: 9.15.2011 + 9.16.2011

SITE AREA/ZONE: 3
TEST TYPE: AS (injection)

IAS-1

| | Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | AS-1 Air Flow Rate (CFM) | AS-1 Air Pressure (psi) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 9.15.11 | SVE-1C | 1525 | | | 1.22 | | -113.8 | | | |
| | W-10 | 1535 | | | 1.21 | | -114.1 | | | |
| | IAS-1 | 1545 | | | 1.21 | | -114.2 | | | |
| | | 1555 | | | 1.21 | | -116.2 | | | |
| | SVE-1C | 1605 | | | 1.21 | | -116.5 | | | |
| | W-10 | 1615 | | | 1.20 | | -118.7 | | | |
| | IAS-1 | 1625 | | | 1.21 | | -116.9 | | | |
| | | 1635 | | | 1.19 | | -118.4 | | | |
| 10-min | SVE-1C | 1645 | | | 1.17 | | -119.6 | | | |
| Hourly | W-10 | 1647 | | | 1.16 | | -119.1 | | | |
| | IAS-1 | 1747 | | | 1.18 | | -94.3 | | | |
| | | 1847 | | | 1.19 | | -80.9 | | | |
| | SVE-1C | 1947 | | | 1.22 | | -74.8 | | | |
| | W-10 | 2047 | | | 1.26 | | -70.8 | | | |
| | IAS-1 | 2147 | | | 1.31 | | -67.7 | | | |
| | | 2247 | | | 1.37 | | -67.4 | | | |
| 9.15.11 | SVE-1C | 2347 | | | 1.43 | | -64.9 | | | |
| 9.16.11 | W-10 | 0047 | | | 1.50 | | -62.9 | | | |
| | IAS-1 | 0147 | | | 1.56 | | -63.7 | | | |
| | | 0247 | | | 1.67 | | -63.3 | | | |
| | SVE-1C | 0347 | | | 1.73 | | -64.5 | | | |
| | W-10 | 0447 | | | 1.72 | | -63.7 | | | |
| | IAS-1 | 0547 | | | 1.83 | | -60.6 | | | |
| | | 0647 | | | 1.79 | | -60.2 | | | |
| | | 0747 | | | 1.93 | | -58.9 | | | |

# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: FS/EL/JS.
DATE: 9/19/11.

SITE AREA/ZONE: 3
TEST TYPE: IAS

| | | | | | | | AS-1 | | |
|---|---|---|---|---|---|---|---|---|---|
| Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | Air Flow Rate (CFM) | Air Pressure (psi) | Comments |
| SVE-1C | 7:25 | 24.63 | 1875 | 1.28 | 6.55 | 189.7 | | | |
| W-10 | 7:34 | 24.61 | 2313 | 2.14 | 6.55 | 60.2→30.8 | | | |
| IAS-1 | 7:40 | 24.69 | 2315 | 1.77 | 6.71 | -31.8→-46.4 | | | 1.71 (pulse) DO |
| | | | | | | | | | |
| SVE-1C | 13:52 | 24.81 | 1888 | 1.18 | 7.44 | 8.2 | | | |
| W-10 | 13:48 | 24.92 | 2334 | 2.01 | 6.96 | -28.2 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | 13:58 | 24.87 | 1895 | 0.97 | 7.40 | 39.2 | | | |
| W-10 | 14:07 | 24.88 | 2337 | 1.46 | 6.84 | -5 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | 14:03 | 24.85 | 1885 | 0.91 | 7.40 | 49.9 | | | |
| W-10 | 14:12 | 24.89 | 2336 | 1.60 | 6.81 | -25.0 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | | | | | | | | | |
| W-10 | 14:18 | 24.87 | 2336 | 1.66 | 6.79 | -24.8 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | | | | | | | | | |
| W-10 | 14:24 | 24.84 | 2333 | 1.67 | 6.82 | -25.2 | | | |
| IAS-1 | | | | | | | | | |
| W-10 | 14:31 | 24.82 | 2333 | 1.66 | 6.82 | -25.3 | | | |

Begin IAS readings

# Air Sparge Zone of Influence Form

PROJECT: 1003-001-200
SAMPLED BY: EL
DATE: 9/20/11 →

SITE AREA/ZONE: 3
TEST TYPE: IAS

| | | | | | | | AS-1 | | |
|---|---|---|---|---|---|---|---|---|---|
| Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | Air Flow Rate (CFM) | Air Pressure (psi) | Comments |
| SVE-1C | 9:15 | 24.65 | 1939 | 0.90 | 7.38 | -37.3 | | | |
| W-10 | 9:10 | 24.71 | 2334 | 1.46 | 6.91 | -53.8 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | 9:35 | 24.70 | 1934 | 0.82 | 7.37 | -29.7 | | | |
| W-10 | | | | | | | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | 10:52 | 24.71 | 1935 | 1.28 | 7.38 | -27.1 | | | |
| W-10 | 11:00 | 24.65 | 2338 | 1.66 | 6.91 | -44.1 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | 16:18 | 24.66 | 1950 | 0.89 | 7.34 | -44.1 | | | |
| W-10 | 16:10 | 24.73 | 2346 | 1.46 | 6.89 | -56.0 | | | |
| IAS-1 | | | | | | | | | |
| | (9:27) | 24.72 | 1967 | 0.84 | 7.41 | -89.7 | | | |
| 9/21/11 SVE-1C | 9:23 | 24.72 | 1968 | 0.93 | 7.42 | -90 | | | |
| W-10 | 9:33 | 24.65 | 2346 | 1.31 | 6.98 | -67.2 | | | |
| IAS-1 | | | | | | | | | |
| | | | | | | | | | |
| SVE-1C | 16:36 | 24.75 | 1979 | 0.77 | 7.39 | -93.4 | | | |
| W-10 | 16:40 | 24.64 | 2355 | 1.43 | 7.00 | -73.7 | | | |
| IAS-1 | | | | | | | | | |

## VAPOR DATA - DURING SVE, at INLET

PROJECT: 1003-001-200 SITE AREA/ZONE: 3

DATE: SAMPLED BY: EL

*Readings taken simultaneously with monitoring well readings DURING SVE.

| | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| 9/20/11 | 9:56 | 20.7 | 230 | 20.9 | 300 | | | INF |
| | 10:18 | 11.6 | 135 | 20.9 | 100 | | | EFF |
| | | process: 672 | | stack: 582 | | flow: 157 | | |

# In-well Air Stripping

PROJECT: 1003-001-200 SITE AREA/ZONE: 3

SAMPLED BY: EL TEST TYPE: IAS

DATE: 9/22/11

| | Well | Time | Temp (F°) | Cond (µS/cm) | DO (g/L) | pH | ORP (mV) | Comments |
|---|---|---|---|---|---|---|---|---|
| | SVE IC | 8:34 | 24.75 | 1994 | 0.72 | 7.51 | -119.1 | |
| | W-10 | 9:00 | 24.40 | 2351 | 1.39 | 7.28 | -78.1 | |
| | W-10 | 17:45 | 24.80 | 1605 | 1.47 | 7.23 | -111.0 | 9.113ft |
| | SVE IC | 18:00 | 24.48 | 2002 | 0.89 | 7.63 | -80.5 | 5.328ft |
| | W-10 | 18:05 | 24.56 | 2371 | 1.33 | 7.20 | -72.1 | 6.235 |
| 9/23/11 | W-10 | 7:16 | 24.68 | 2379 | 1.78 | 7.22 | -106.0 | 5.961 |
| | SVE IC | 7:21 | 24.57 | 2020 | 1.20 | 7.62 | -88.3 | 5.323 |
| | SVE IC | 9:50 | 24.51 | 2021 | 1.51 | 7.85 | -53.0 | 5.478 |
| | W-10 | 9:55 | 24.57 | 2390 | 1.78 | 7.30 | -81.9 | 5.405 |
| | W-10 | 17:20 | 24.66 | 2402 | 1.97 | 7.24 | -100.0 | 4.889 |
| | SVE IC | 17:35 | 24.68 | 2038 | 1.21 | 7.62 | -92.5 | 5.377 |
| 9/26/11 | W-10 | 9:51 | 24.65 | 2428 | 1.66 | 6.85 | -394.9 | 5.537 |
| | SVE IC | 9:59 | 24.54 | 2052 | 1.28 | 7.23 | -203.9 | 5.482 |
| | SVE IC | 16:17 | 24.73 | 2064 | 0.59 | 7.25 | -348.2 | 5.540 |
| | W-10 | 16:29 | 24.67 | 2437 | 1.77 | 6.88 | -256.0 | 6.641 |
| 9/27/11 | SVE-IC | 9:44 | 24.73 | 2073 | 0.85 | 7.36 | -358.7 | 5.533 |
| | W-10 | 9:59 | 24.69 | 2438 | 2.03 | 7.07 | -272.2 | 6.820 |
| | W-10 | 15:15 | 24.69 | 2440 | 2.09 | 7.02 | -340.7 | 6.439 |
| | SVE IC | 15:20 | 24.68 | 2081 | 1.74 | 7.39 | -206.5 | 5.638 |
| 9/28/11 | W-10 | 11:01 | 24.70 | 2435 | 2.40 | 7.05 | -347.7 | 6.539 |
| | SVE-IC | 11:05 | 24.58 | 2093 | 2.15 | 7.41 | -194.4 | 5.609 |
| | SVE-IC | 16:40 | 24.72 | 2101 | 1.21 | 7.36 | -344.8 | 5.622 |
| | W-10 | 16:45 | 24.65 | 2415 | 2.57 | 7.05 | -229.1 | 6.884 |
| 9/29/11 | W-10 | 10:10 | 24.63 | 2350 | 2.28 | 7.00 | -349.2 | 4.408 |
| | SVE-IC | 10:33 | 24.83 | 2117 | 2.33 | 7.35 | -167.3 | 5.558 |
| | W-10 | 17:10 | 24.66 | 2364 | 2.39 | 7.06 | -254.7 | 6.745 |
| | SVE-IC | 17:00 | 24.72 | 2112 | 1.30 | 7.37 | -294.5 | 5.778 |
| 9/30/11 | W-10 | 9:12 | 24.66 | 2366 | 2.14 | 7.02 | -350.9 | 5.385 |
| | SVE-IC | 9:30 | 24.57 | 2112 | 2.83 | 7.36 | -147.2 | 8.802 |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9/20/11

SITE AREA/ZONE: 3
SAMPLED BY: EI

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10:20. | 660.4 | 672. | 582 | -7 | | 36 | |
| 16:32 | 666.9 | 689 | 825 | -7 | | 36 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9:56 | 20.7 | 230 | 20.9 | 300 | 0 | / | |
| Effluent | 10.18 | 11.6 | 135 | 20.9 | 100 | 0 | 157 | |
| Influent | 16:30. | 1518 | 12750 | 16.3. | 5675 | 0 | / | |
| Effluent | 16:26. | 12 | 4050 | 17.5. | 10000 | 0 | 149 | |

# Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9/21/11

SITE AREA/ZONE: 3
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:51 | 669.3 | 677 | 583 | -3 | | 35 | System OFF upon |
| 16:05 | 675.5 | 680 | 631 | -7 | | 35 | arrival |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9:58 | 21.9 | 270 | 20.9 | 225 | 0 | | |
| Effluent | 9:46 | 6.7 | 0 | 20.9 | 200 | 0 | 147 | |
| Influent | 16:22 | 360 | 1000 | 18.8 | 775 | 0 | | |
| Effluent | 16:24 | 68.3 | 195 | 19.6 | 1000 | 0 | 144 | |

# Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9/22/11

SITE AREA/ZONE: 3
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9 45 | 683.9 | 680 | 605 | 0 | / | 35. | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| ON Influent | 9:46 | 52 | 80 | 20.9 | 250 | 0 | / | |
| OFF | 10:05 | 43.1 | 75 | 20.9 | 250 | 0. | | |
| inject ON Effluent | 9.44 | 33.1 | 0 | 20.9 | 350 | 0 | NA | unable to read. |
| OFF | 10:09 | 40.3. | 220 | 20.9. | 575 | 0 | | |
| Influent | 18:28. | 1055 | 6400 | 18.8 | 2725 | 0 | | |
| | 18:35. | 47.2. | 350 | 20.9 | 100 | 0 | | |
| Effluent | 18:25 | 7.0. | 7100 | 16.5 | 10000 | 0. | | |
| | 18:33 | 15.3 | 1900 | 6.9 | 10000 | 0 | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200

DATE: 9-23-11

SITE AREA/ZONE: Area 3

SAMPLED BY: E. Lim

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 0725 | 705.6 | 686 | 722 | / | 270°F | 37 | |
| 1700 | 713 | 703 | 630 | 4 | 280 | 34 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 7:32 | | 2000 | 20.2. | 1850 | 0. | | |
| Effluent | 7:28. | 49.3 | 1800 | 19.4. | 6600 | 0 | | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9/26/11

SITE AREA/ZONE: 3
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:42 | 777.8 | 640 | 622 | 0 | 272 | 35 | |
| 16:08 | 784.2 | 642 | 622 | 5. | 290 | 35. | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | ① 16:15<br>② 16:35 | 84<br>9.7 | 0<br>400 | 20.9<br>20.9 | 175<br>150 | 0<br>0 | | VE-ON<br>IAS-ON |
| Effluent | | | | | | | | |
| Influent | ③ 16:21 | 242 | 1950 | 20.4 | 5400 | 0 | | VE ON<br>IAS OFF |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9/27/11

SITE AREA/ZONE: 3
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:40 | 801.8 | 693 | 623 | 1.5 | / | 35 | |
| 15.13 | 807.2 | 660 | 617 | 5 | 308 | 35 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| IAS ON Influent | 9.52 | 23.0 | 0 | 20.9. | 250 | 0 | | |
| OFF | 9:54 | 1590 | 230 | 20.1 | 5300 | 0 | | |
| ON ~~Effluent~~ INF | 10:04 | 7.7 | 320 | 20.9. | 300 | 0 | | |
| ON Influent | 15.35 | 63 | 280 | 20.9 | 50 | 0 | | |
| OFF | 15:40 | 240 | 2100 | 19.9 | 5500 | 0 | | |
| Effluent | 15.25 | 1.6 | 0 | 20.9 | 125 | 0 | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 9/28/11

SITE AREA/ZONE: 3
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 10 56 | 827.0 | 620 | 612 | 0 | 278 | 35 - | |
| 16:59 | 833.0 | 698 | 625 | 2. | 280 | 35 | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| ON Influent | 11 12 | 7.0 | 0 | 20.9 | 125 | 0 | | |
| OFF | 11:20 | 122 | 1350 | 20.2 | 4650 | 0 | | |
| Effluent | | | | | | | | |
| ON Influent | 16:52 | 5.2 | 250 | 20.9 | 25 | 0 | | |
| OFF | 16:57 | 167 | 1700 | 203 | 4975 | 0 - | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200
DATE: 01/29/11

SITE AREA/ZONE: 3
SAMPLED BY: EL

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 17:15 | 8491 | 632 | 552 | 2 | 270 | 35 | system turned on 17:00 |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| ON Influent | 17:25 | 4.6 | 0. | 20.9 | 75 | 0 | | |
| OFF | 17:30 | 124 | 1500 | 20.7 | 3875 | 0 | | |
| Effluent | | | | | | | | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

## Pilot-Test System Monitoring Form

PROJECT: 1003-001-200

DATE: 9/30/11

SITE AREA/ZONE: 3

SAMPLED BY:

| Time | Total Hours of Operation | Process Temperature (°F) | Stack Temperature (°F) | Blower Vaccum (inHg) | Compressor Temperature (°F) | Air Injection Flow (CFM) | System Observations: |
|---|---|---|---|---|---|---|---|
| 9:06 - | 8562 | 690 | 420 | 0 | 280 | 35 | |
| | | | | | | | |
| | | | | | | | |

| Monitoring Location | Time | VOCs (ppm) | $CH_4$ (ppm) | $O_2$ (%) | $CO_2$ (ppm) | $H_2S$ (ppm) | Flow (CFM) | Comments |
|---|---|---|---|---|---|---|---|---|
| Influent | 9:00 - | 5.1 | 0 | 20.9 | 200 | 0 | | |
| | 908 | 62 | 300 | 20.9 | 800 | 0 | | |
| Effluent | | | | | | | | |
| Influent | | | | | | | | |
| Effluent | | | | | | | | |

# Appendix H

# Manifest

## SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

| Date of Shipment: | Responsible for Payment: | Transport Truck #: | Facility #: | Approval Number: | Load # |
|---|---|---|---|---|---|
| 12/17/10 | | 394/732 | A07 | 36521 | 001 |

**Generator and/or Consultant**

| | | |
|---|---|---|
| Generator's Name and Billing Address:<br>LAKELAND DEVELOPMENT COMPANY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Generator's Phone #: 562-944-6111<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Consultant's Name and Billing Address: | Consultant's Phone #:<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Generation Site (Transport from): *(name & address)*<br>CENCO OIL REFINERY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Site Phone #:<br>Person to Contact:<br>FAX#: | |
| Designated Facility (Transport to): *(name & address)*<br>SOIL SAFE<br>12328 HIBISCUS AVENUE<br>ADELANTO, CA 92301 | Facility Phone #: (800) 862-8001<br>Person to Contact: DELLENA JEFFREY<br>FAX#: (760) 246-8004 | |
| Transporter Name and Mailing Address:<br>BELSHIRE<br>25971 TOWNE CENTRE DRIVE<br>FOOTHILL RANCH, CA 92610<br>BESI: 186807 | Transporter's Phone #: 949-460-5200<br>Person to Contact: LARRY MOOTHART<br>FAX#: 949-460-5210 | CAR000183913<br>450647<br>Customer Account Number |

| Description of Soil | Moisture Content | Contaminated by: | Approx. Qty: | Description of Delivery | Gross Weight | Tare Weight | Net Weight |
|---|---|---|---|---|---|---|---|
| Sand ☐ Organic ☐<br>Clay ☐ Other ☐ | 0 - 10% ☐<br>10 - 20% ☐<br>20% - over ☐ | Gas ☐<br>Diesel ☐<br>Other ☐ | 14 v | soil | | | |
| Sand ☐ Organic ☐<br>Clay ☐ Other ☐ | 0 - 10% ☐<br>10 - 20% ☐<br>20% - over ☐ | Gas ☐<br>Diesel ☐<br>Other ☐ | | | | | |

List any exception to items listed above: Bin # 45cr

Scale Ticket #

*Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.*

Print or Type Name: Generator ☑ Consultant ☐ X M.V. [illegible]

Signature and date: X M.V. GARRANCO — Month 12 Day 17 Year 10

**Transporter**

*Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.*

Print or Type Name: Kevin Dunlop

Signature and date: Kevin Dunlop — Month 12 Day 17 Year 10

**Recycling Facility**

Discrepancies:

*Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:*

Print or Type Name: D. JEFFREY/J. PROVANSAL

Signature and date:

Please print or type.

GENERATOR/CONSULTANTS COPY

# Manifest

## SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

| Date of Shipment: | Responsible for Payment: | Transport Truck #: | Facility #: | Approval Number: | Load # |
|---|---|---|---|---|---|
| 12/20/10 | | 393/476 | A07 | 36520 | 002 |

**Generator and/or Consultant**

| | | |
|---|---|---|
| Generator's Name and Billing Address:<br>LAKELAND DEVELOPMENT COMPANY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Generator's Phone #: 562-944-6111<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Consultant's Name and Billing Address: | Consultant's Phone #:<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Generation Site (Transport from): *(name & address)*<br>CENCO OIL REFINERY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Site Phone #:<br>Person to Contact:<br>FAX#: | |
| Designated Facility (Transport to): *(name & address)*<br>SOIL SAFE<br>12328 HIBISCUS AVENUE<br>ADELANTO, CA 92301 | Facility Phone #: (800) 862-8001<br>Person to Contact: DELLENA JEFFREY<br>FAX#: (760) 246-8004 | |
| Transporter Name and Mailing Address:<br>BELSHIRE<br>25971 TOWNE CENTRE DRIVE<br>FOOTHILL RANCH, CA 92610<br>BESI: 186807 | Transporter's Phone #: 949-460-5200<br>Person to Contact: LARRY MOOTHART<br>FAX#: 949-460-5210 | CAR000183913<br>450647<br>Customer Account Number |

| Description of Soil | Moisture Content | Contaminated by: | Approx. Qty: | Description of Delivery | Gross Weight | Tare Weight | Net Weight |
|---|---|---|---|---|---|---|---|
| Sand ❑ Organic ❑ Clay ❑ Other ❑ | 0 - 10% ❑ 10 - 20% ❑ 20% - over ❑ | Gas ❑ Diesel ❑ Other ❑ | 10 yd | | | | |
| Sand ❑ Organic ❑ Clay ❑ Other ❑ | 0 - 10% ❑ 10 - 20% ❑ 20% - over ❑ | Gas ❑ Diesel ❑ Other ❑ | | | | | |

List any exception to items listed above: Bin # 37c+ Scale Ticket #

*Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.*

Print or Type Name: Generator ☑ Consultant ❑ x M. V. BARRANCO

Signature and date: x M. V. [signature] Month 12 Day 20 Year 10

**Transporter**

*Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.*

Print or Type Name: FRANK Salazar

Signature and date: [signature] Month 12 Day 20 Year 10

**Recycling Facility**

Discrepancies:

*Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:*

Print or Type Name: D. JEFFREY/J. PROVANSAL

Signature and date:

Please print or type.

GENERATOR/CONSULTANTS COPY

# Manifest

## SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

| Date of Shipment: | Responsible for Payment: | Transport Truck #: | Facility #: | Approval Number: | Load # |
|---|---|---|---|---|---|
| / / | | 3911732 | A07 | 36520 | 003 |

**Generator and/or Consultant**

| | | |
|---|---|---|
| Generator's Name and Billing Address:<br>LAKELAND DEVELOPMENT COMPANY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Generator's Phone #: 562-944-6111<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Consultant's Name and Billing Address: | Consultant's Phone #:<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Generation Site (Transport from): *(name & address)*<br>CENCO OIL REFINERY<br>12345 LAKELAND RD.<br>SANTA FE SPRINGS, CA 90670 | Site Phone #:<br>Person to Contact:<br>FAX#: | |
| Designated Facility (Transport to): *(name & address)*<br>SOIL SAFE<br>12328 HISISCUS AVENUE<br>ADELANTO, CA 92301 | Facility Phone #: (800) 862-8001<br>Person to Contact: DELLENA JEFFREY<br>FAX#: (760) 246-8004 | |
| Transporter Name and Mailing Address:<br>BELSHIRE<br>25971 TOWNE CENTRE DRIVE<br>FOOTHILL RANCH, CA 92610<br>BESI: 186807 | Transporter's Phone #: 949-460-5200<br>Person to Contact: LARRY MOOTHART<br>FAX#: 949-460-5210 | CAR000183913<br>450647<br>Customer Account Number |

| Description of Soil | Moisture Content | Contaminated by: | Approx. Qty: | Description of Delivery | Gross Weight | Tare Weight | Net Weight |
|---|---|---|---|---|---|---|---|
| Sand ❑ Organic ❑ Clay ❑ Other ❑ | 0 - 10% ❑ 10 - 20% ❑ 20% - over ❑ | Gas ❑ Diesel ❑ Other ❑ | 15 % | 50 L | 62660 | 37620 | 25040 |
| Sand ❑ Organic ❑ Clay ❑ Other ❑ | 0 - 10% ❑ 10 - 20% ❑ 20% - over ❑ | Gas ❑ Diesel ❑ Other ❑ | | | | | 12 50 |

List any exception to items listed above: Bin# 5 SCF

Scale Ticket # 88424

*Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.*

Print or Type Name: Generator ☒ Consultant ❑ — M.V BARRANCO

Signature and date: [signature] — Month 01 Day 11 Year 11

**Transporter**

*Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.*

Print or Type Name: Kevin Dunlop

Signature and date: [signature] — Month 01 Day 11 Year 11

**Recycling Facility**

Discrepancies:

*Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:*

Print or Type Name: D. JEFFREY/J. PROVANSAL

Signature and date: [signature] / 11 11

Please print or type.

GENERATOR/CONSULTANTS COPY

# Manifest

## SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

| Date of Shipment: | Responsible for Payment: | Transport Truck #: | Facility #: | Approval Number: | Load # |
|---|---|---|---|---|---|
| / / | | 394/732 | A07 | 36520 | 004 |

**Generator and/or Consultant**

| | | |
|---|---|---|
| Generator's Name and Billing Address:<br>LAKELAND DEVELOPMENT COMPANY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Generator's Phone #: 562-944-6111<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Consultant's Name and Billing Address: | Consultant's Phone #:<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Generation Site (Transport from): *(name & address)*<br>CENCO OIL REFINERY<br>12345 LAKELAND RD.<br>SANTA FE SPRINGS, CA 90670 | Site Phone #:<br>Person to Contact:<br>FAX#: | |
| Designated Facility (Transport to): *(name & address)*<br>SOIL SAFE<br>12328 HIBISCUS AVENUE<br>ADELANTO, CA 92301 | Facility Phone #: (800) 862-8001<br>Person to Contact: DELLENA JEFFREY<br>FAX#: (760) 246-8004 | |
| Transporter Name and Mailing Address:<br>BELSHIRE<br>25971 TOWNE CENTRE DRIVE<br>FOOTHILL RANCH, CA 92610<br>BESI: 186807 | Transporter's Phone #: 949-460-5200<br>Person to Contact: LARRY MOOTHART<br>FAX#: 949-460-5210 | CAR000183913<br>450647<br>Customer Account Number |

| Description of Soil | Moisture Content | Contaminated by: | Approx. Qty: | Description of Delivery | Gross Weight | Tare Weight | Net Weight |
|---|---|---|---|---|---|---|---|
| Sand ☐ Organic ☐<br>Clay ☐ Other ☐ | 0 - 10% ☐<br>10 - 20% ☐<br>20% - over ☐ | Gas ☐<br>Diesel ☐<br>Other ☐ | 17 Y | soil | 68500 | 37820 | 30680 |
| Sand ☐ Organic ☐<br>Clay ☐ Other ☐ | 0 - 10% ☐<br>10 - 20% ☐<br>20% - over ☐ | Gas ☐<br>Diesel ☐<br>Other ☐ | | | | | 15.34 |

List any exception to items listed above: Bin # 48CF

Scale Ticket # 88861

*Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.*

Print or Type Name: Generator ☐ Consultant ☐ — X Edwin Sato

Signature and date: X Edwin Sato — Month 01 Day 20 Year 11

**Transporter**

*Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.*

Print or Type Name: Kevin Dunlop

Signature and date: Kevin Dunlop — Month 01 Day 20 Year 11

**Recycling Facility**

Discrepancies:

[illegible] Transport fell [illegible] to Dispatch

*Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:*

Print or Type Name: D. JEFFREY/J. PROVANSAL

Signature and date: 1/24/11

Please print or type.

TRANSPORTER COPY

# Manifest

## SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

| Date of Shipment: | Responsible for Payment: | Transport Truck #: | Facility #: | Approval Number: | Load # |
|---|---|---|---|---|---|
| / / | | 3941732 | A07 | 36520 | 005 |

**Generator and/or Consultant**

| | | |
|---|---|---|
| Generator's Name and Billing Address:<br>LAKELAND DEVELOPMENT COMPANY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Generator's Phone #: 562-944-6111<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Consultant's Name and Billing Address: | Consultant's Phone #:<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Generation Site (Transport from): *(name & address)*<br>CENCO OIL REFINERY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Site Phone #:<br>Person to Contact:<br>FAX#: | |
| Designated Facility (Transport to): *(name & address)*<br>SOIL SAFE<br>12328 HIBISCUS AVENUE<br>ADELANTO, CA 92301 | Facility Phone #: (900) 862-8001<br>Person to Contact: DELLENA JEFFREY<br>FAX#: (760) 246-8004 | |
| Transporter Name and Mailing Address:<br>BELSHIRE<br>25971 TOWNE CENTRE DRIVE<br>FOOTHILL RANCH, CA 92610<br>BESI 186907 | Transporter's Phone #: 949-460-5200<br>Person to Contact: LARRY MOOTHART<br>FAX#: 949-460-5210 | CAR000183913<br>450647<br>Customer Account Number |

| Description of Soil | Moisture Content | Contaminated by: | Approx. Qty: | Description of Delivery | Gross Weight | Tare Weight | Net Weight |
|---|---|---|---|---|---|---|---|
| Sand ☐ Organic ☐<br>Clay ☐ Other ☐ | 0 - 10% ☐<br>10 - 20% ☐<br>20% - over ☐ | Gas ☐<br>Diesel ☐<br>Other ☐ | 15 Y | soil | 61540 | 37240 | 24300 |
| Sand ☐ Organic ☐<br>Clay ☐ Other ☐ | 0 - 10% ☐<br>10 - 20% ☐<br>20% - over ☐ | Gas ☐<br>Diesel ☐<br>Other ☐ | | | | | 12.15 |

List any exception to items listed above: Bin # 38CF

Scale Ticket # 89139

*Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.*

Print or Type Name: Generator ☐ Consultant ☐ — X Denice Guenther

Signature and date: X Denice Guenther — Month 01, Day 31, Year 11

**Transporter**

*Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.*

Print or Type Name: Kevin Dunlap

Signature and date: Kevin Dunlap — Month 01, Day 31, Year 11

**Recycling Facility**

Discrepancies:

*Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:*

Print or Type Name: D. JEFFREY/J PROVANSAL

Signature and date: 1.31.11

Please print or type.

TRANSPORTER COPY

# Manifest

## SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

| Date of Shipment: | Responsible for Payment: | Transport Truck #: | Facility #: | Approval Number: | Load # |
|---|---|---|---|---|---|
| / / | | 111/733 | A07 | 36520 | 006 |

**Generator and/or Consultant**

| | | |
|---|---|---|
| Generator's Name and Billing Address:<br>LAKELAND DEVELOPMENT COMPANY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Generator's Phone #: 562-944-6111<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Consultant's Name and Billing Address: | Consultant's Phone #:<br>Person to Contact:<br>FAX#: | Customer Account Number |
| Generation Site (Transport from): *(name & address)*<br>CENCO OIL REFINERY<br>12345 LAKELAND RD<br>SANTA FE SPRINGS, CA 90670 | Site Phone #:<br>Person to Contact:<br>FAX#: | |
| Designated Facility (Transport to): *(name & address)*<br>SOIL SAFE<br>12328 HIBISCUS AVENUE<br>ADELANTO, CA 92301 | Facility Phone #: (800) 862-8001<br>Person to Contact: DELLENA JEFFREY<br>FAX#: (760) 246-8004 | |
| Transporter Name and Mailing Address:<br>BELSHIRE<br>25971 TOWNE CENTRE DRIVE<br>FOOTHILL RANCH, CA 92610<br>BESI: 186807 | Transporter's Phone #: 949-460-5200<br>Person to Contact: LARRY MOOTHART<br>FAX#: 949-460-5210 | CAR000183913<br>450647<br>Customer Account Number |

| Description of Soil | Moisture Content | Contaminated by: | Approx. Qty: | Description of Delivery | Gross Weight | Tare Weight | Net Weight |
|---|---|---|---|---|---|---|---|
| Sand ☐ Organic ☐ Clay ☐ Other ☐ | 0 - 10% ☐ 10 - 20% ☐ 20% - over ☐ | Gas ☐ Diesel ☐ Other ☐ | 10 y | Soil | 53440 | 37180 | 16260 |
| Sand ☐ Organic ☐ Clay ☐ Other ☐ | 0 - 10% ☐ 10 - 20% ☐ 20% - over ☐ | Gas ☐ Diesel ☐ Other ☐ | | | | | 8.13 |

List any exception to items listed above: Bin # 22CT

Scale Ticket # 89168

*Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.*

Print or Type Name: Generator ☐ Consultant ☐ Denice Guenther

Signature and date: Denice Guenther — Month 1 Day 31 Year 11

**Transporter**

*Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.*

Print or Type Name: Lukasz Piatek

Signature and date: Piatek Lukasz — Month 1 Day 31 Year 11

**Recycling Facility**

Discrepancies:

*Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:*

Print or Type Name: D JEFFREY/J PROVANSAL

Signature and date: 2-1-11

Please print or type.

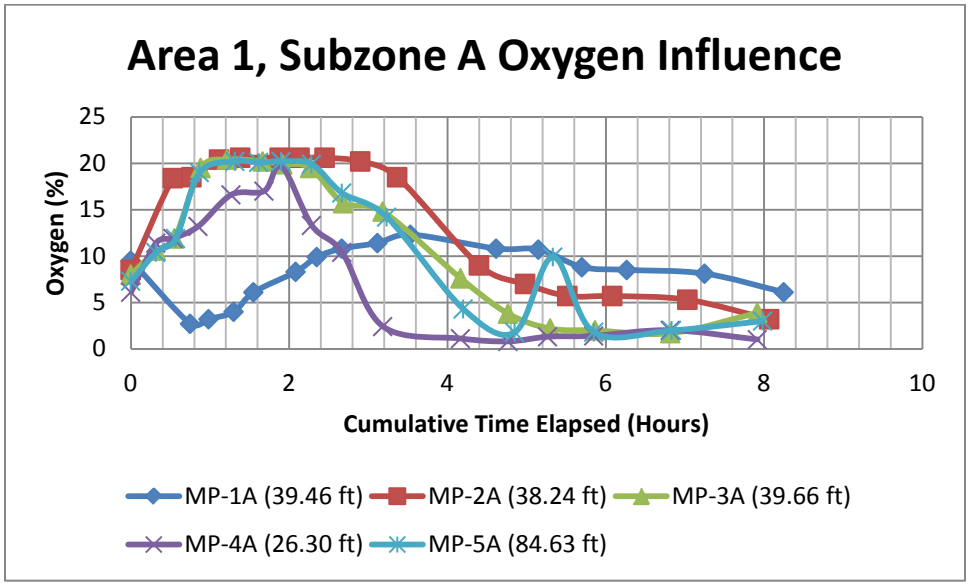
TRANSPORTER COPY

# Appendix I

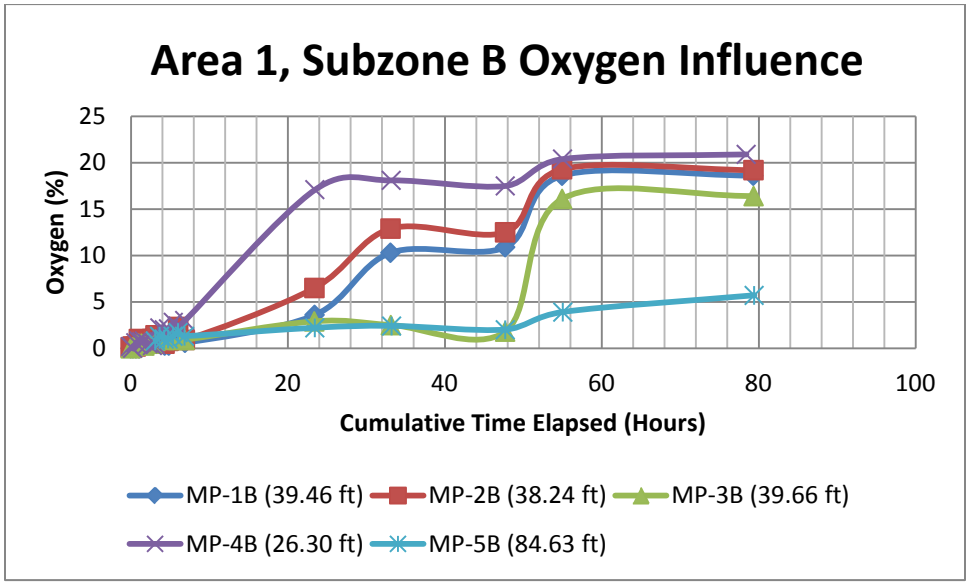
# Air Injection Oxygen Influence

# Graphs 1 - 6

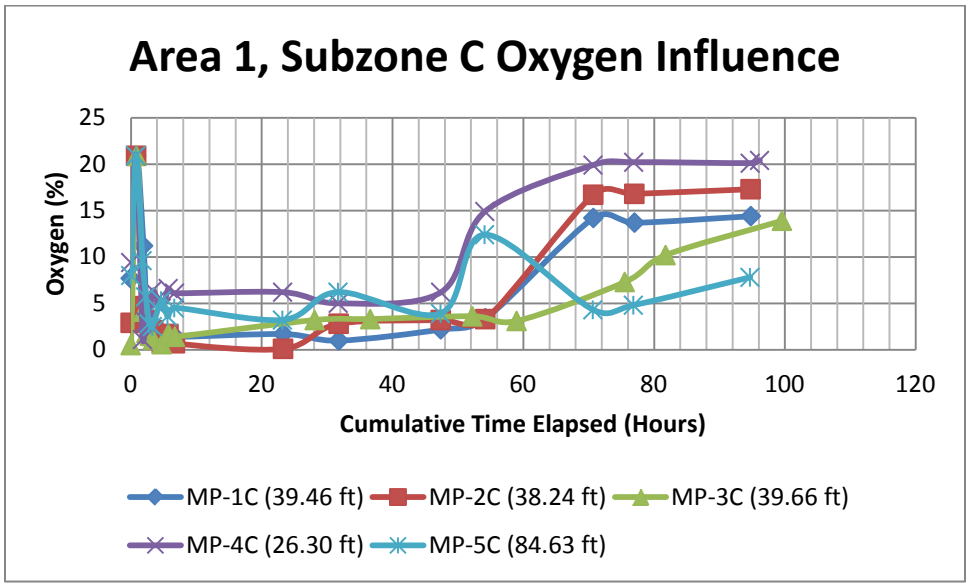
# Graph 1.



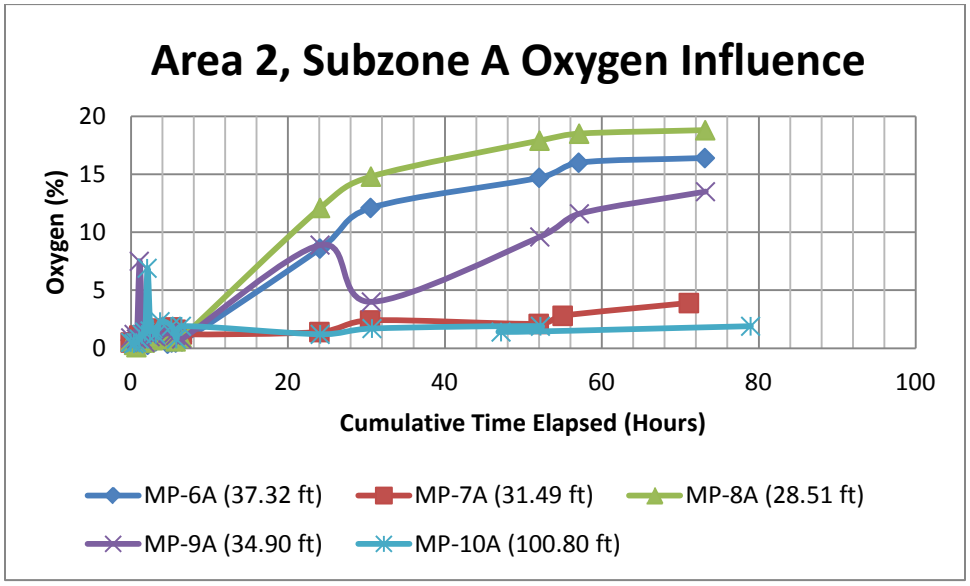

# Graph 2.



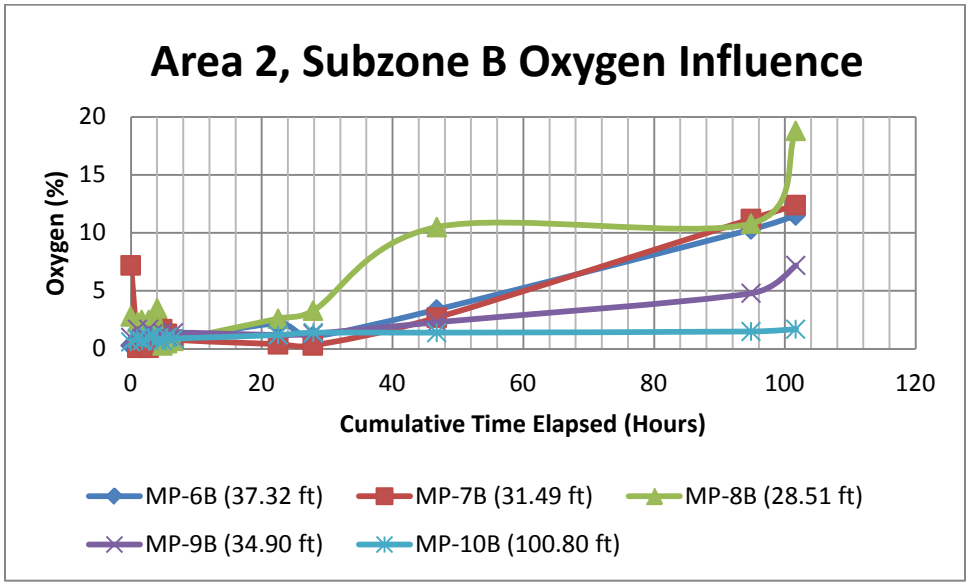
# Graph 3.



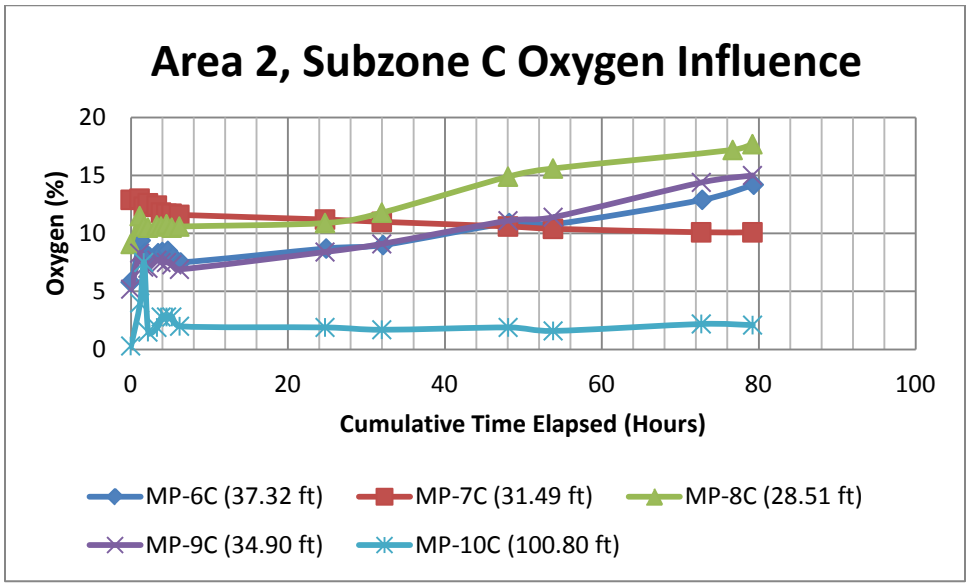

# Graph 4.



# Graph 5.



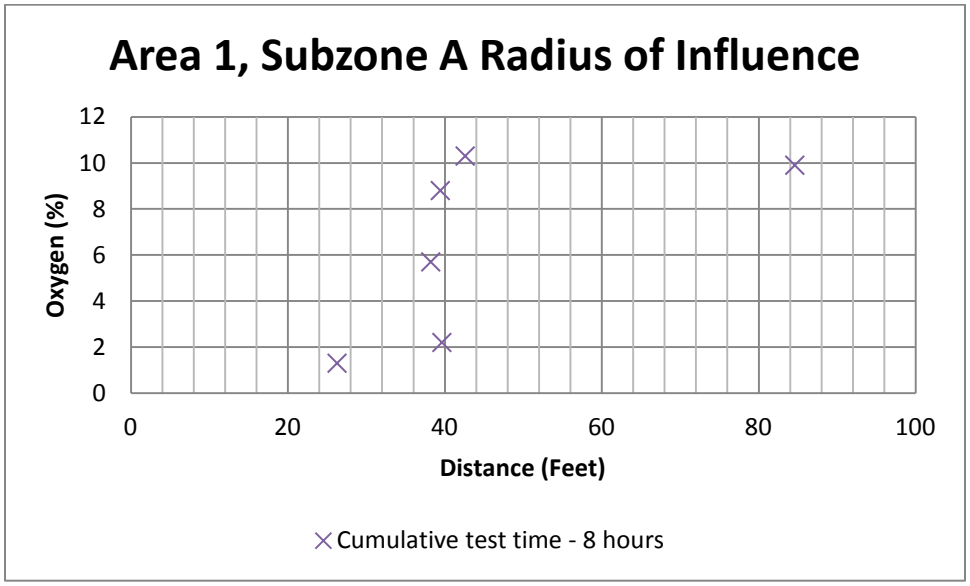

# Graph 6.



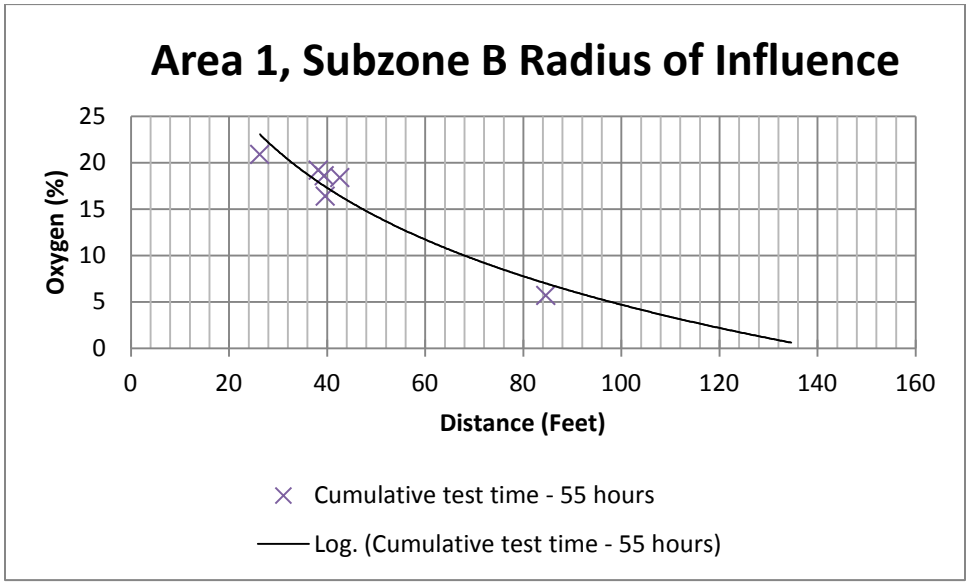
# Air Injection Radius of Influence

# Graphs 7 - 12

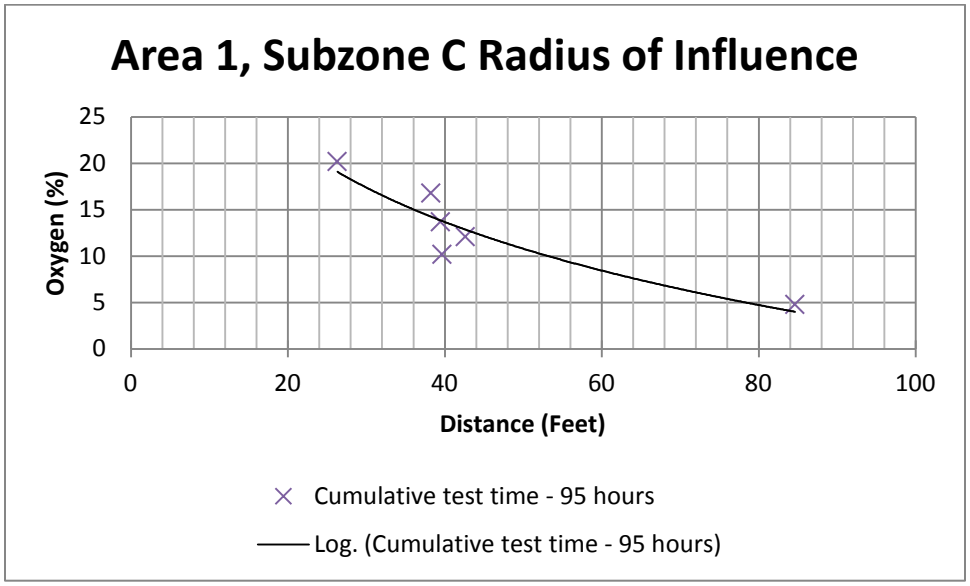
# Graph 7.



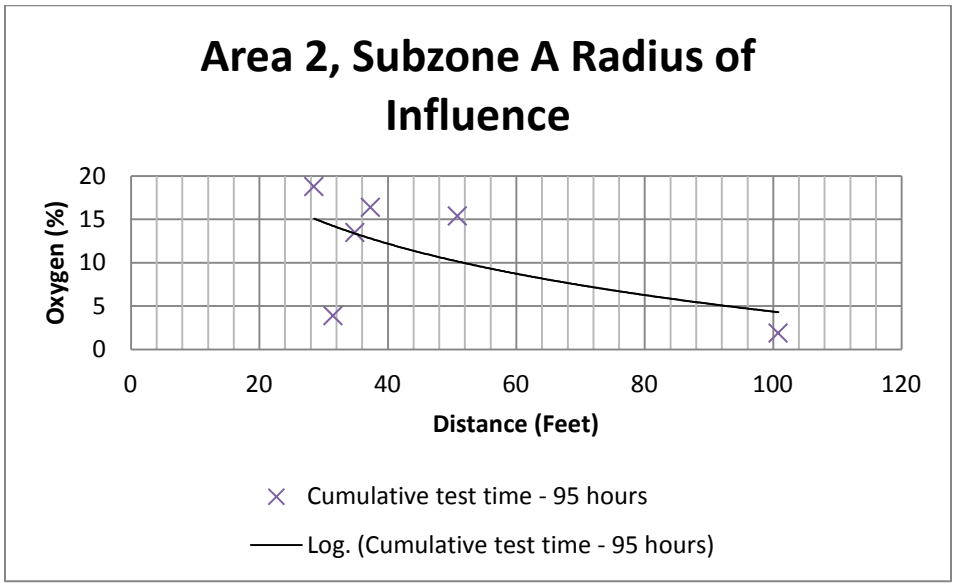

# Graph 8.



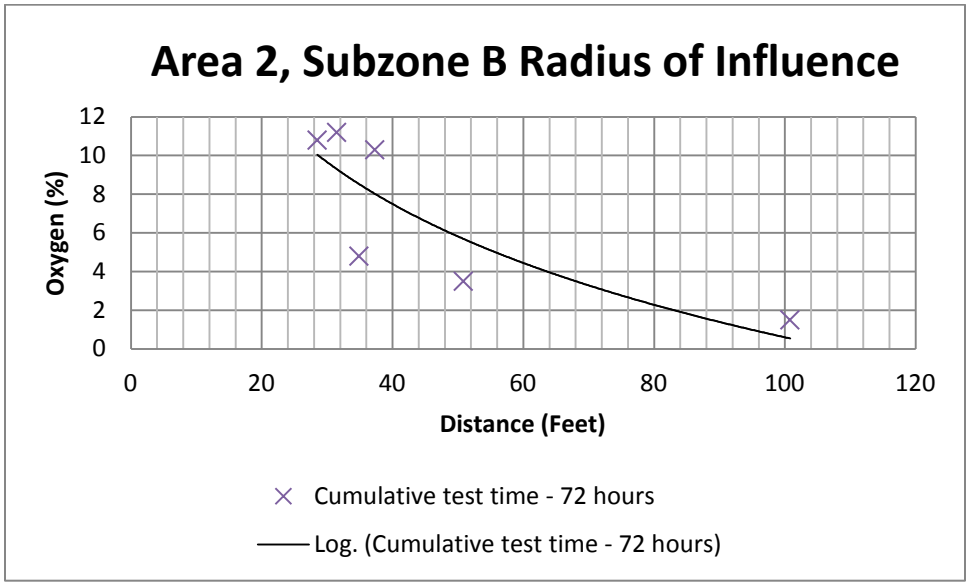
# Graph 9.



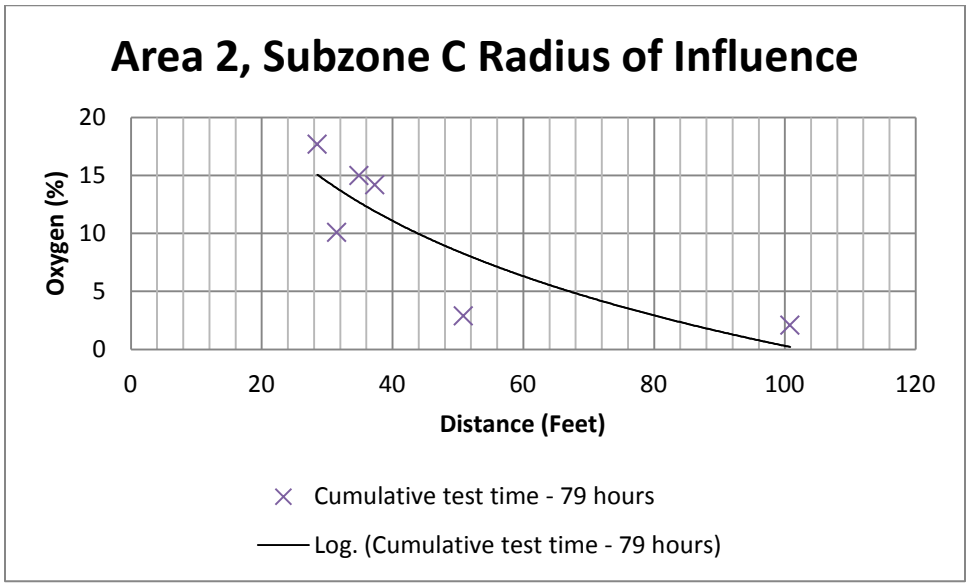

# Graph 10.



# Graph 11.



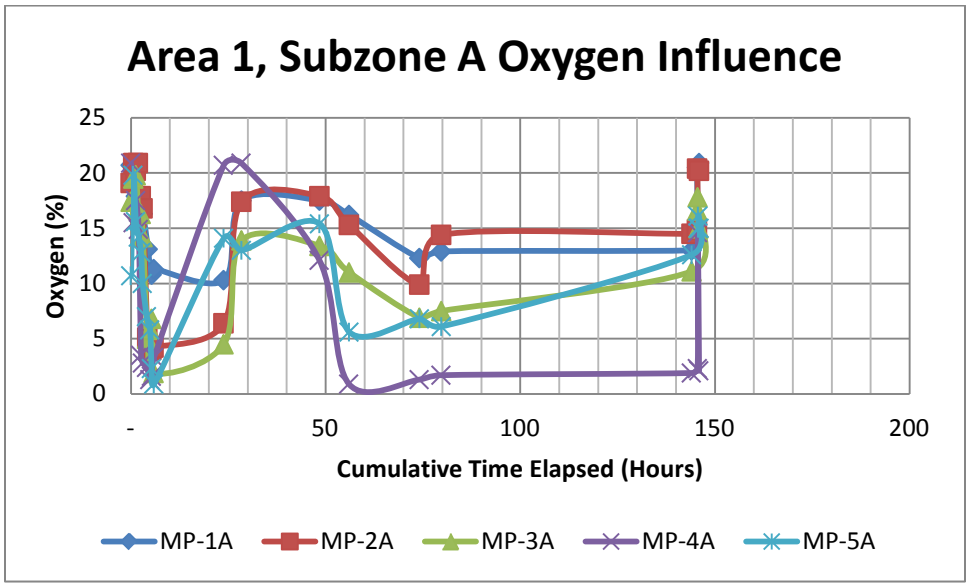

# Graph 12.



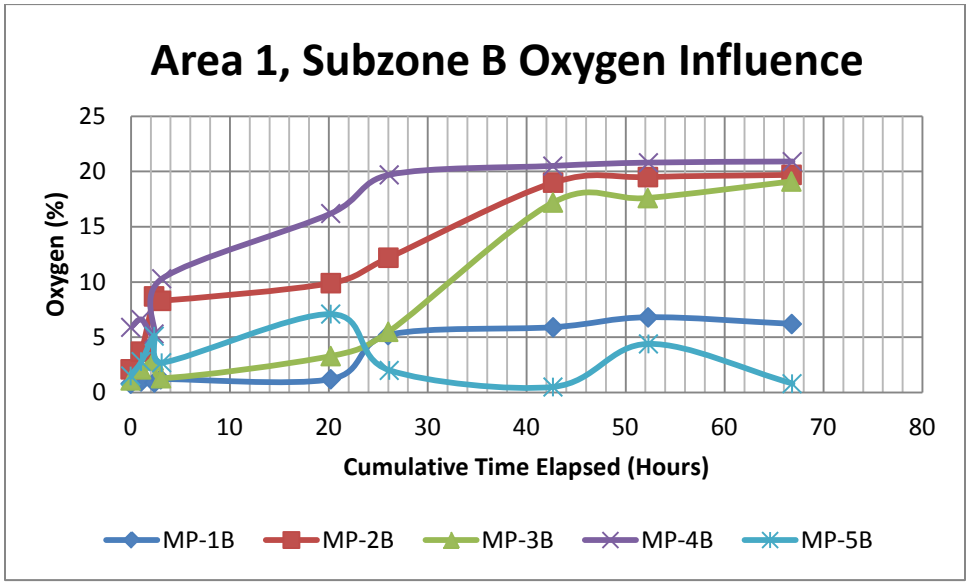
# Push-Pull Oxygen Influence

# Graphs 13 - 18

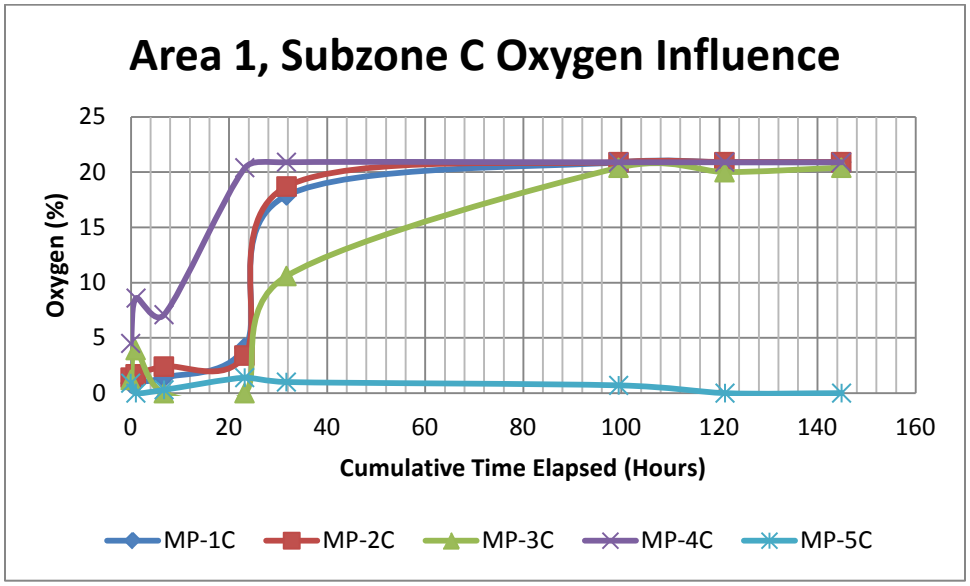
# Graph 13.



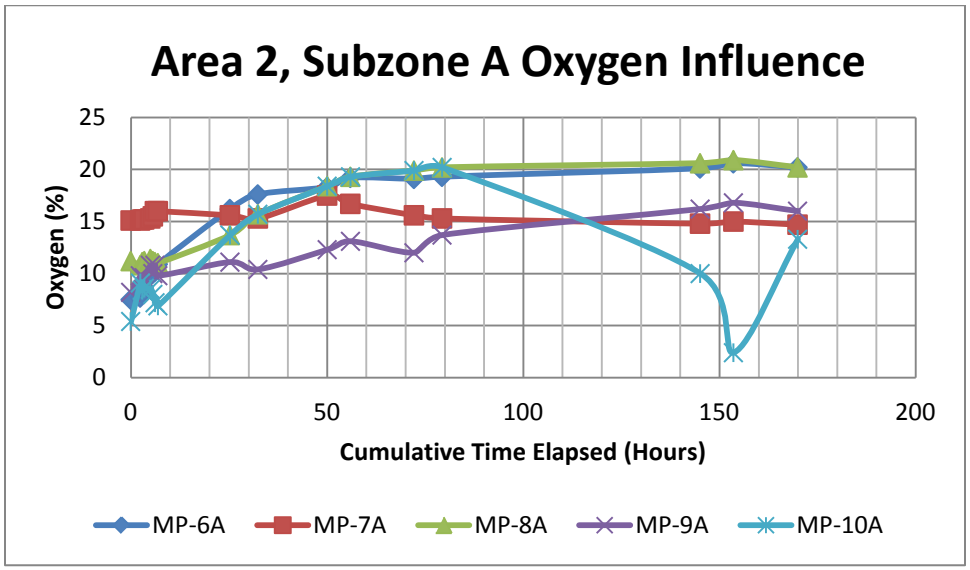

# Graph 14.



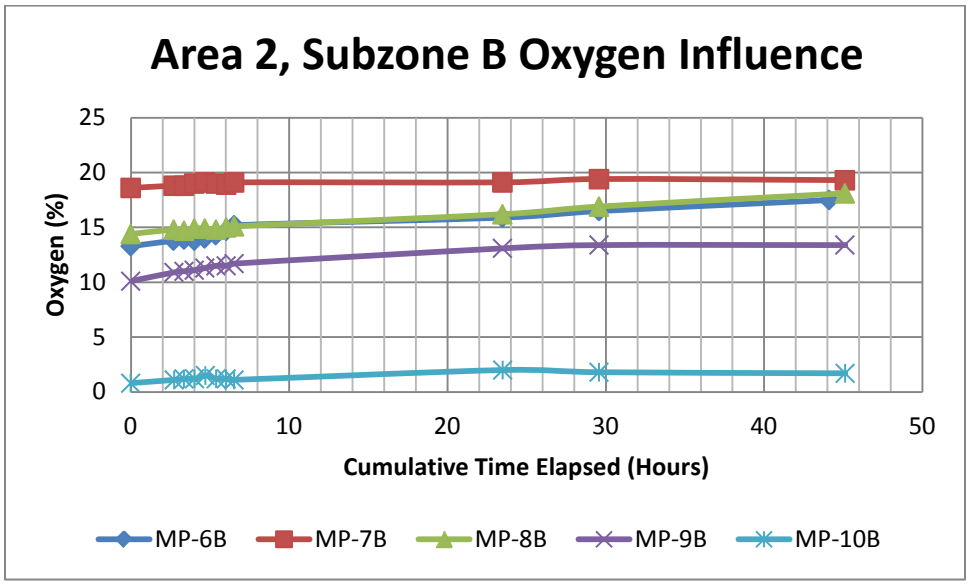
# Graph 15.



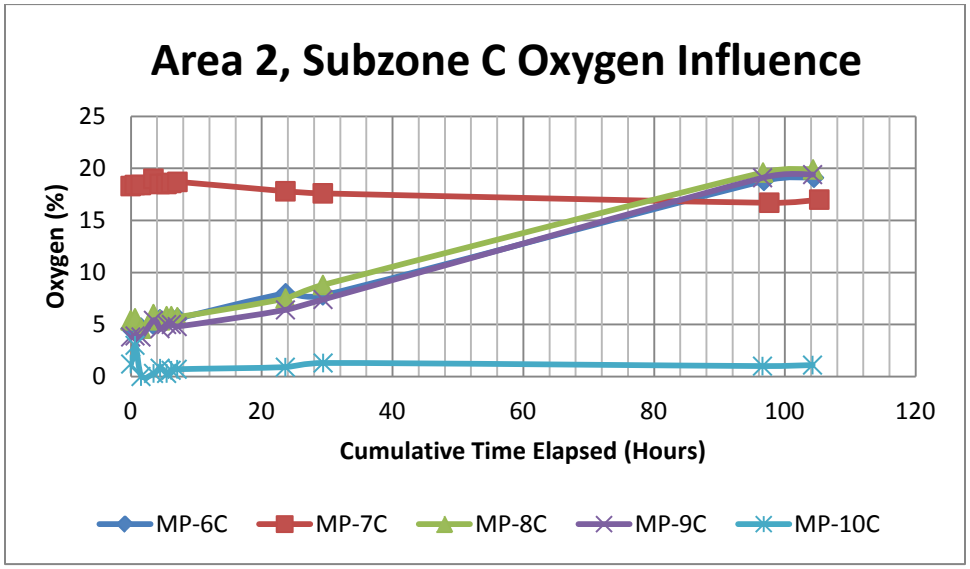

# Graph 16.



# Graph 17.



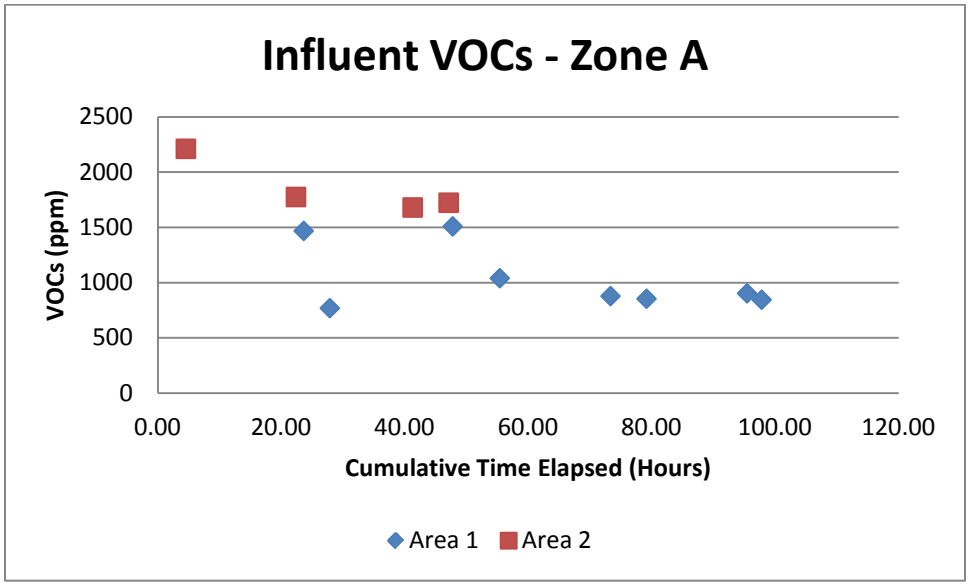

# Graph 18.



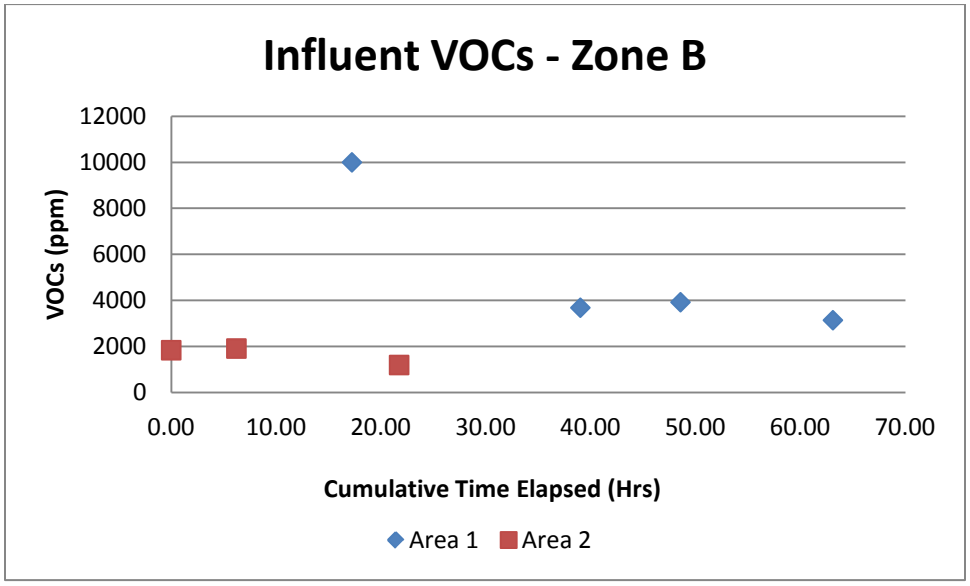
# Push-Pull Influent VOC

# Graphs 19 - 21

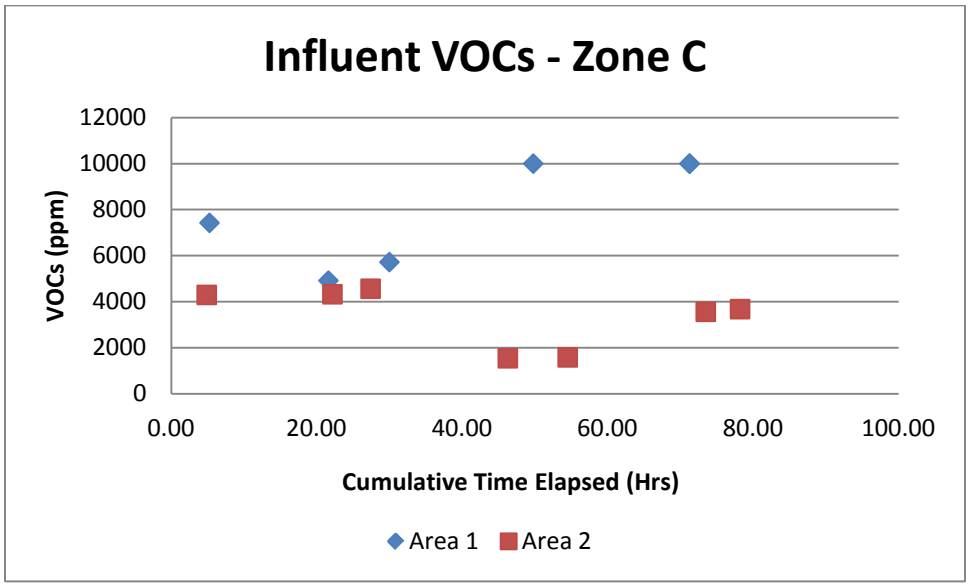
# Graph 19.




# Graph 20.



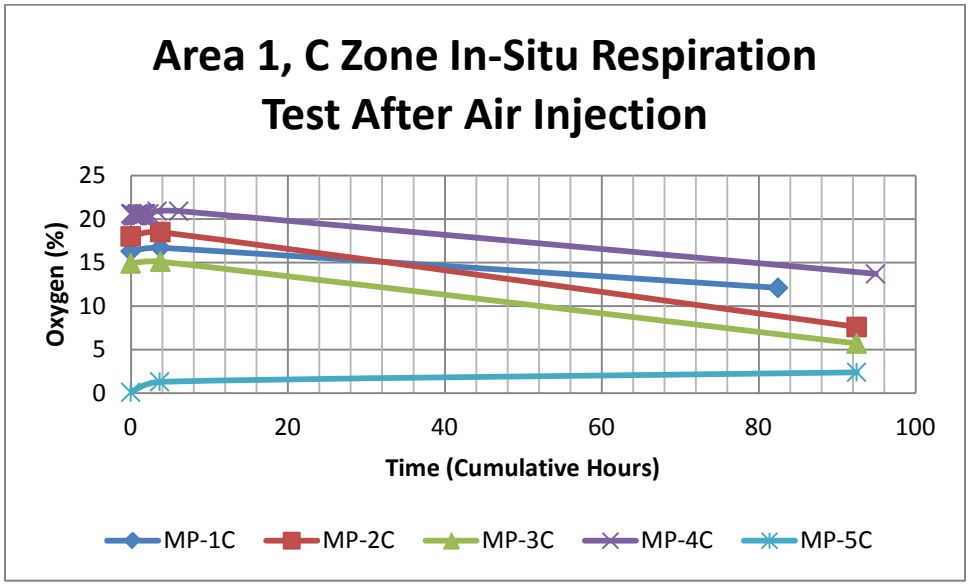
# Graph 21.


Influent VOCs - Zone C
12000
10000
8000
6000
4000
2000
0
VOCs (ppm)
0.00
20.00
40.00
60.00
80.00
100.00
Cumulative Time Elapsed (Hrs)
Area 1
Area 2

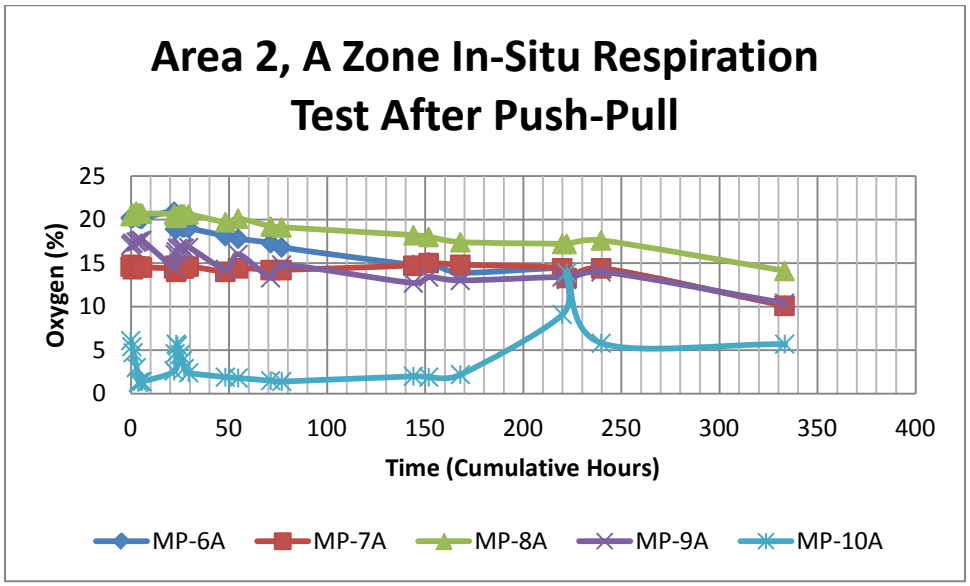
# In-Situ Respiration

# Graphs 22 - 25

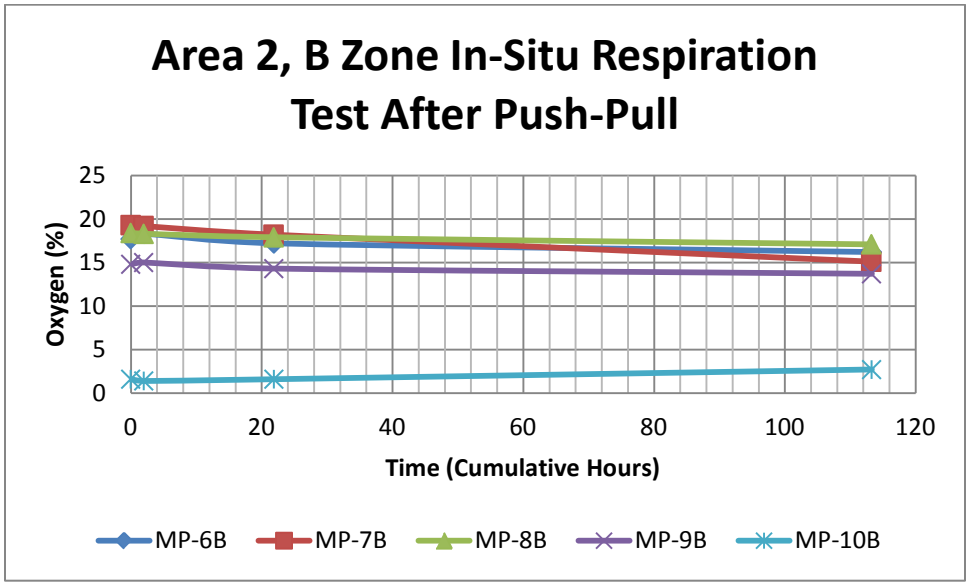
# Graph 22.



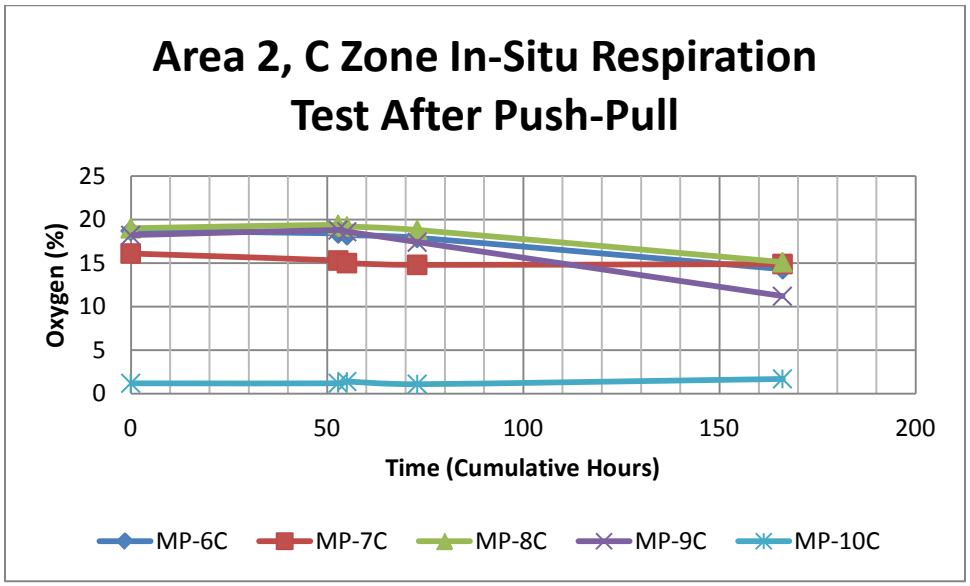

# Graph 23.



# Graph 24.

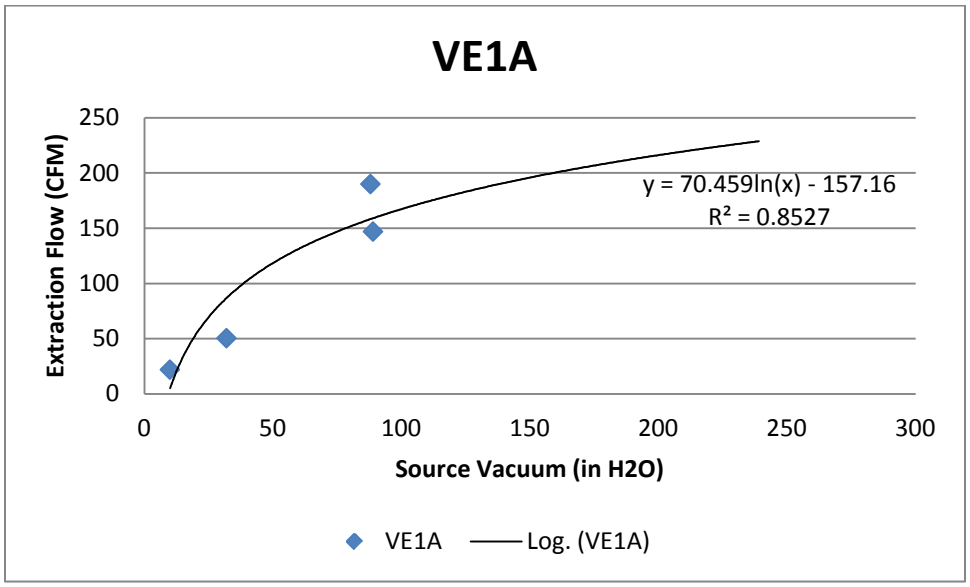



# Graph 25.

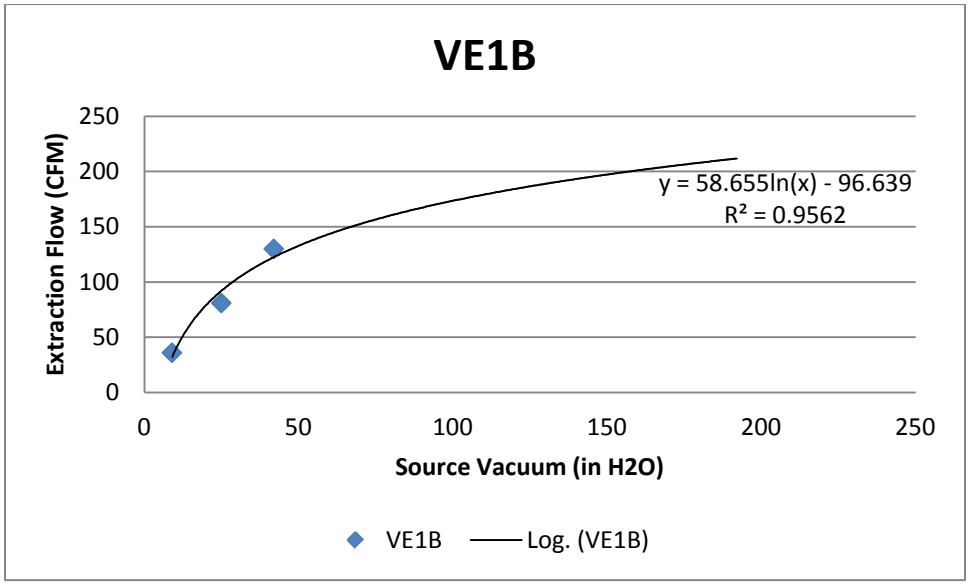


# Bioventing Step Test
# Extraction Flow Vs. Vacuum
# Graphs 26 - 31

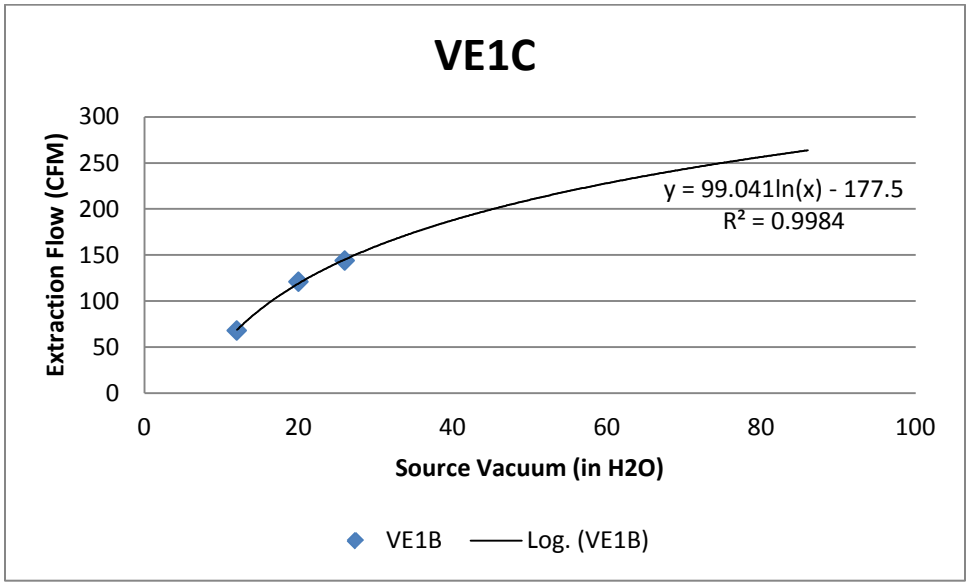
# Graph 26.



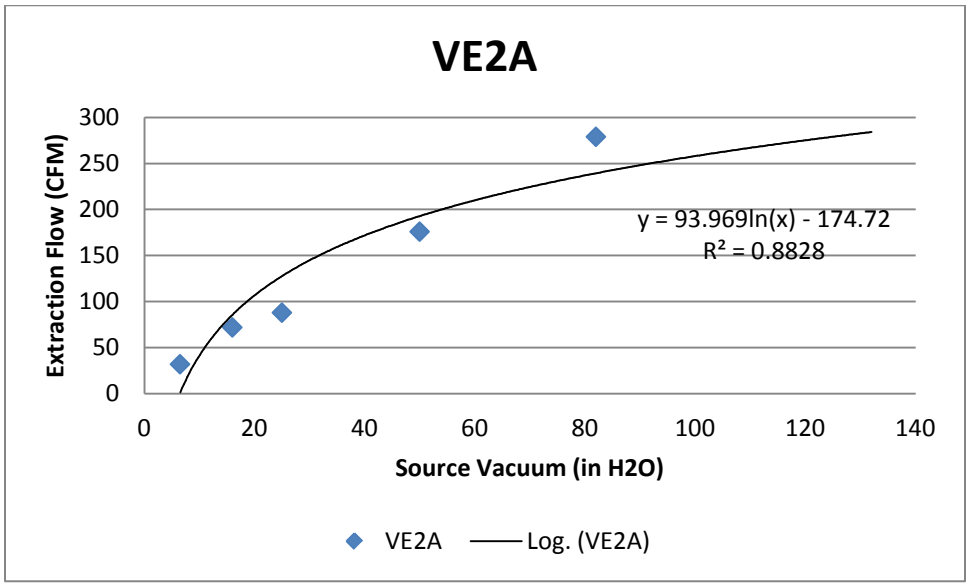

# Graph 27.



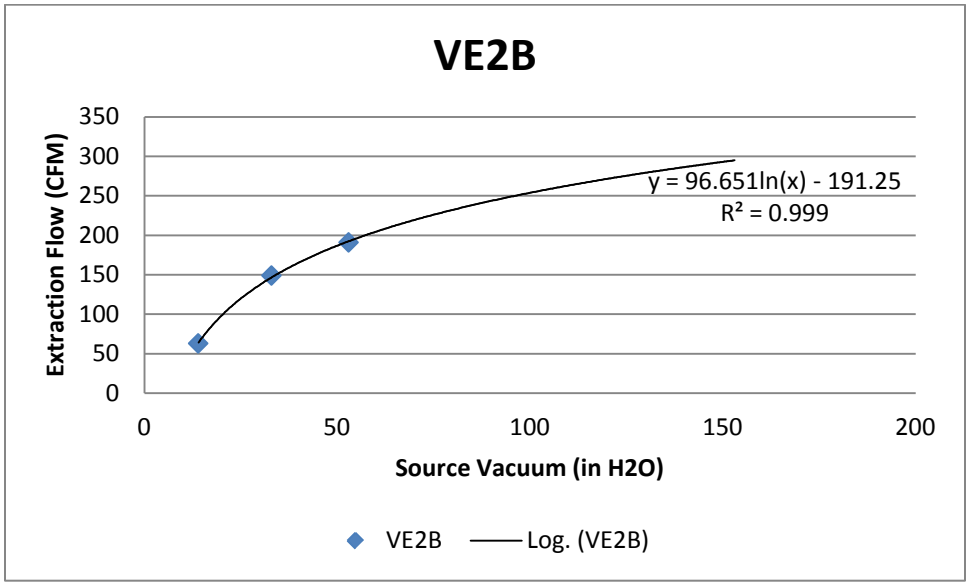
# Graph 28.



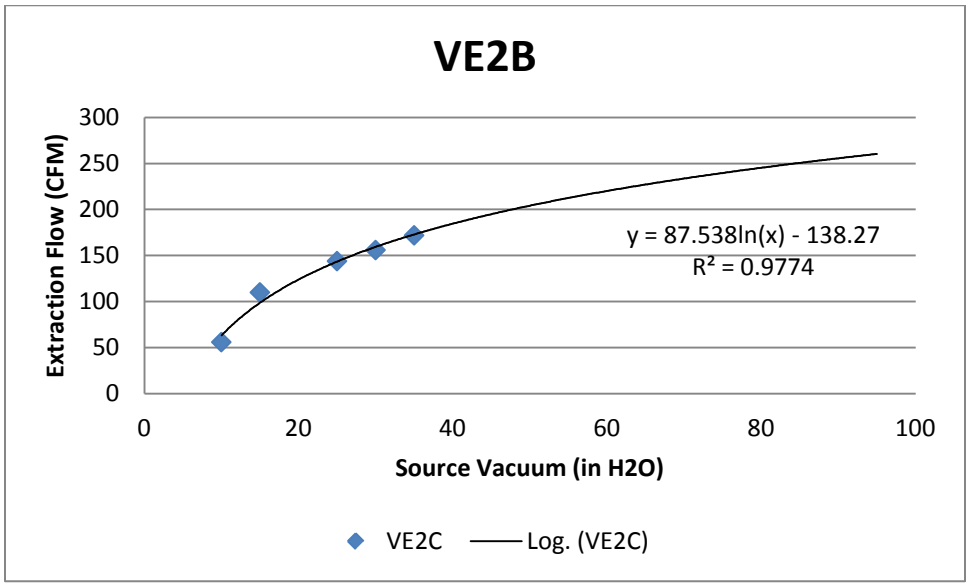

# Graph 29.



# Graph 30.

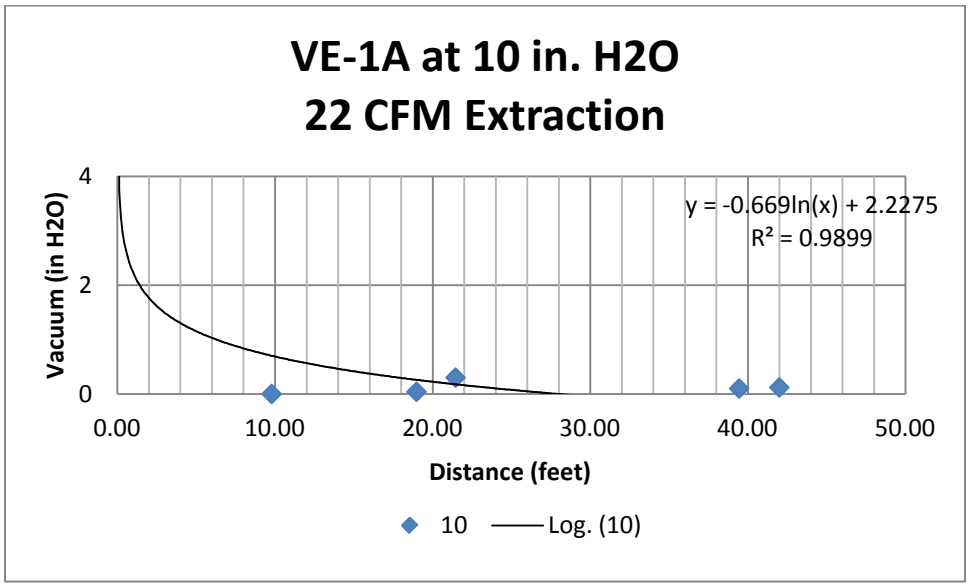



# Graph 31.

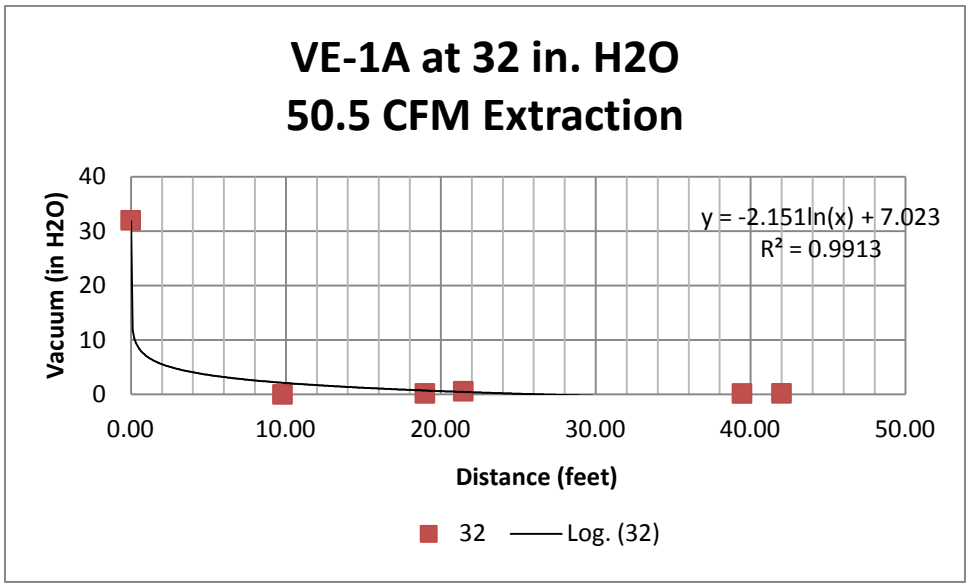


# Bioventing Step Test
# Vacuum Vs. Distance
# Graphs 32 - 56

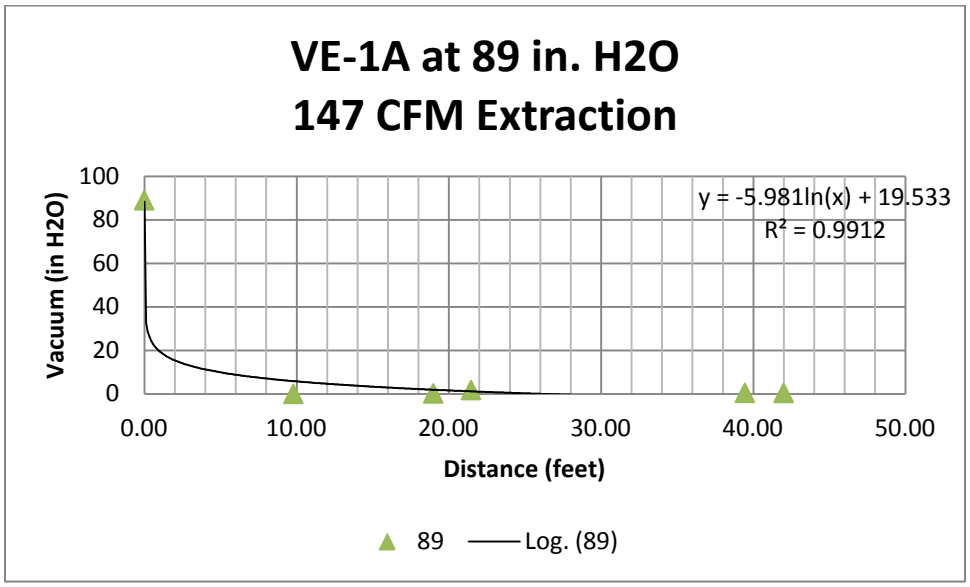
# Graph 32.



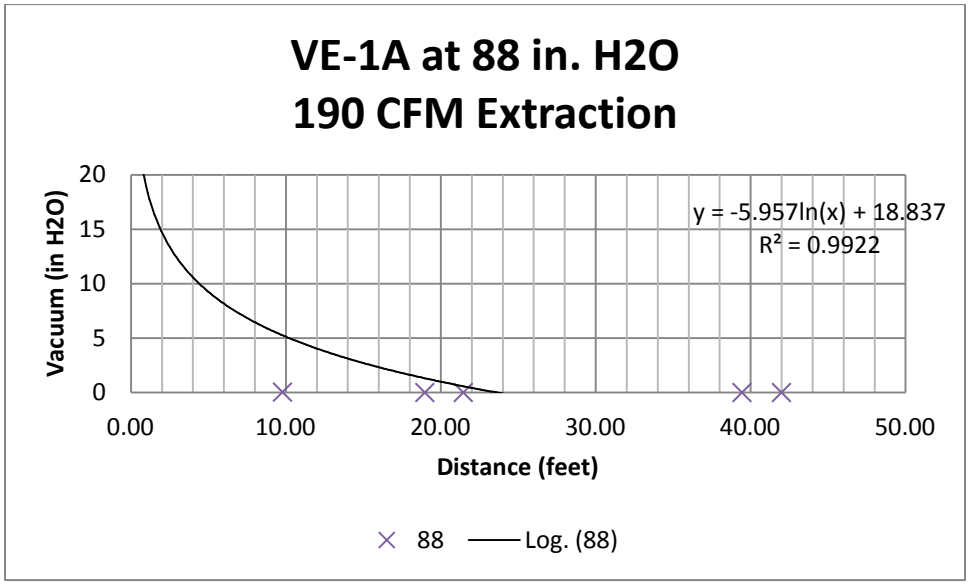

# Graph 33.



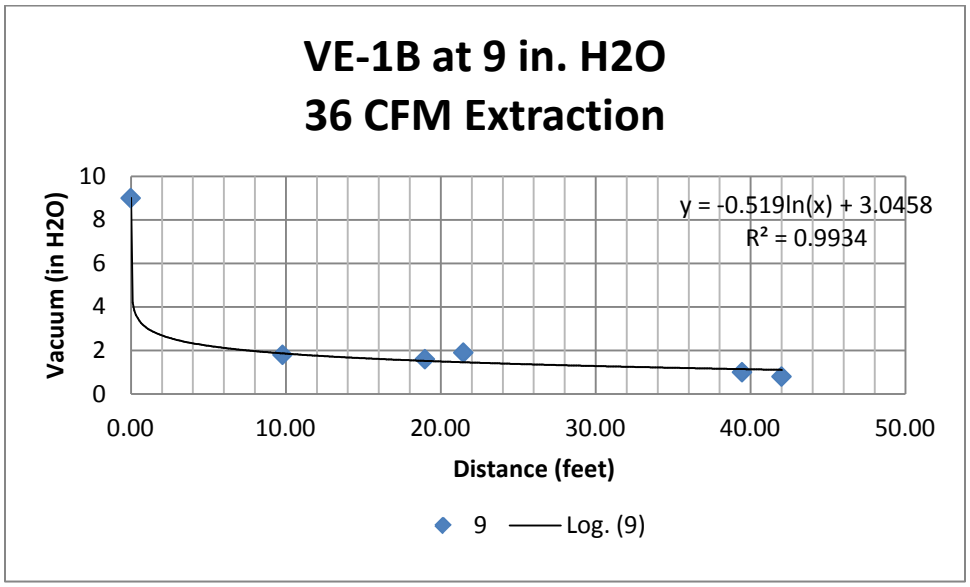
# Graph 34.



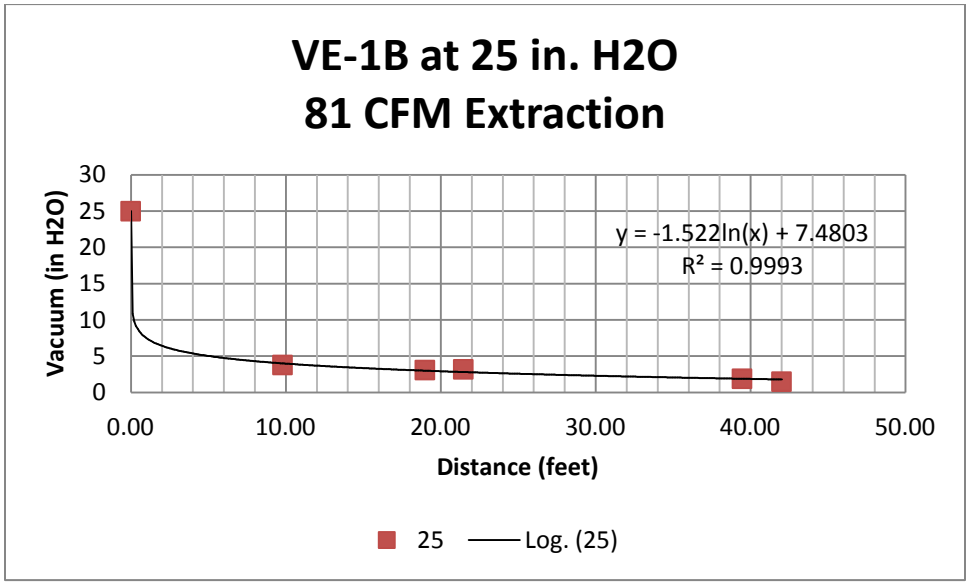

# Graph 35.



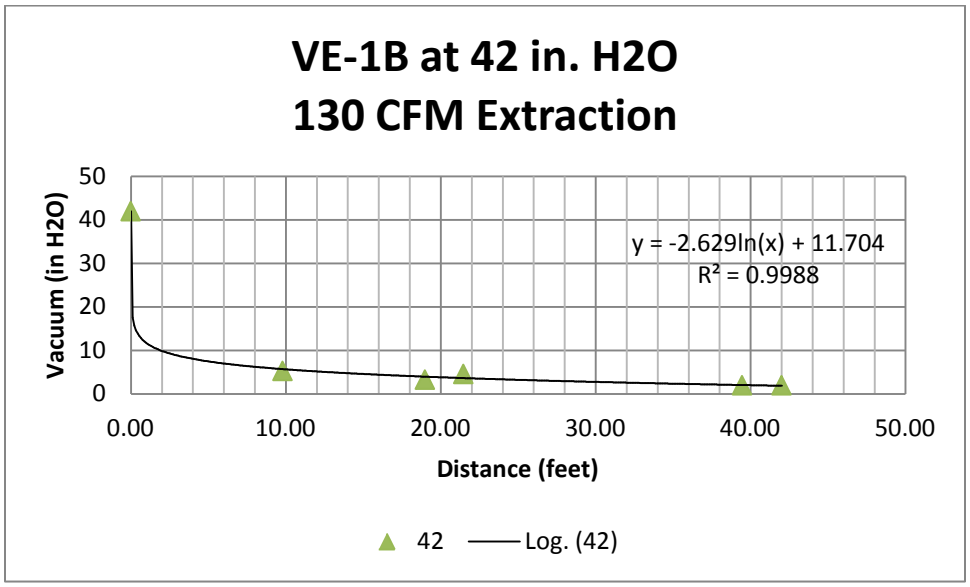
# Graph 36.



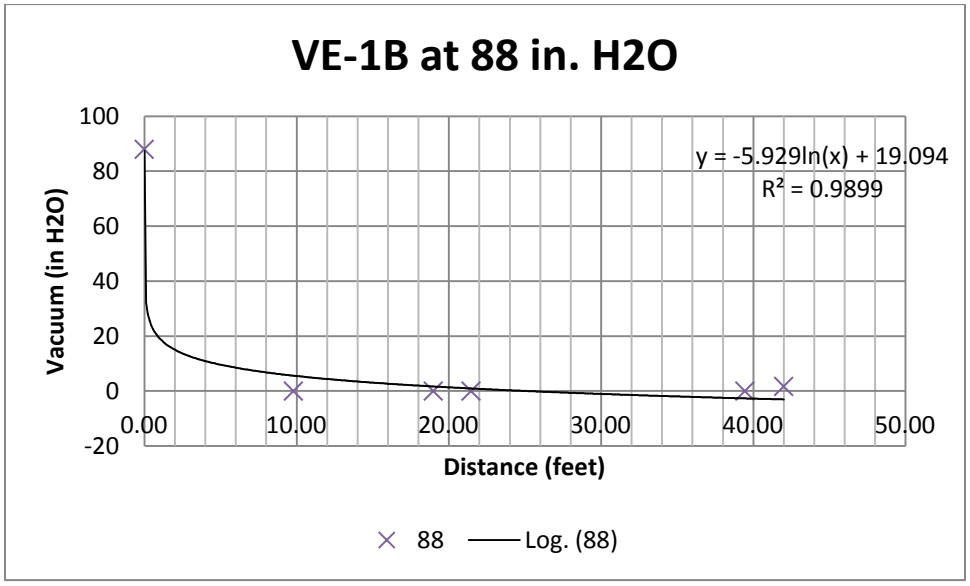

# Graph 37.



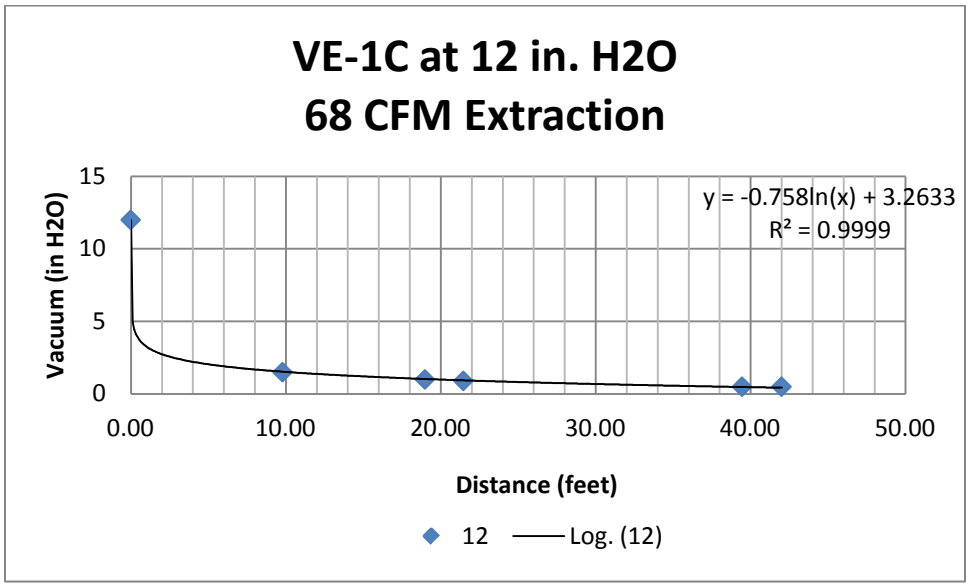
# Graph 38.



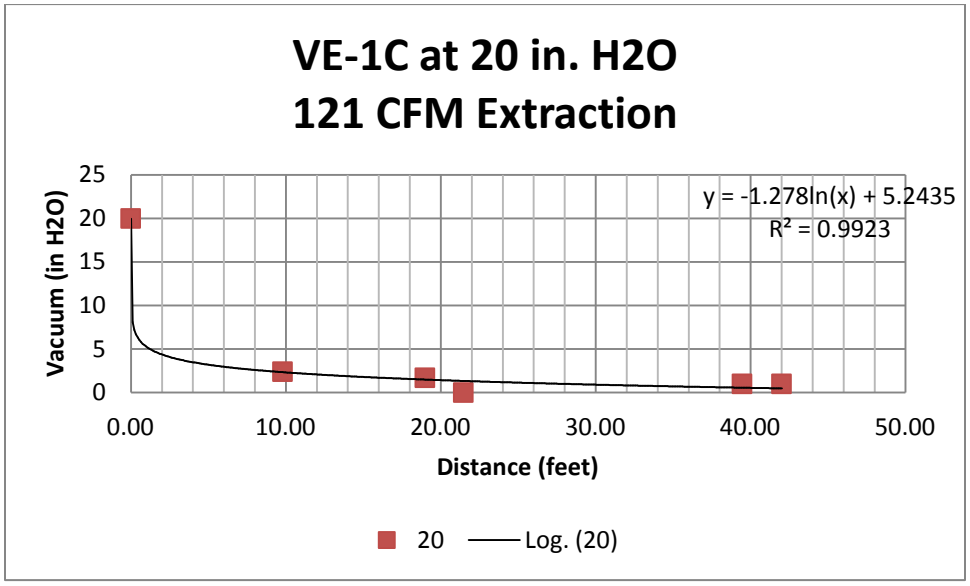

# Graph 39.



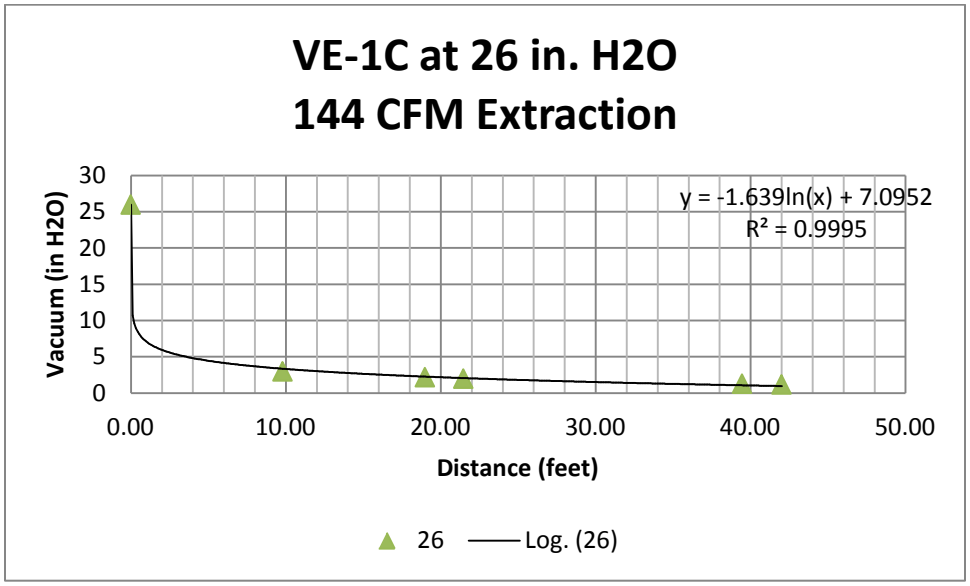
# Graph 40.



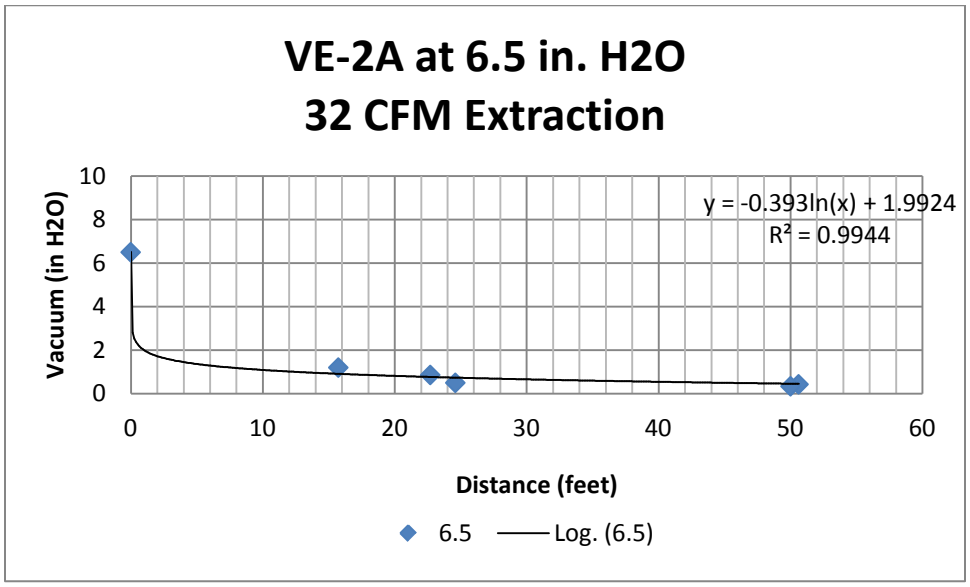

# Graph 41.



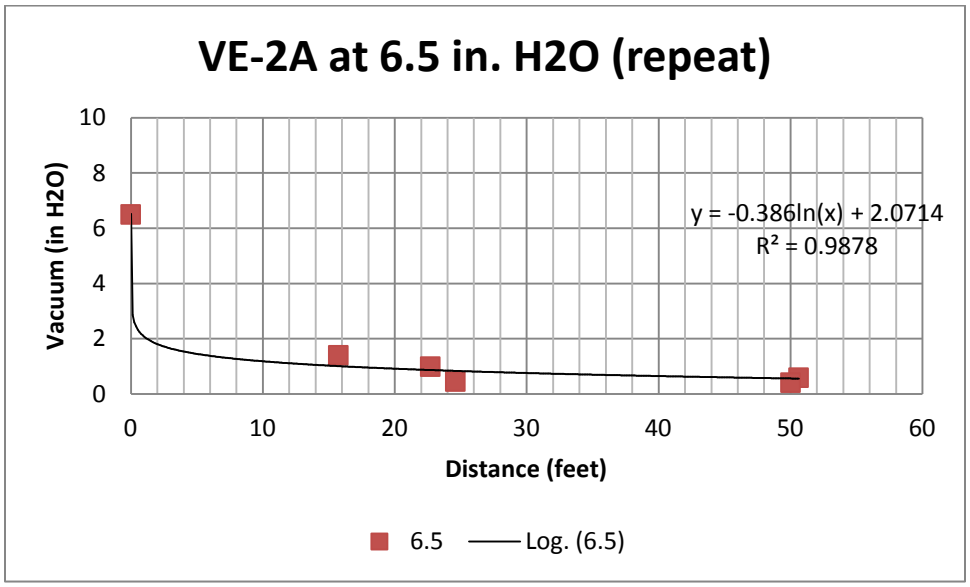
# Graph 42.



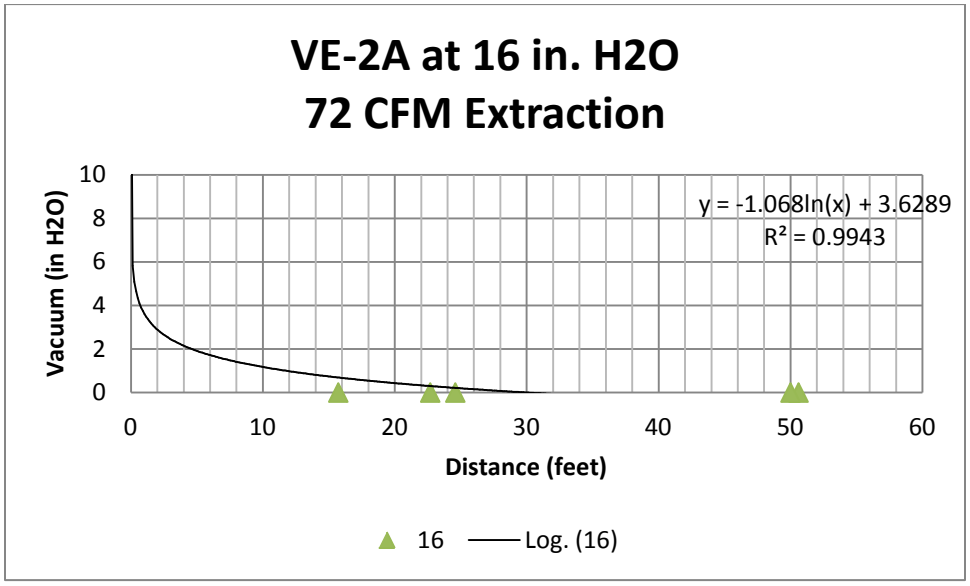

# Graph 43.



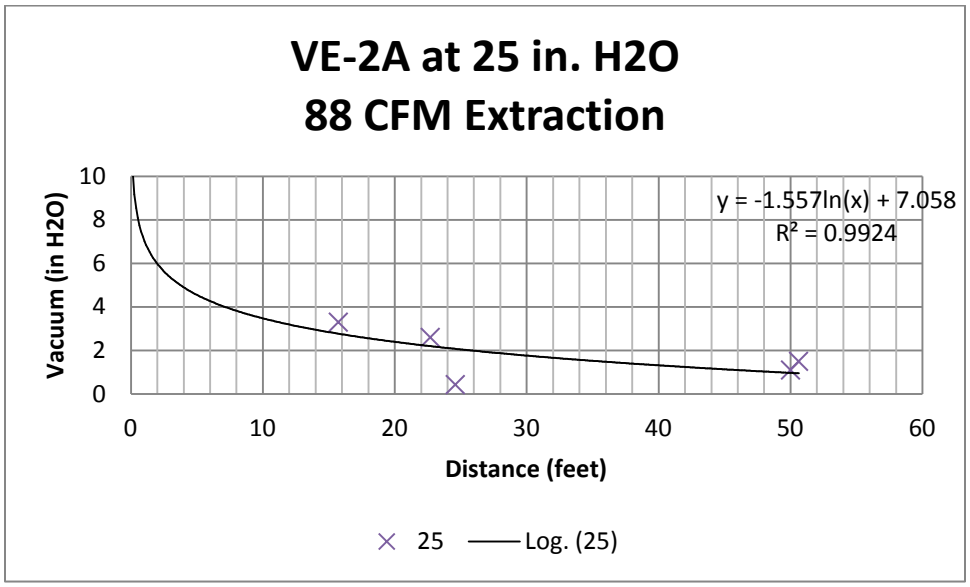
# Graph 44.



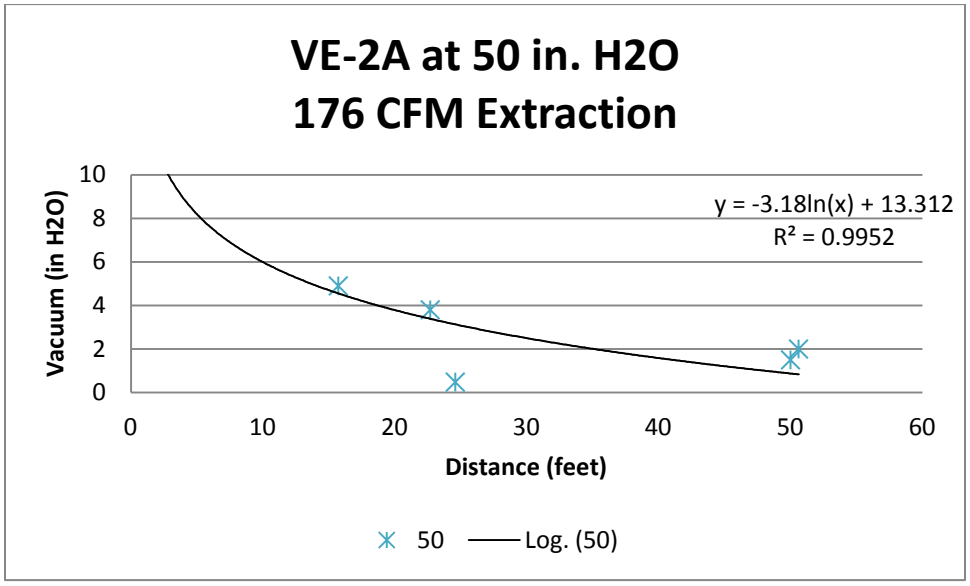

# Graph 45.



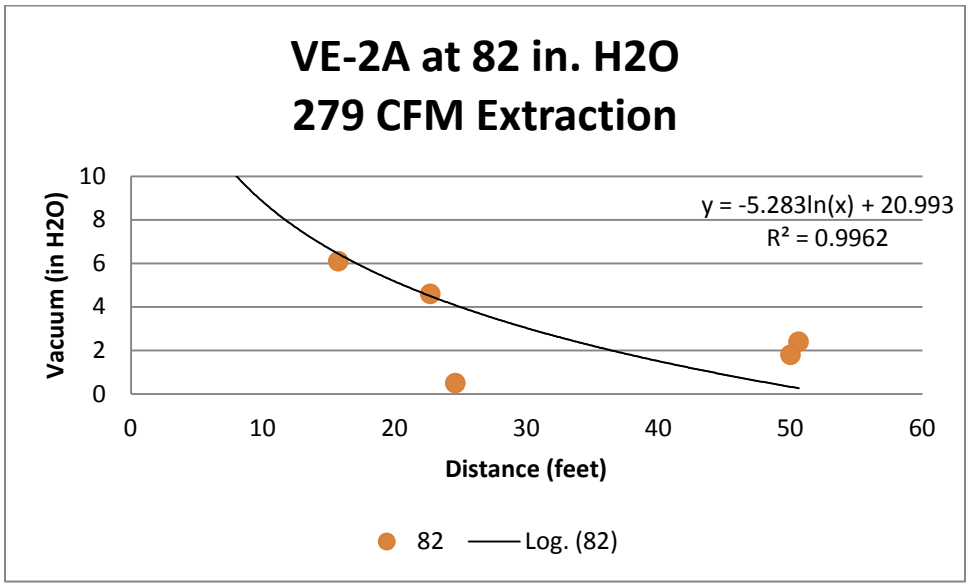
# Graph 46.



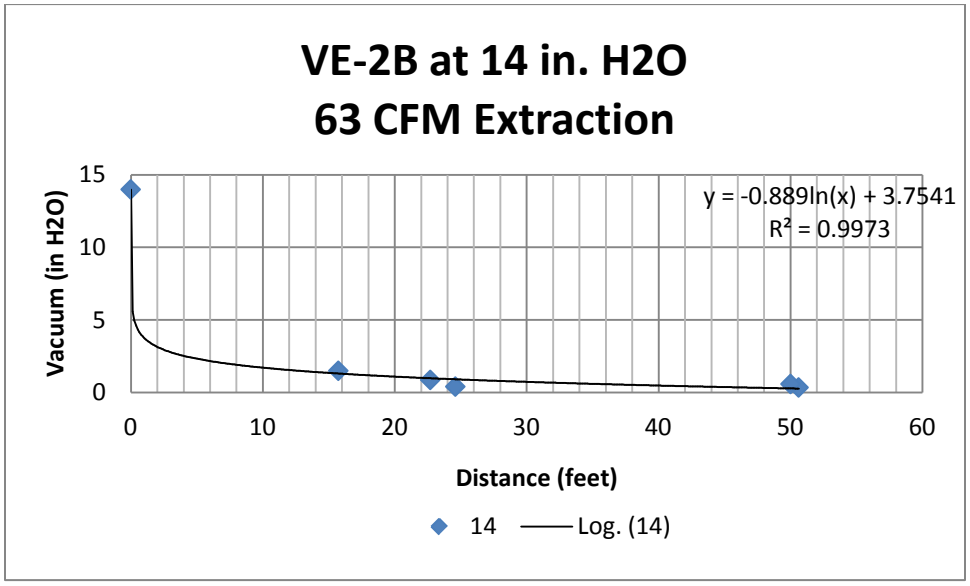

# Graph 47.



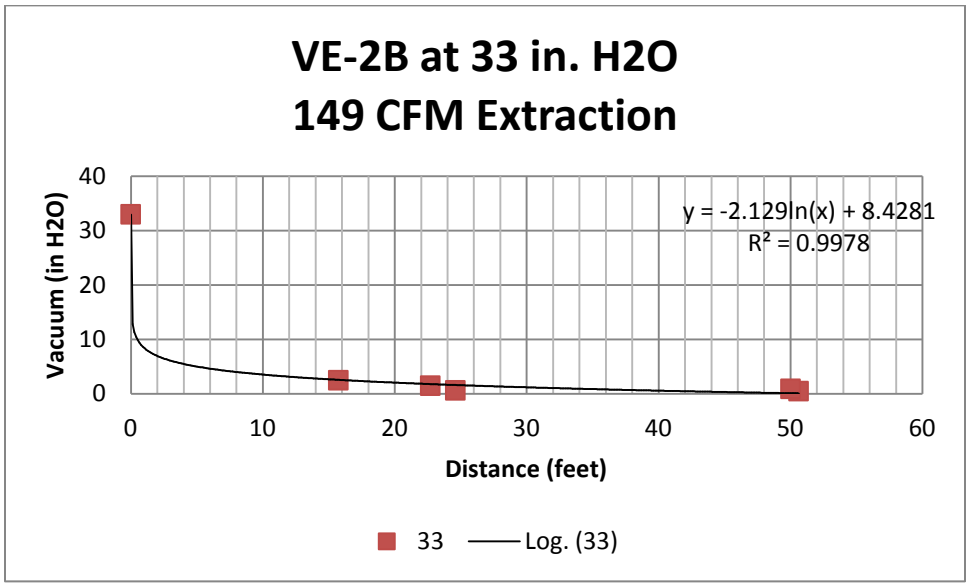
# Graph 48.



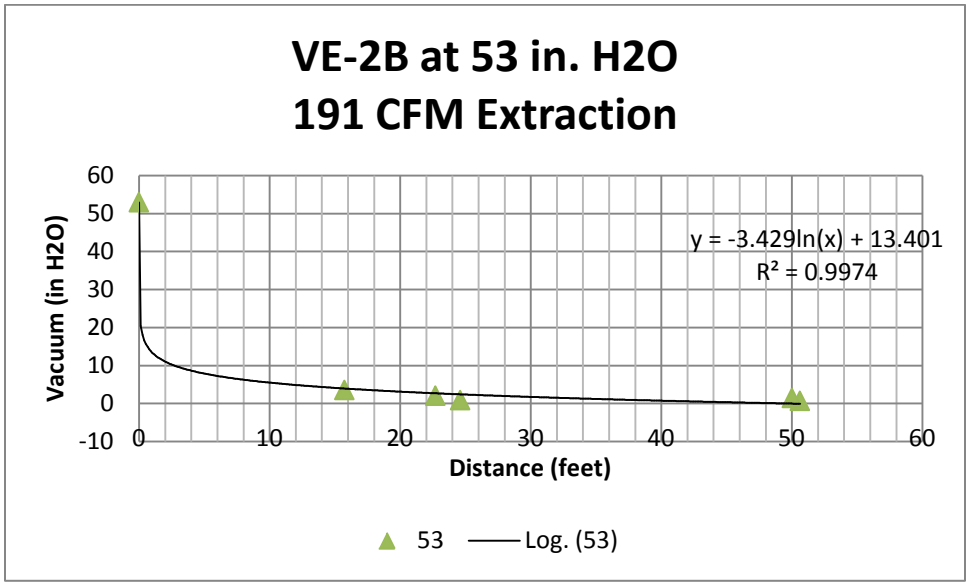

# Graph 49.



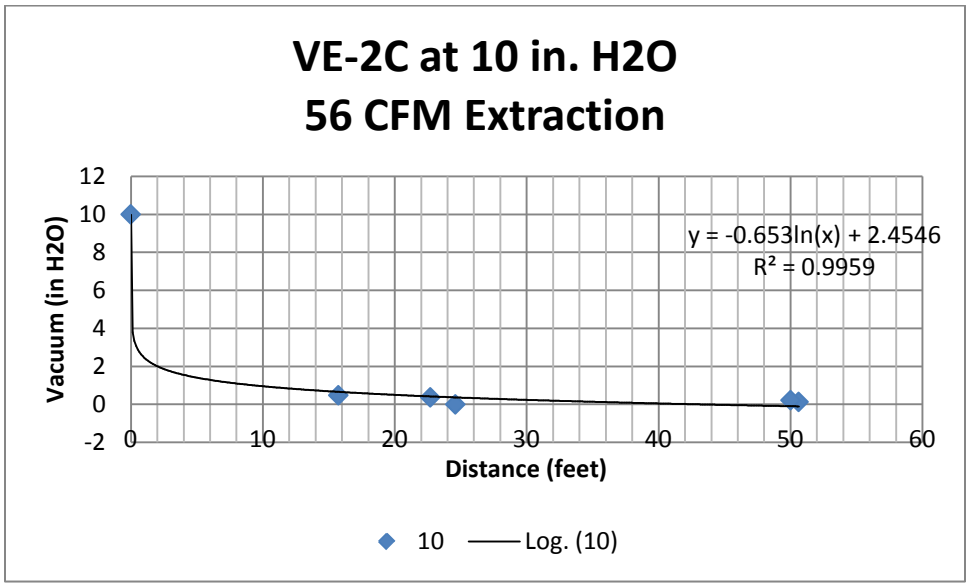
# Graph 50.



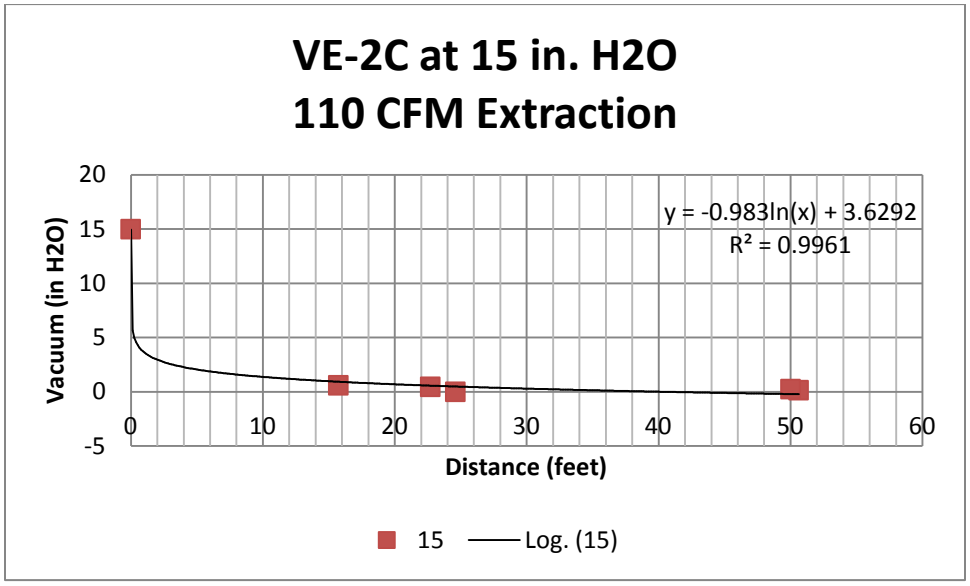

# Graph 51.



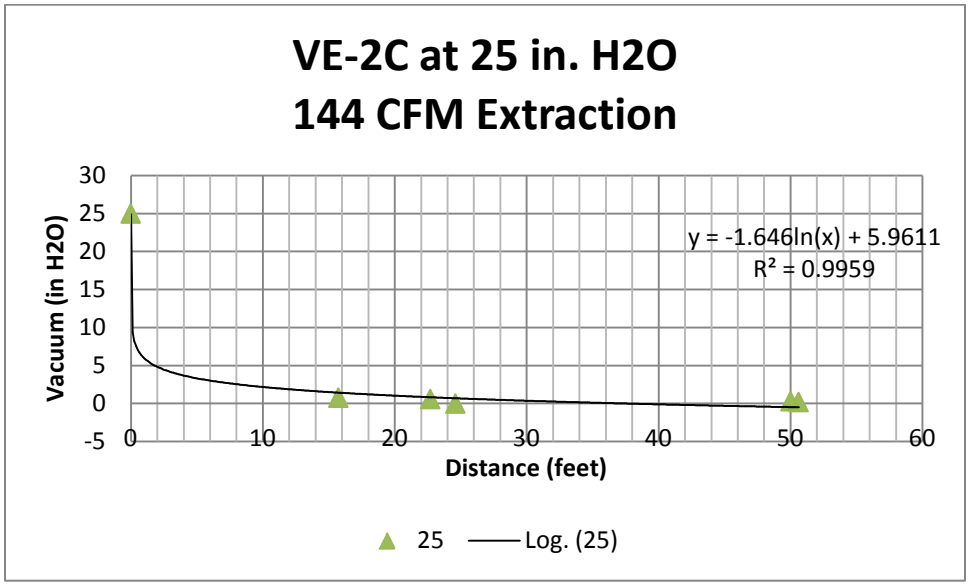
# Graph 52.



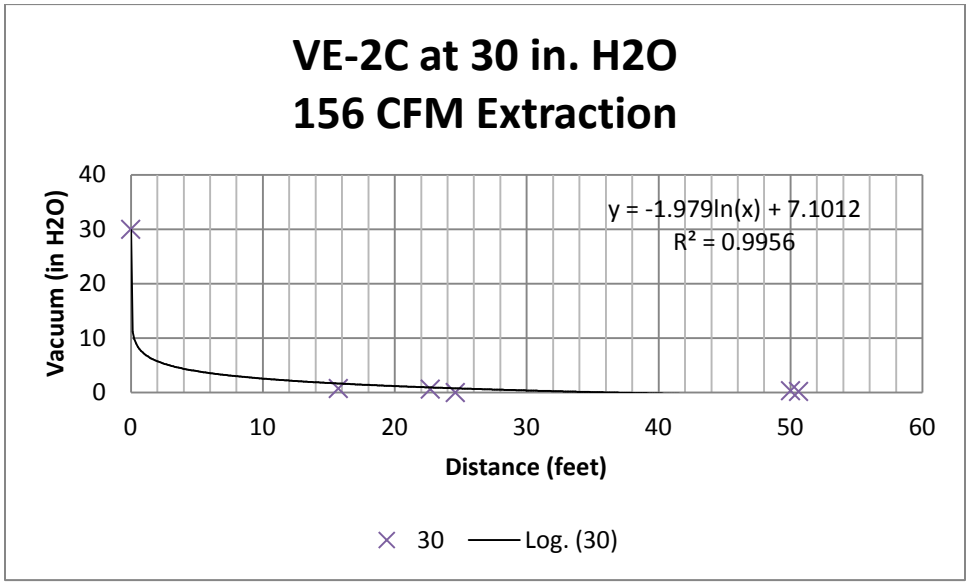

# Graph 53.



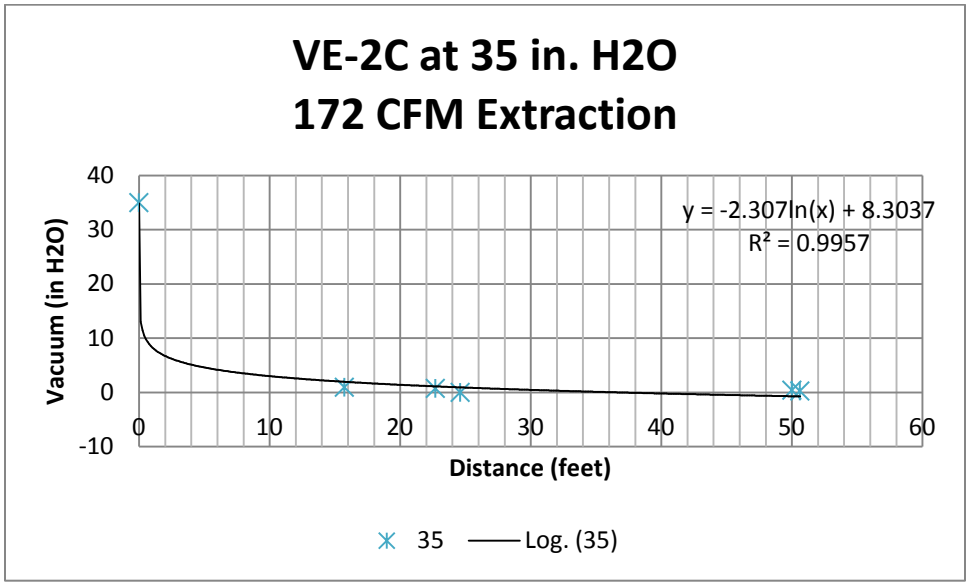
# Graph 54.




# Graph 55.

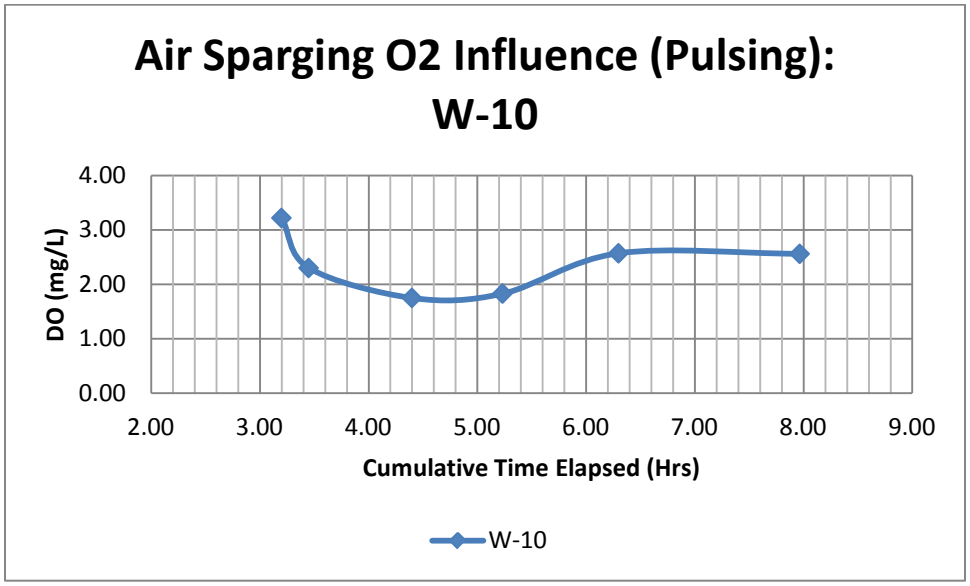


# Graph 56.

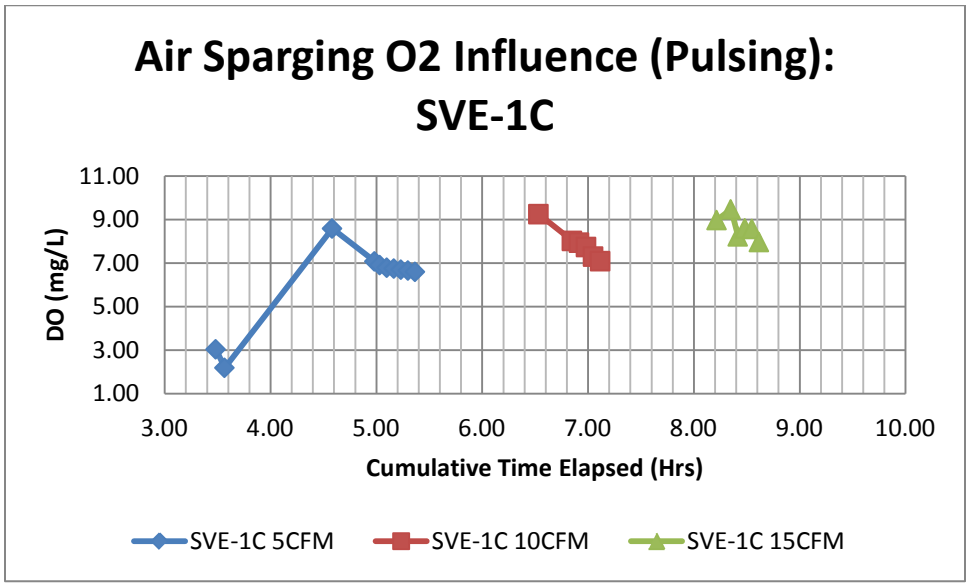

VE-2C at 35 in. H2O
172 CFM Extraction
y = -2.307ln(x) + 8.3037
R² = 0.9957
Vacuum (in H2O)
40
30
20
10
0
-10
0
10
20
30
40
50
60
Distance (feet)
35
Log. (35)

# Air Sparging
# Graphs 57 - 62

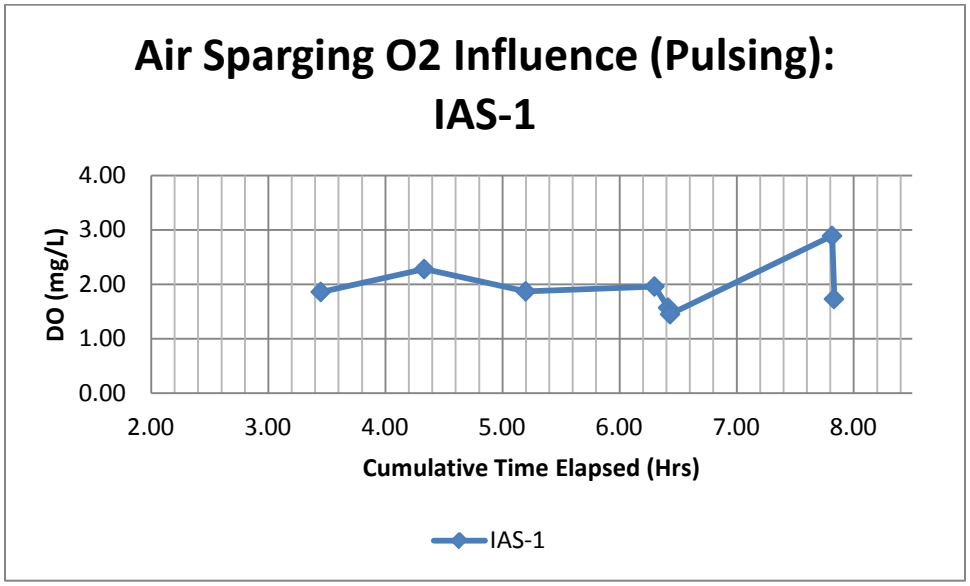
# Graph 57.



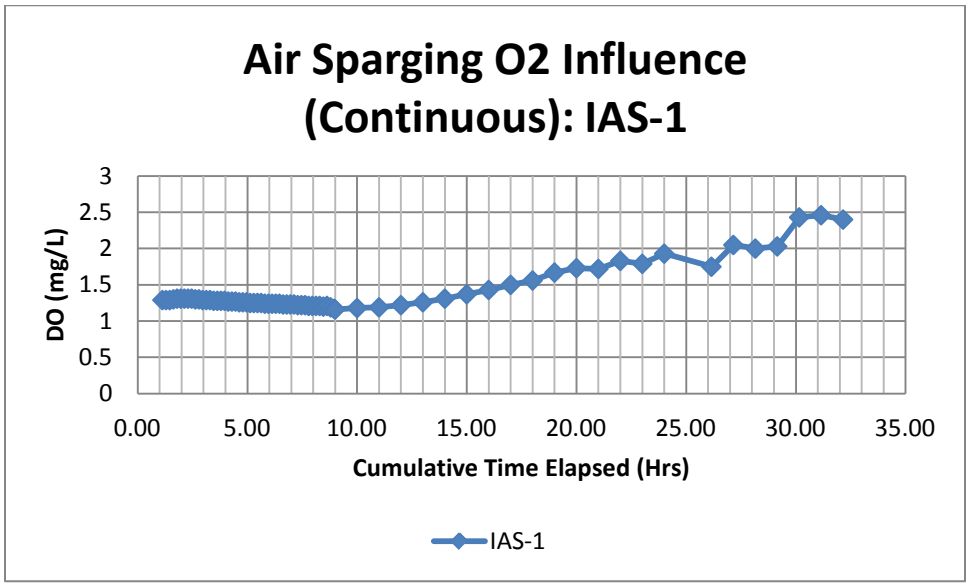

# Graph 58.



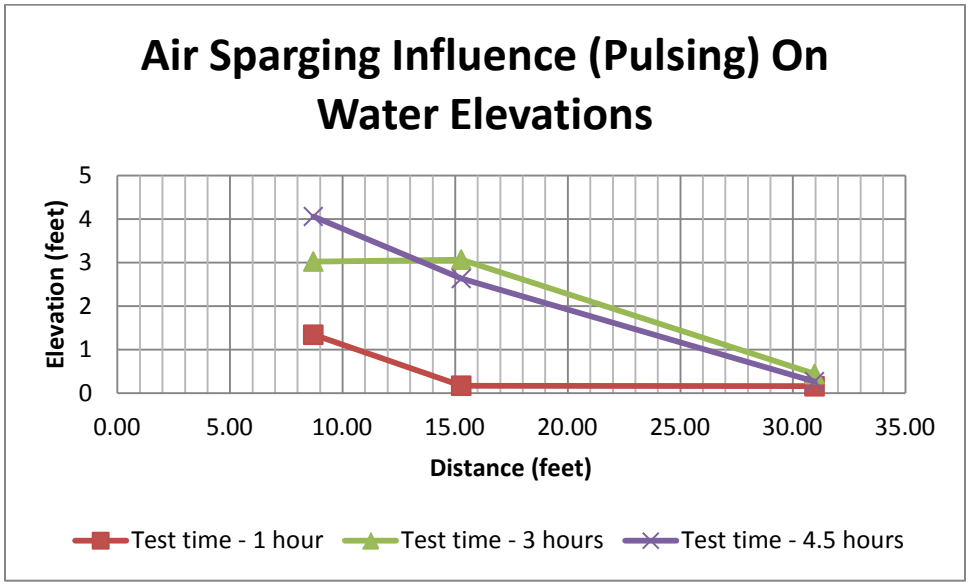
# Graph 59.



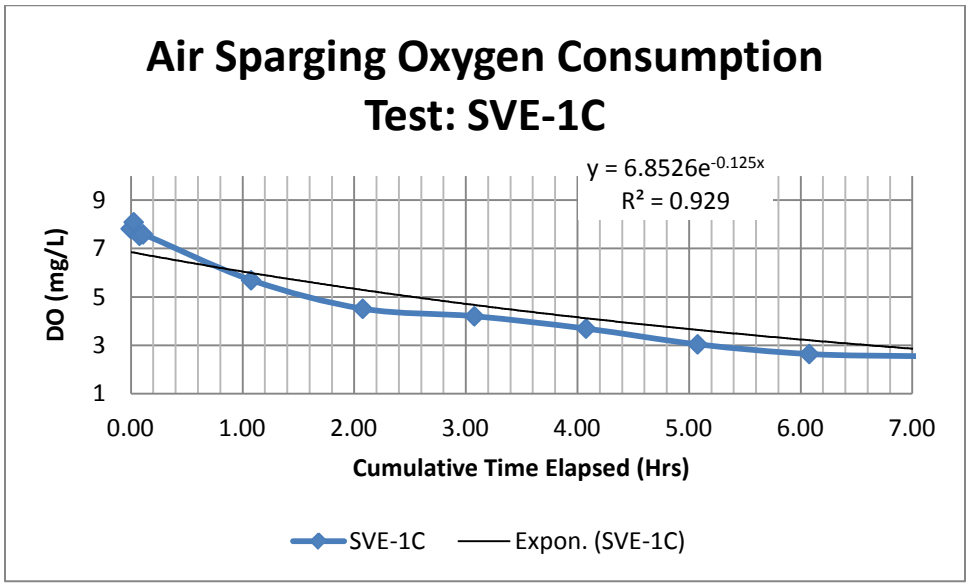

# Graph 60.



# Graph 61.

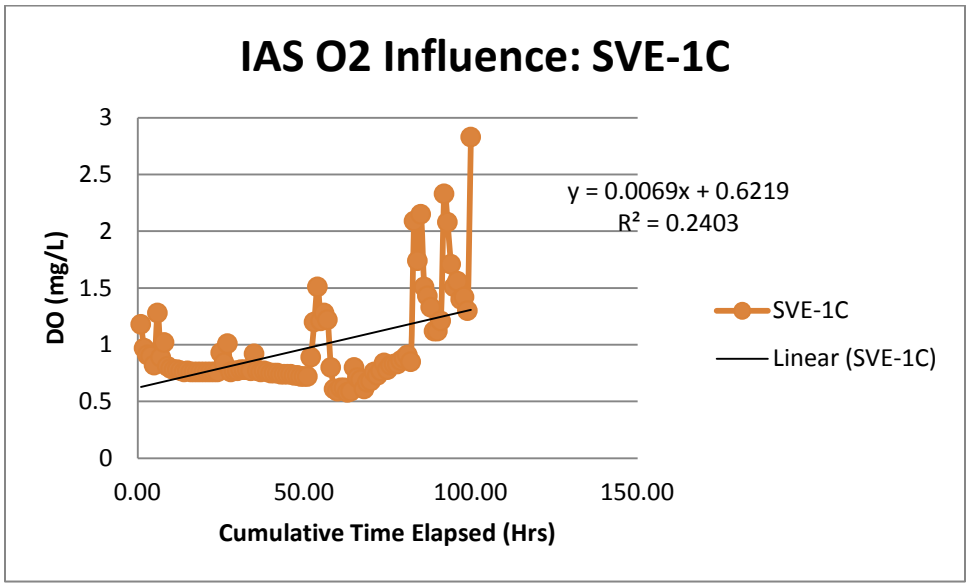



# Graph 62.

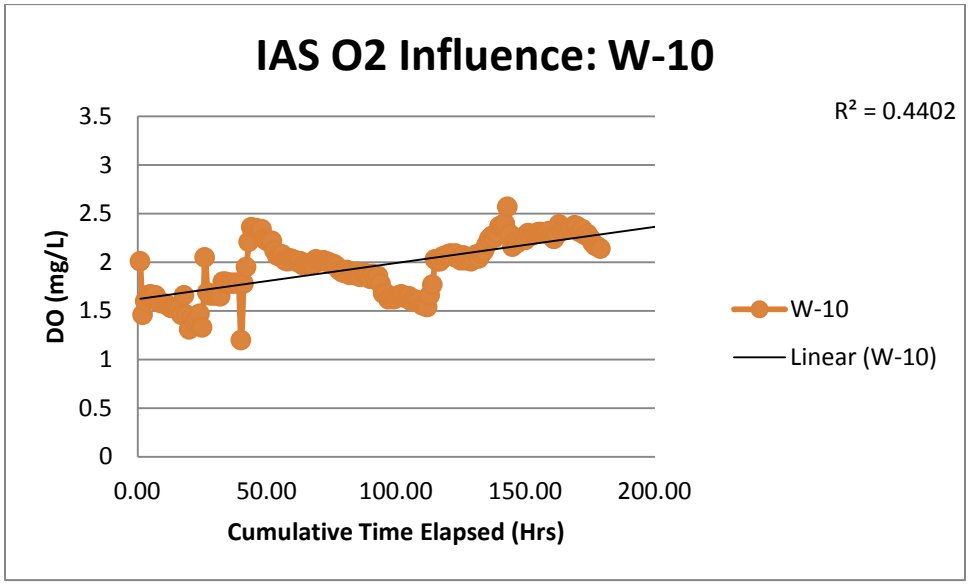


# In-Well Air Stripping
# Graphs 63 - 68

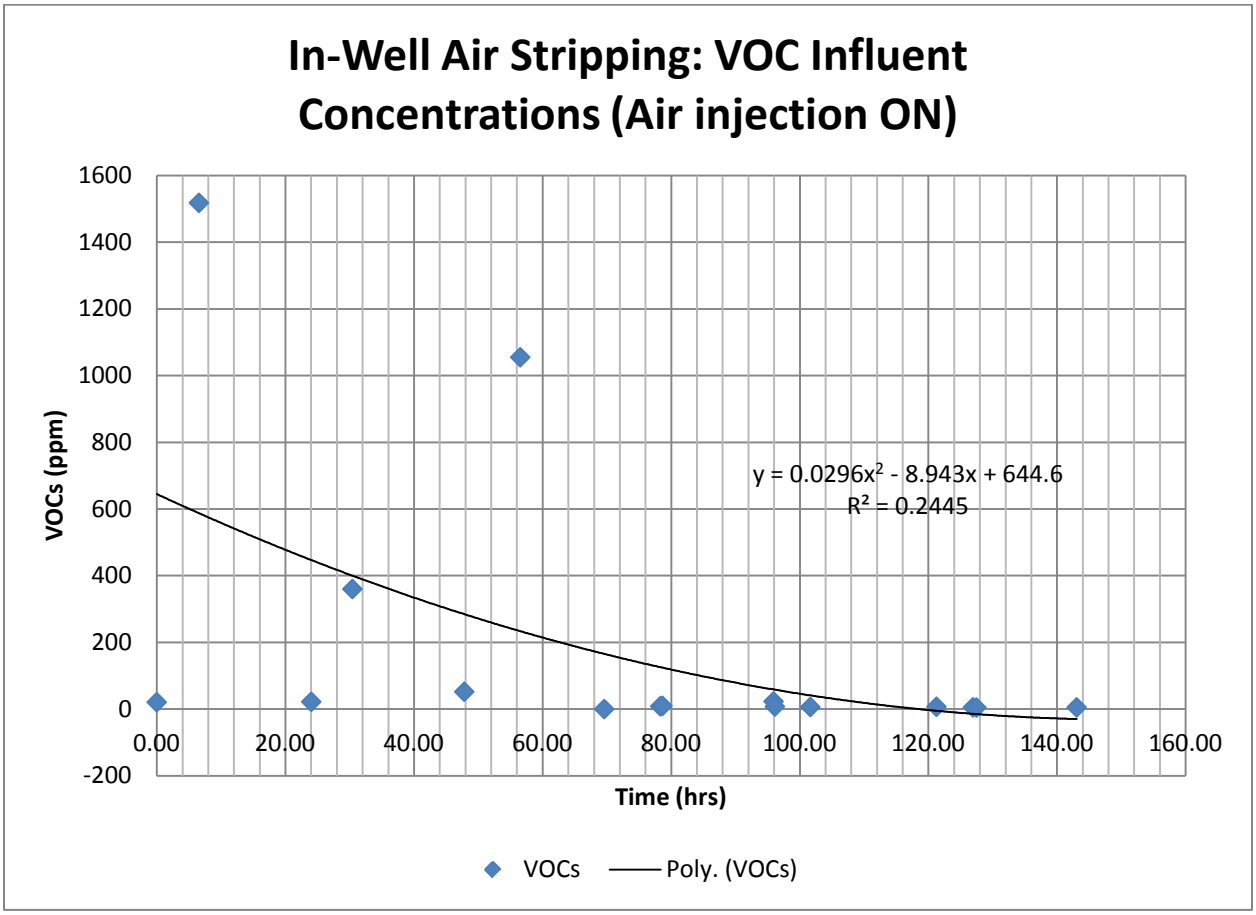
# Graph 63.



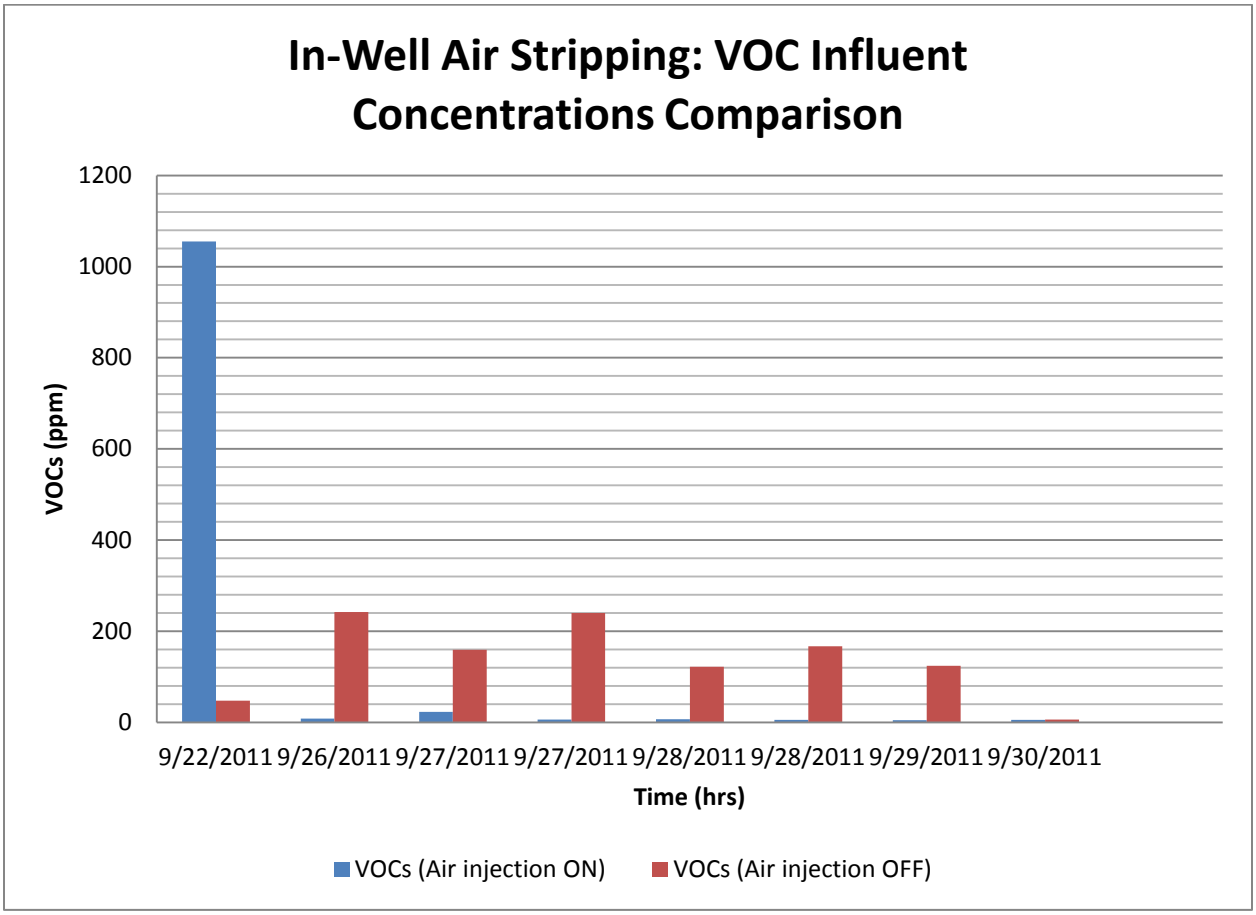

# Graph 64.



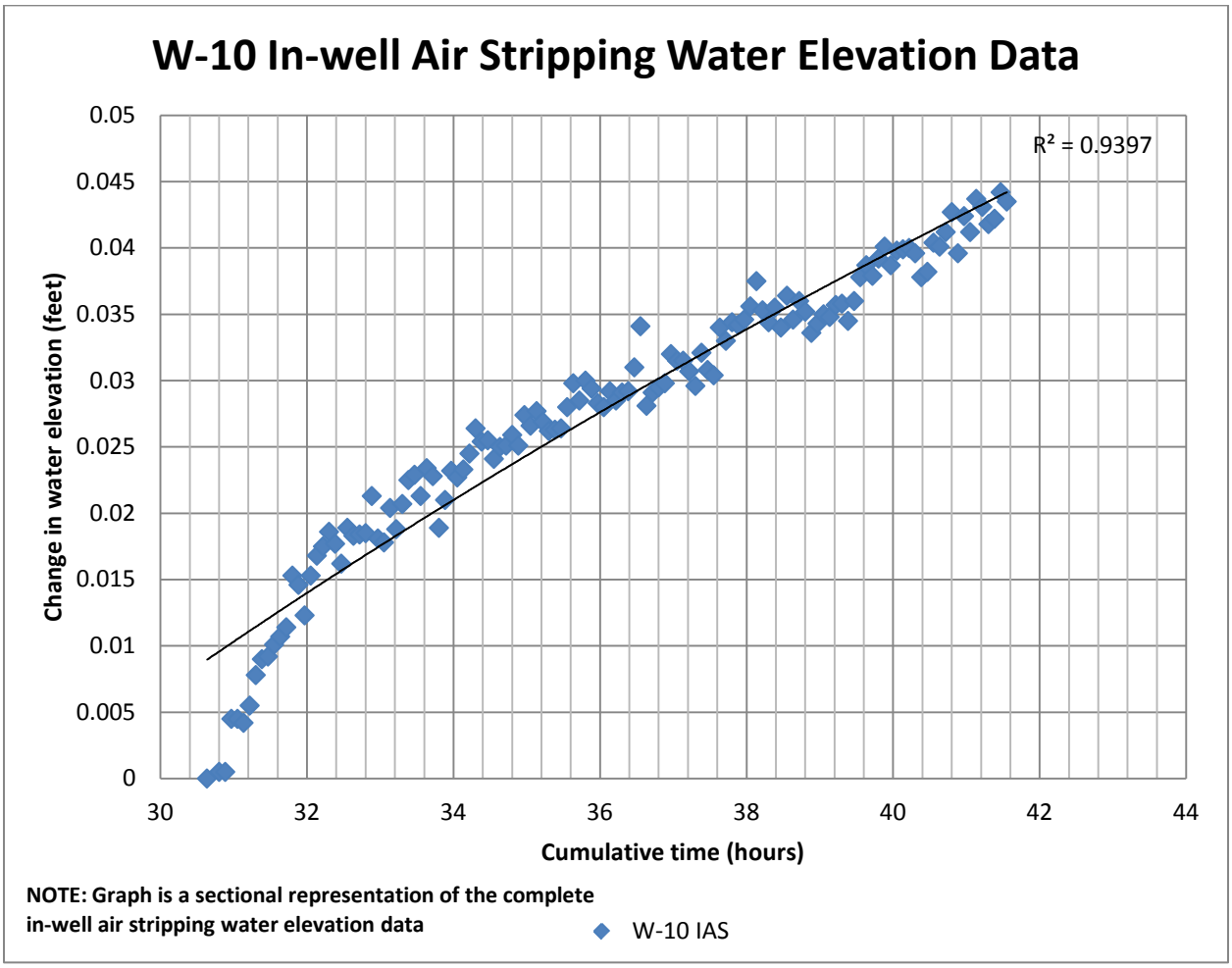
# Graph 65.


In-Well Air Stripping: VOC Influent Concentrations (Air injection ON)
1600
1400
1200
1000
800
600
400
200
0
-200
VOCs (ppm)
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
Time (hrs)
y = 0.0296x² - 8.943x + 644.6
R² = 0.2445
VOCs
Poly. (VOCs)

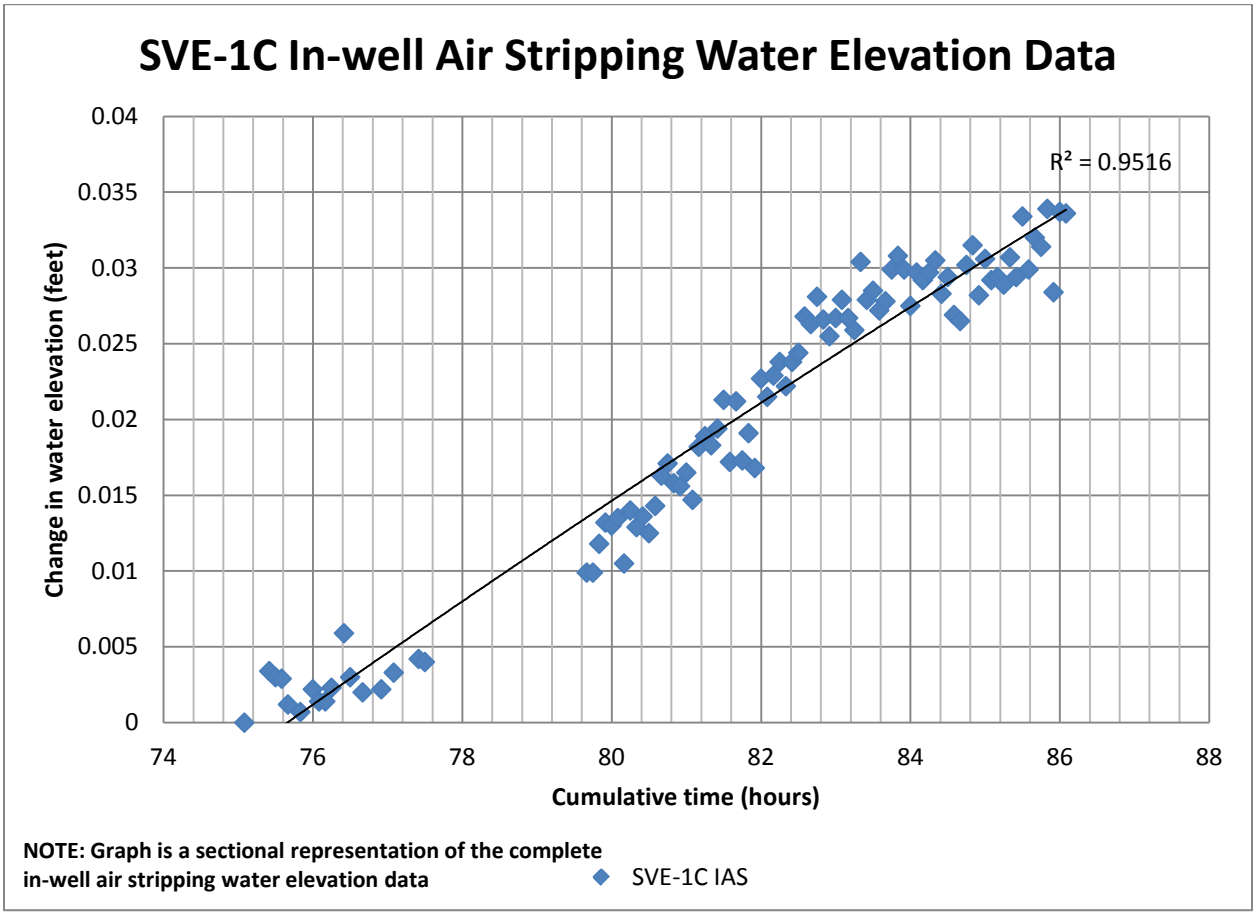
# Graph 66.


In-Well Air Stripping: VOC Influent Concentrations Comparison
1200
1000
800
600
400
200
0
VOCs (ppm)
9/22/2011
9/26/2011
9/27/2011
9/27/2011
9/28/2011
9/28/2011
9/29/2011
9/30/2011
Time (hrs)
VOCs (Air injection ON)
VOCs (Air injection OFF)

# Graph 67.

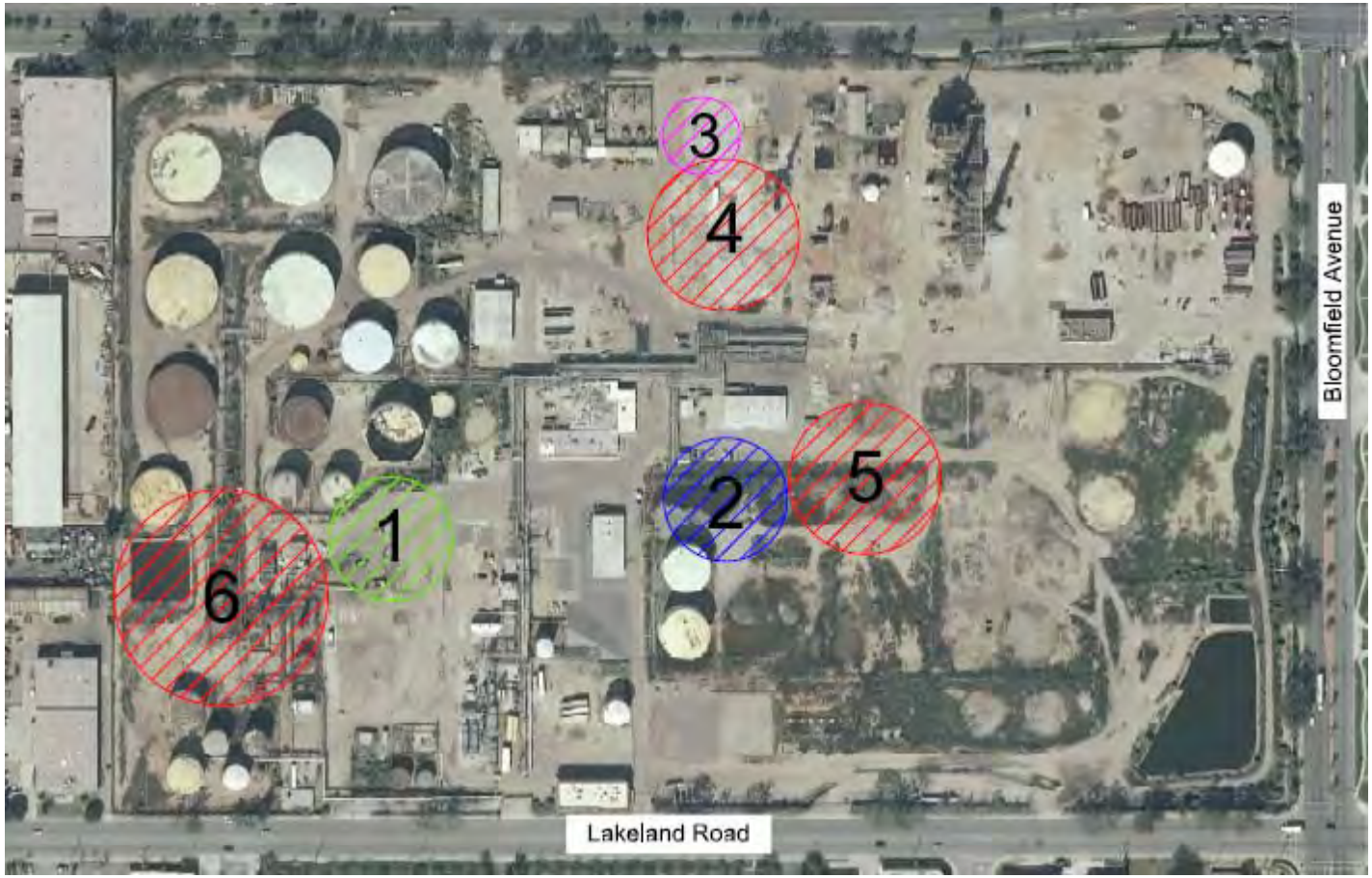

W-10 In-well Air Stripping Water Elevation Data
R² = 0.9397
Change in water elevation (feet)
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
30
32
34
36
38
40
42
44
Cumulative time (hours)
NOTE: Graph is a sectional representation of the complete in-well air stripping water elevation data
W-10 IAS

# Graph 68.


SVE-1C In-well Air Stripping Water Elevation Data
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Change in water elevation (feet)
74
76
78
80
82
84
86
88
Cumulative time (hours)
R² = 0.9516
NOTE: Graph is a sectional representation of the complete in-well air stripping water elevation data
SVE-1C IAS

# Appendix J

# Site Map Showing Test Locations



# Methodology

The top 11 feet is divided into four layers:

- Layer 1 - 0 to 1.50 ft
- Layer 2 - 1.50 to 4.0 ft
- Layer 3 - 4.0 to 7.0 ft
- Layer 4 - 7.0 to 11.0 ft

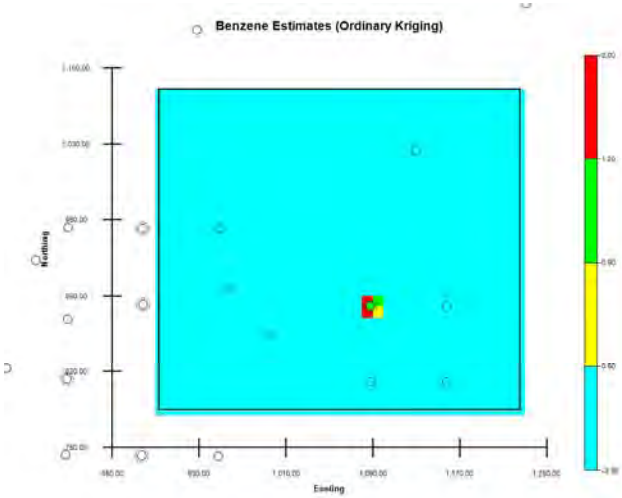
All concentrations have been converted to logarithmic scale.

By converting the data to log scale, we have removed the effect of very high measurements.

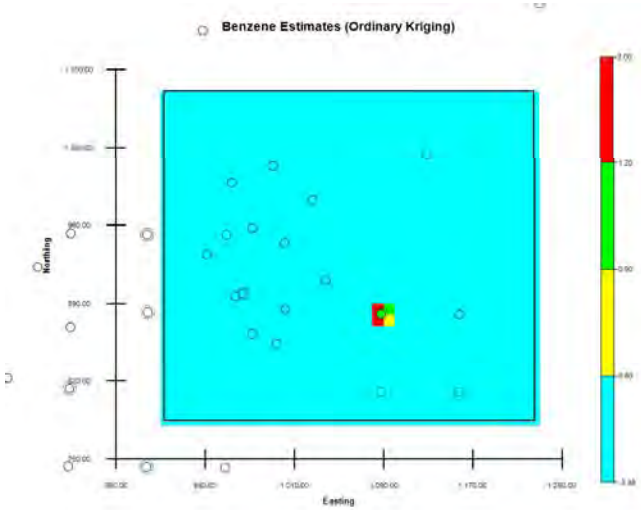
For each chemical blue and purple areas indicate the clean area and other colors are 2x threshold, 4x threshold and maximum respectively.

# Area 4 – Benzene

# Layer 1

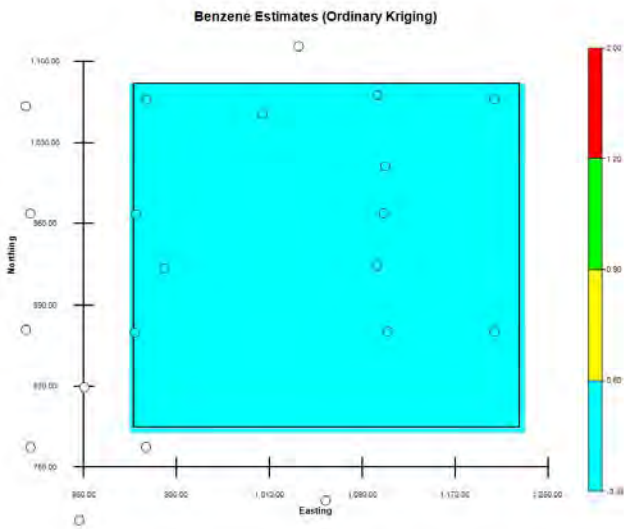



Old  Data

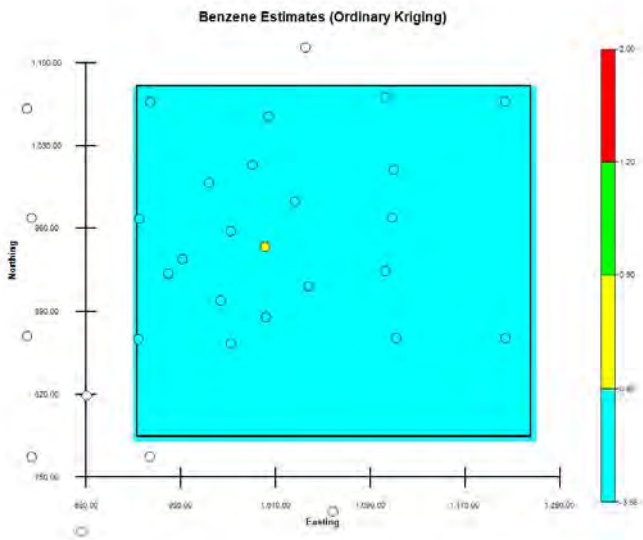



Old and New Data

# Layer 2

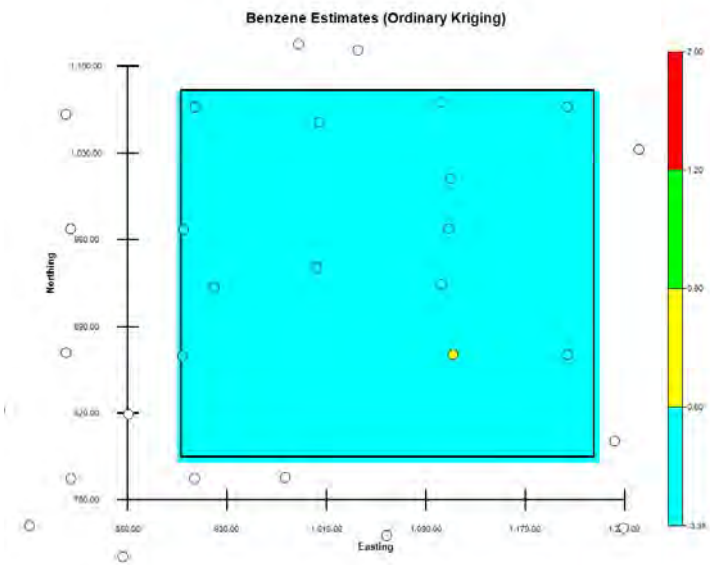



Old Data

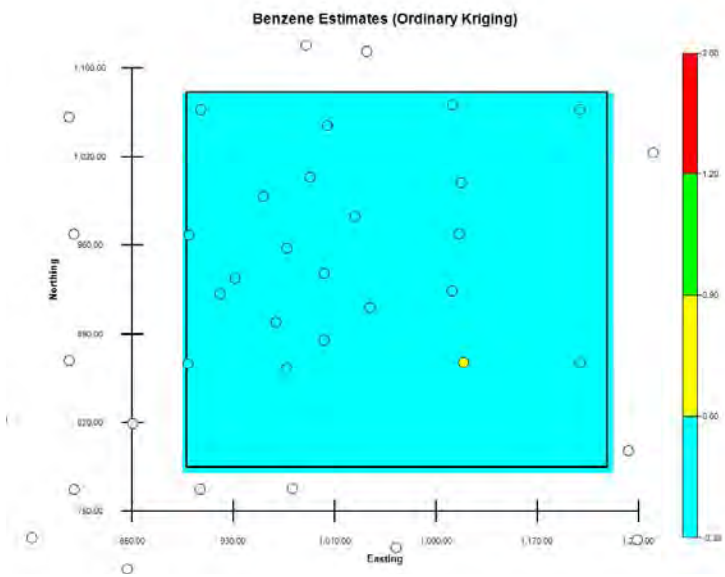



Old and New Data

# Layer 3

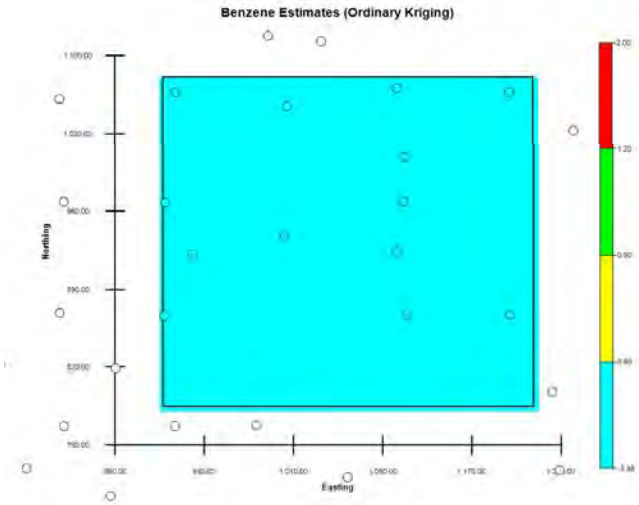



Old Data

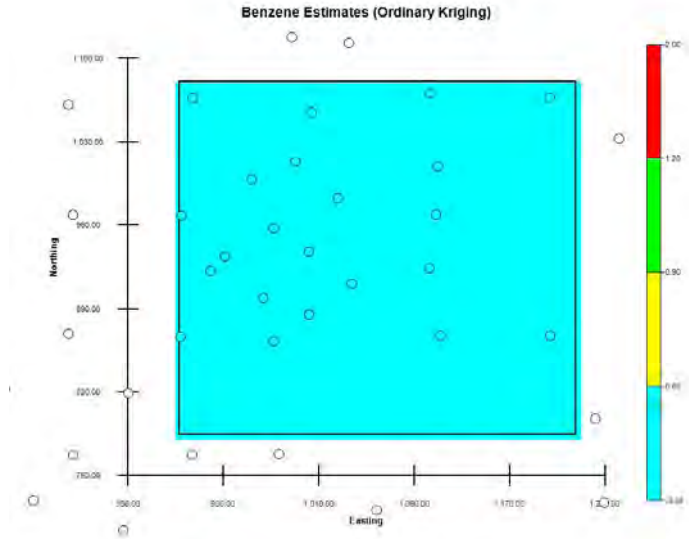



Old and New Data

# Layer 4



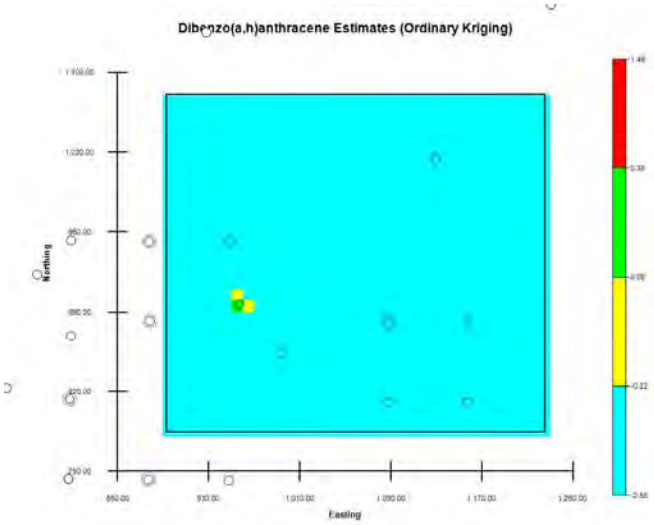

Old Data



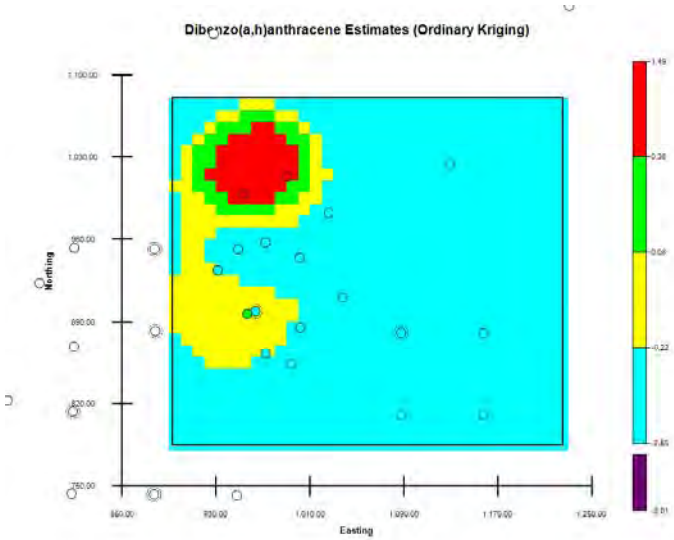

Old and New Data

Dibenzo(a,h)anthrazene

# Layer 1

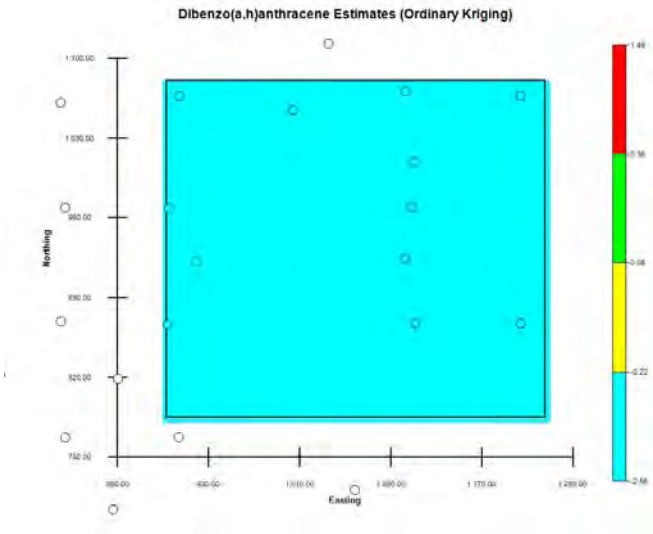



Old Data

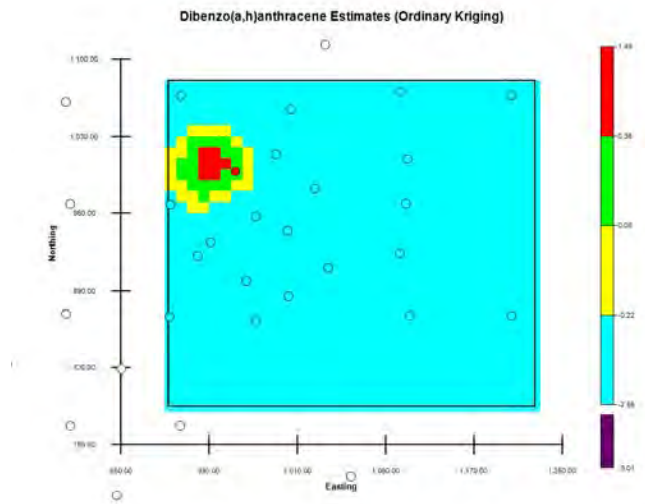



Old and New Data

# Layer 2

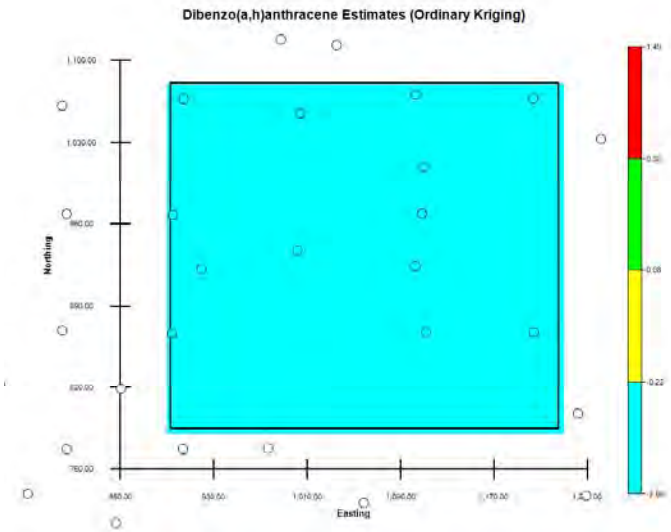



Old Data

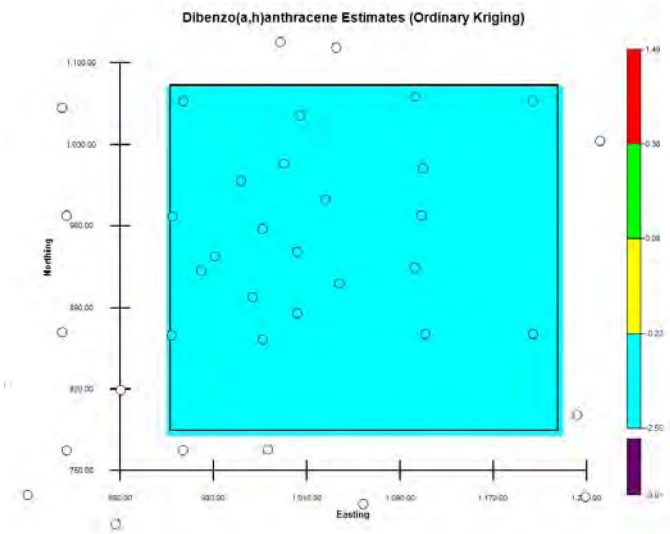



Old and New Data

# Layer 3

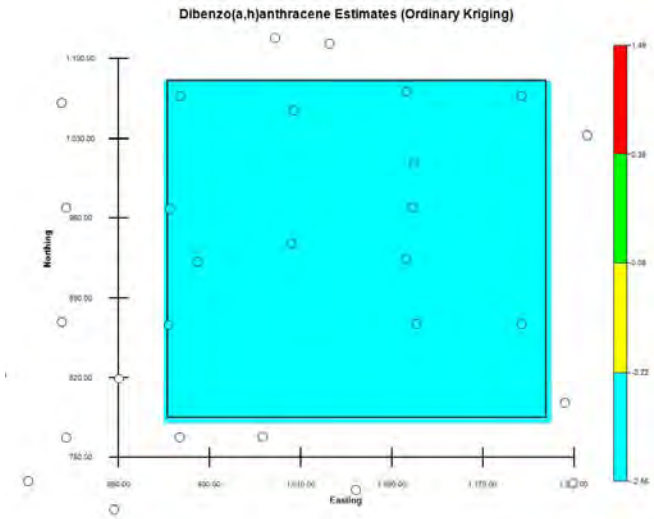



Old Data

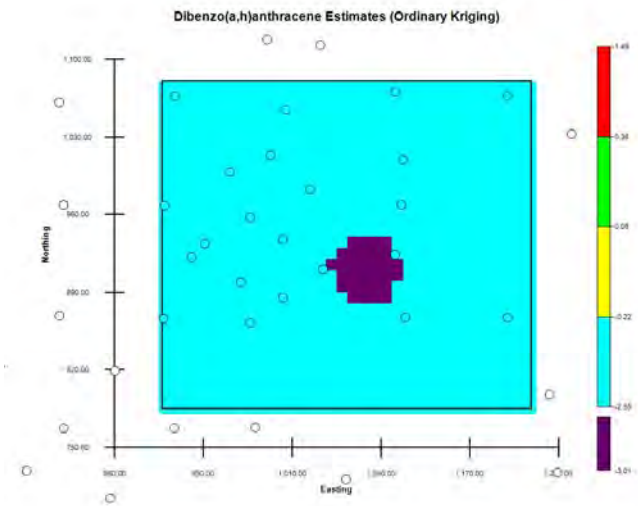



Old and New Data

# Layer 4



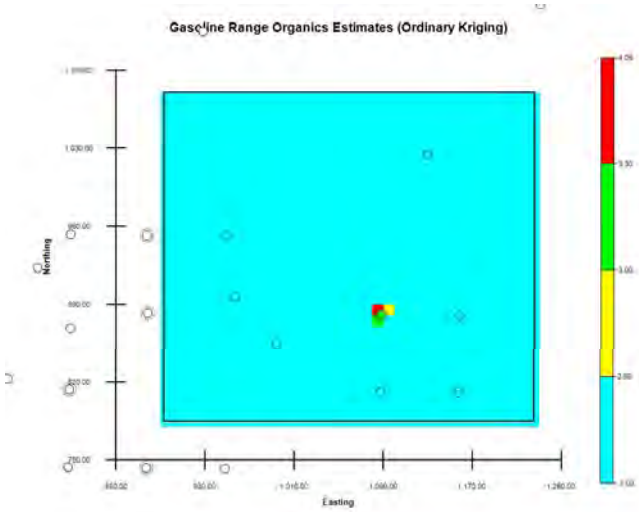

Old Data



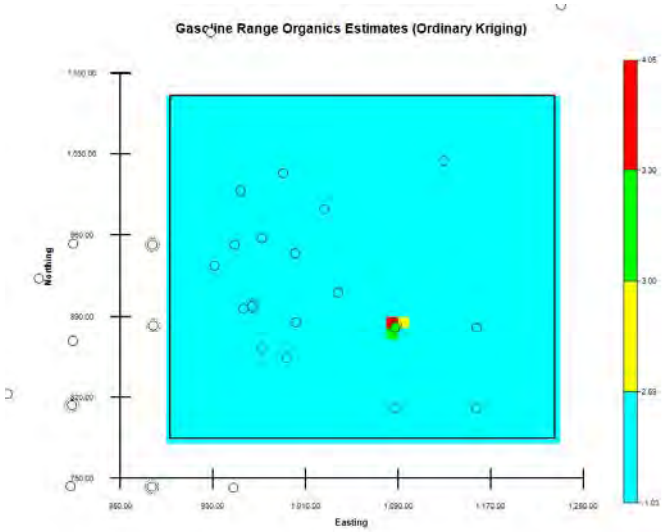

Old and New Data

# Gasoline Range Organic

# Layer 1

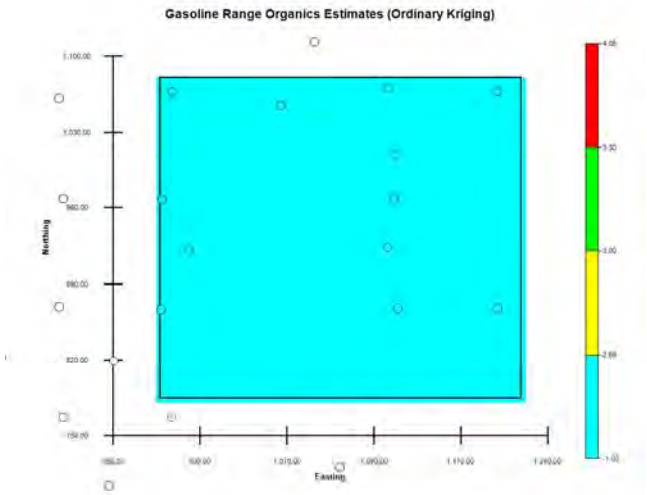



Old Data

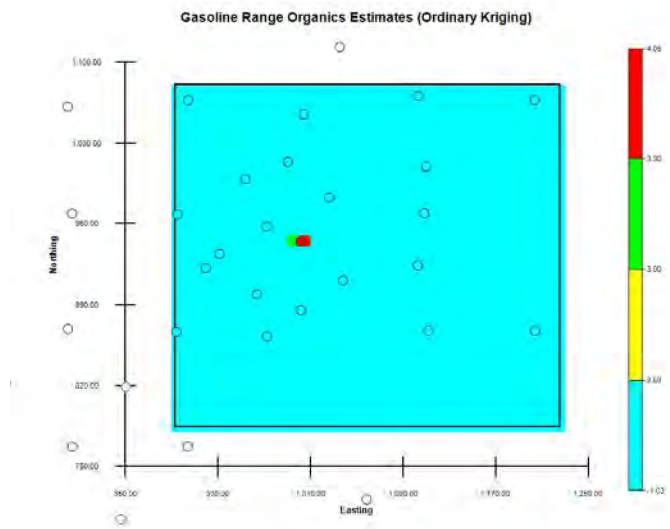



Old and New Data

# Layer 2

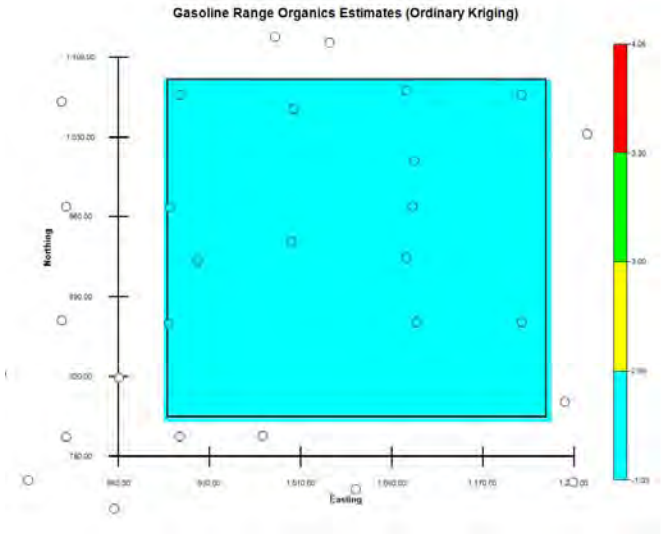



Old Data

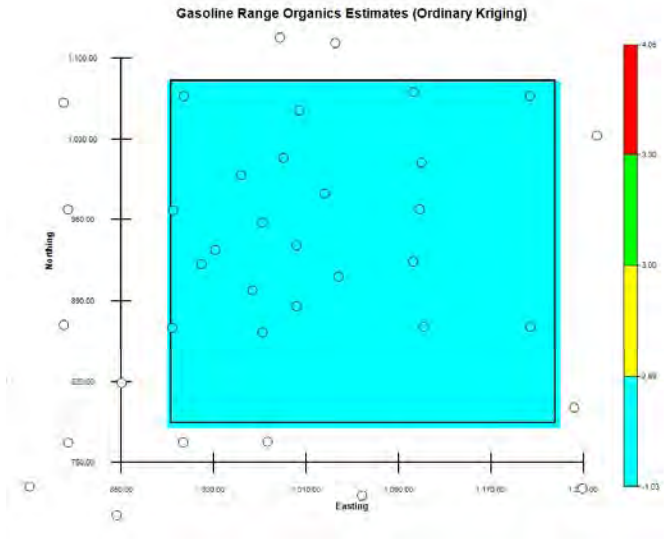



Old and New Data

# Layer 3

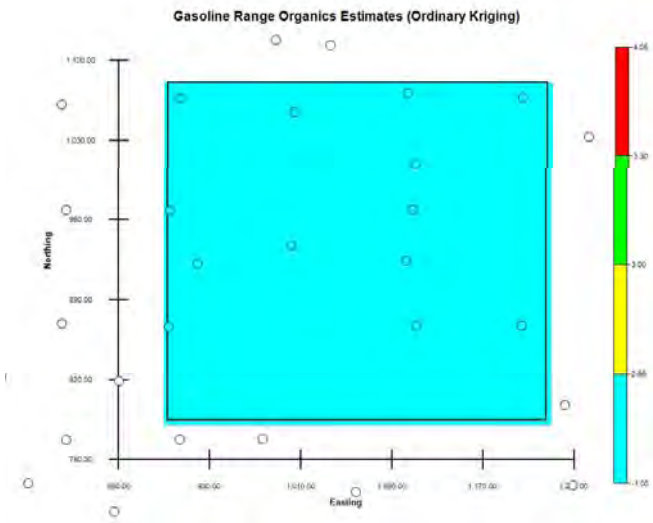



Old Data

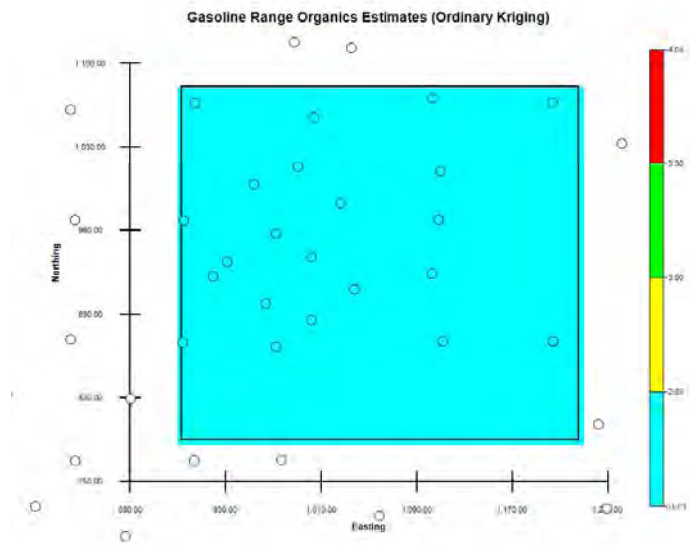



Old and New Data

# Layer 4



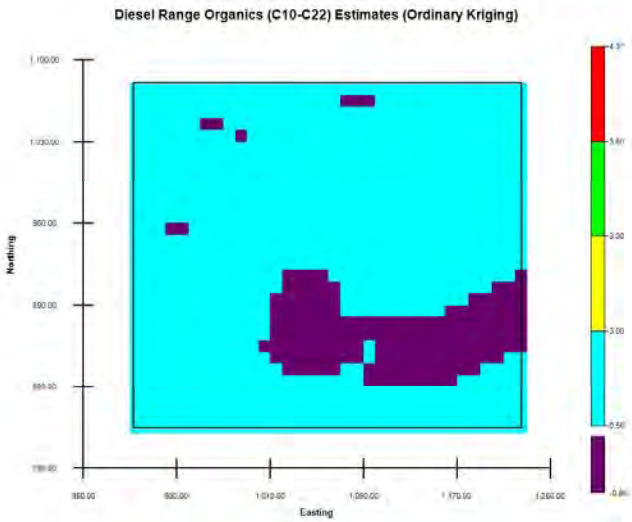

Old Data



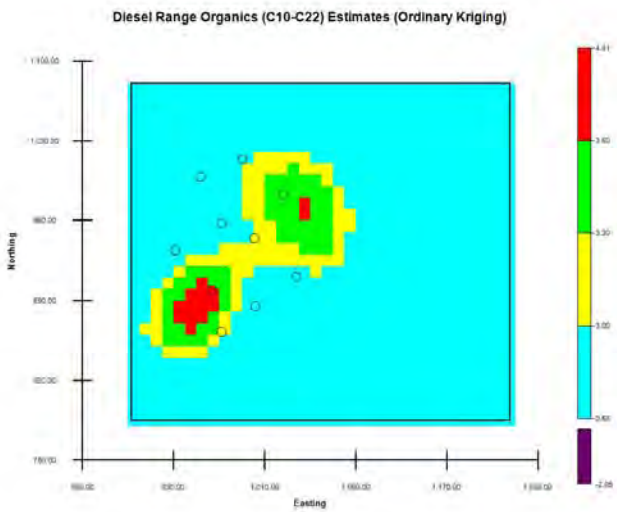

Old and New Data

# Diesel Range Organic

# Layer 1

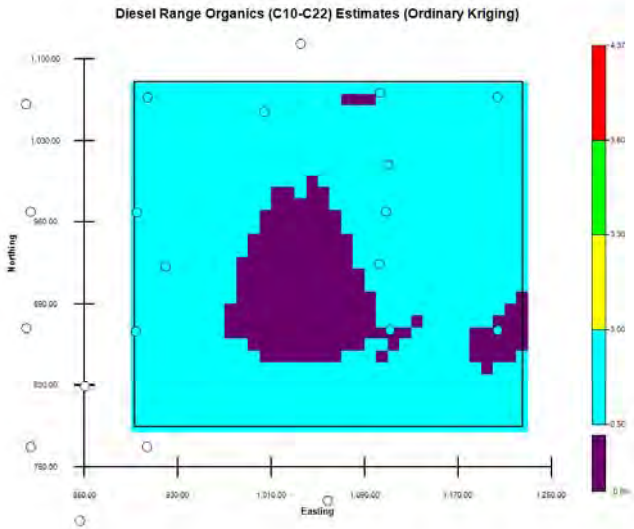



Old Data

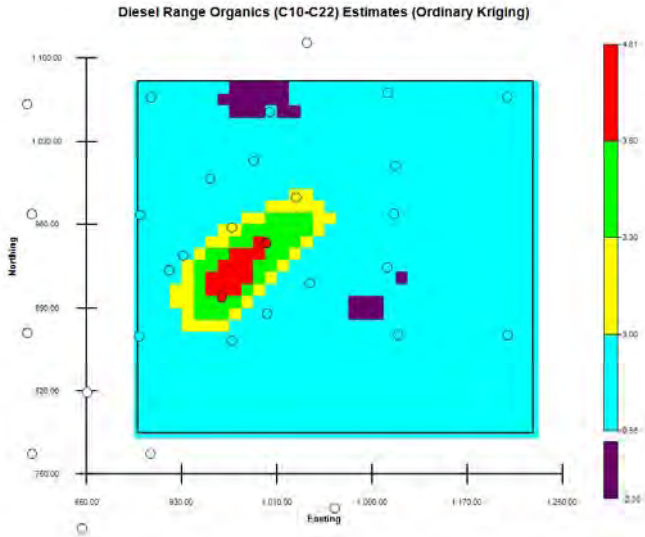



Old and New Data

# Layer 2

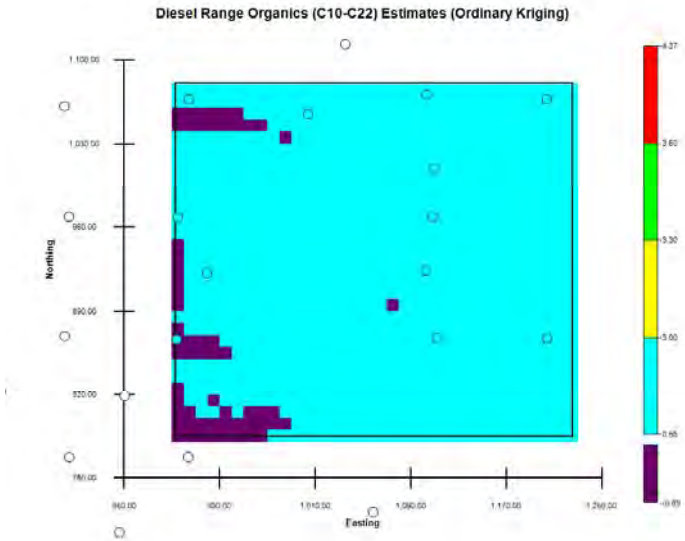



Old Data

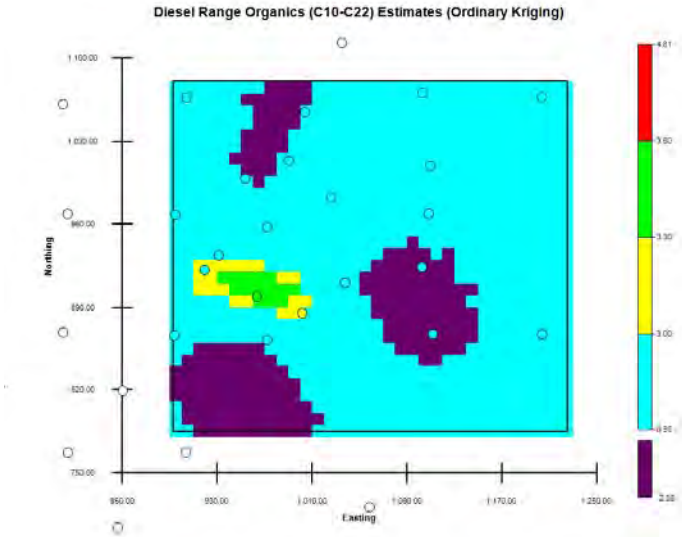



Old and New Data

# Layer 3

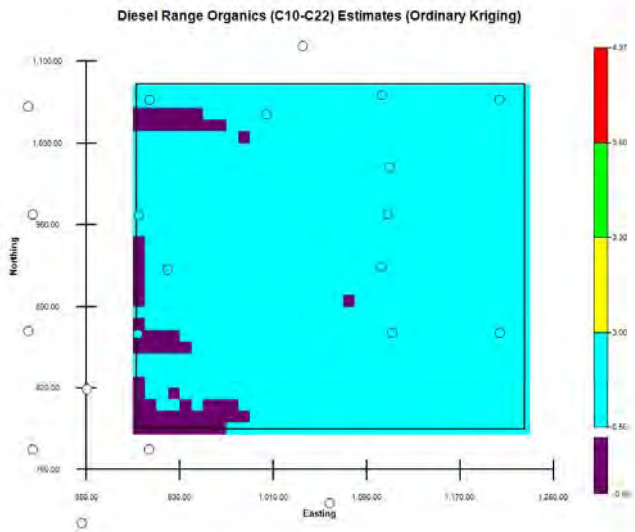



Old Data

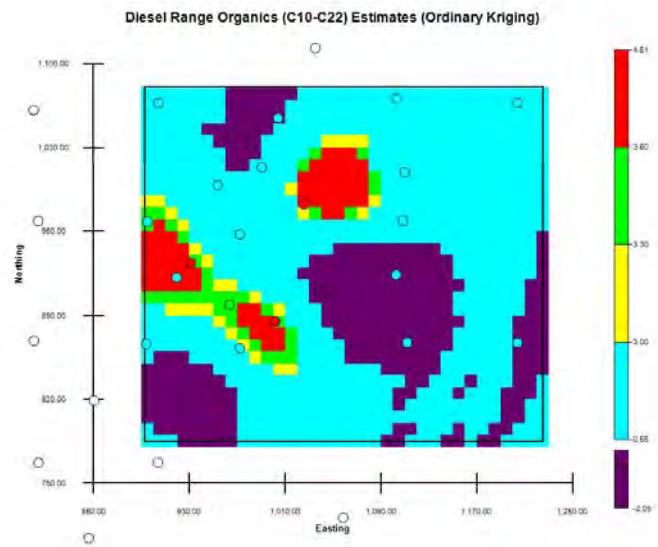



Old and New Data

# Layer 4



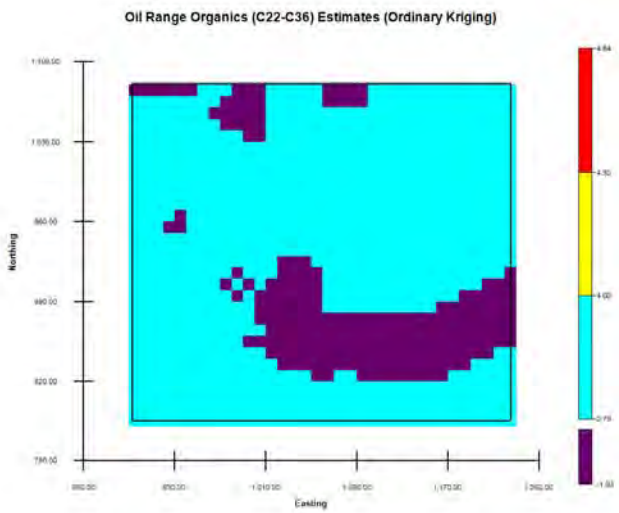

Old Data



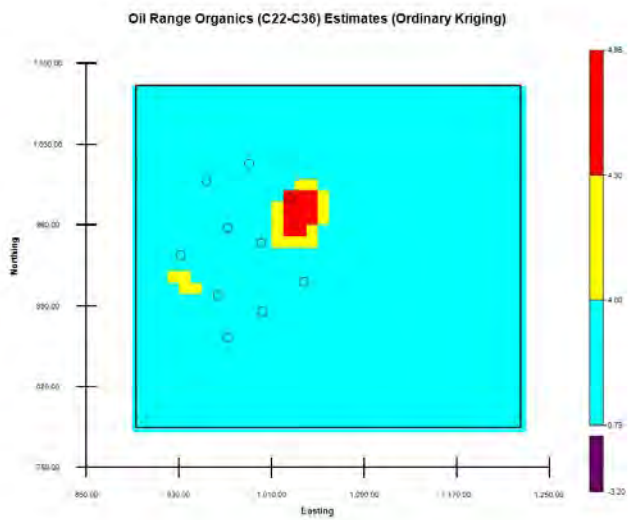

Old and New Data

# Oil Rang Organic

# Layer 1

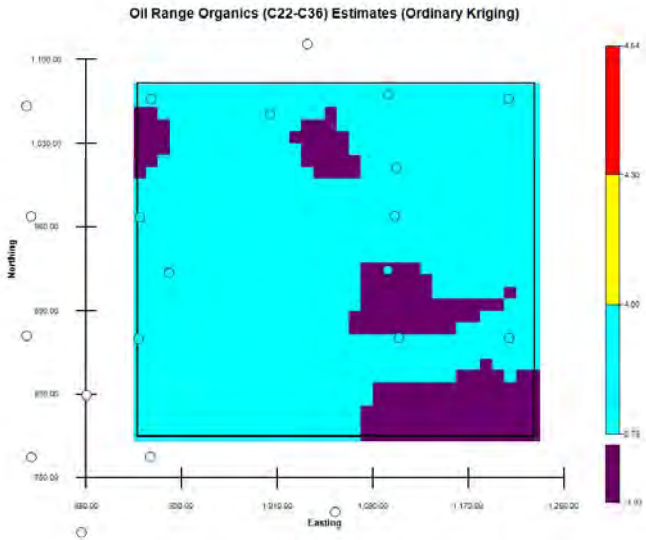



Old Data

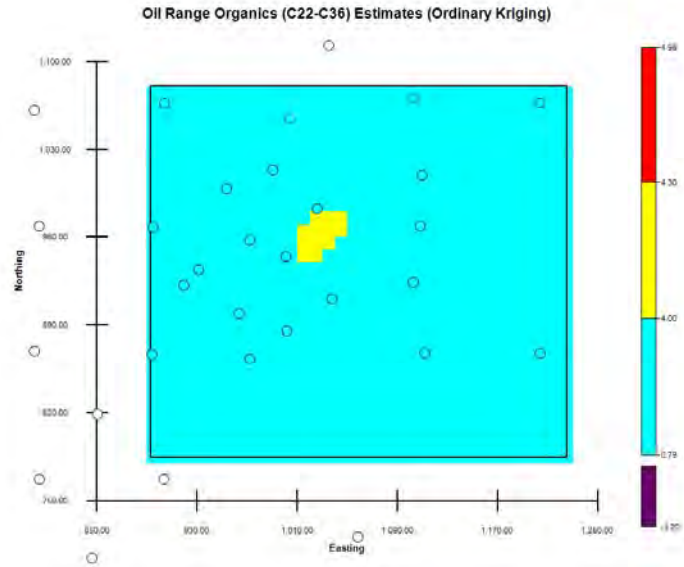



Old and New Data

# Layer 2

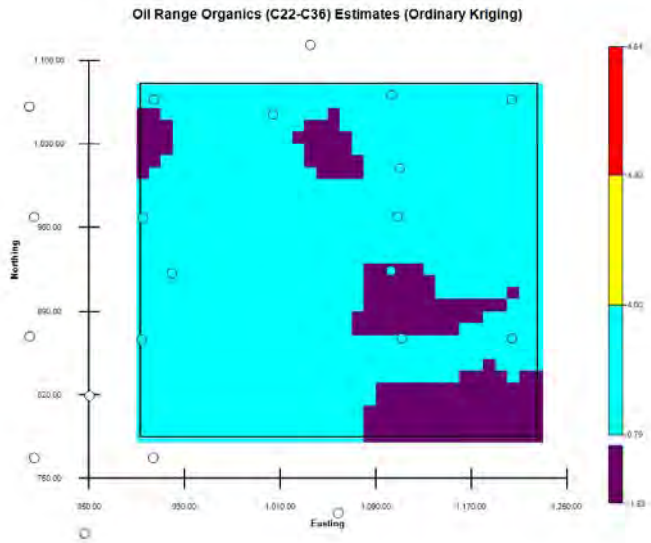



Old Data

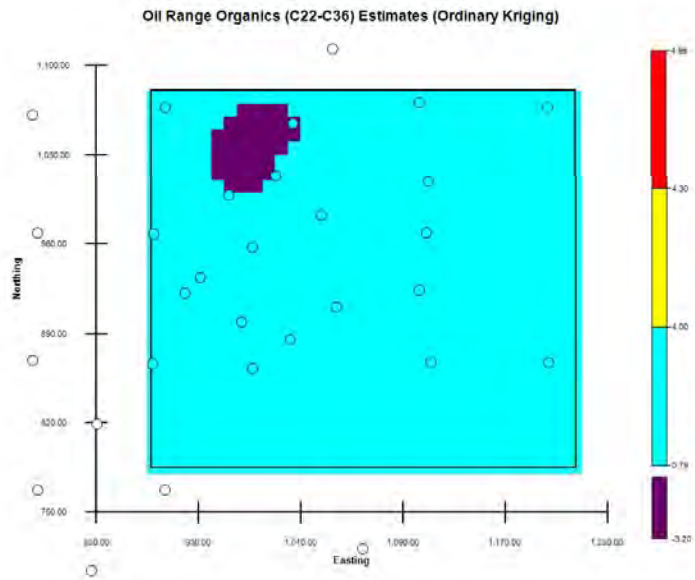



Old and New Data

# Layer 3

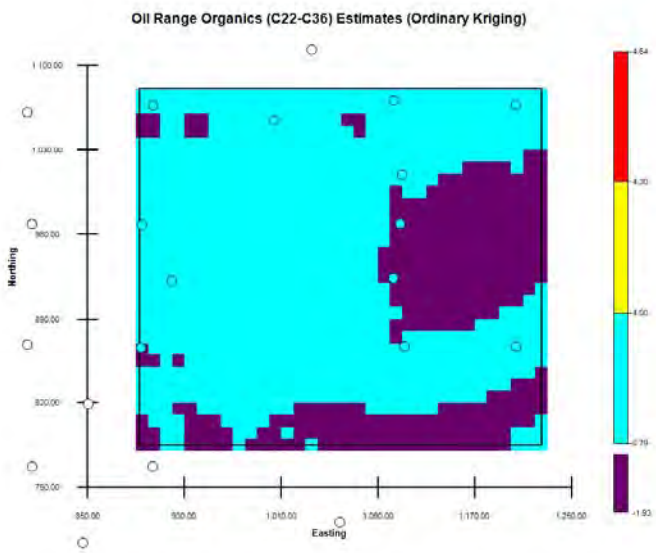



Old Data

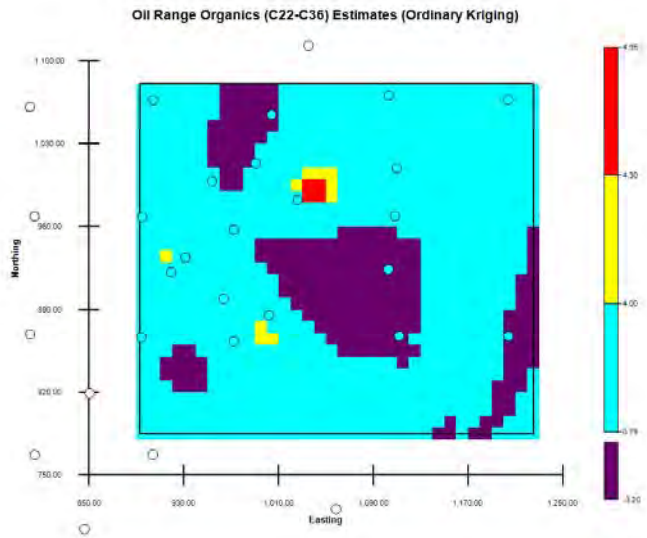



Old and New Data

# Layer 4




Old Data

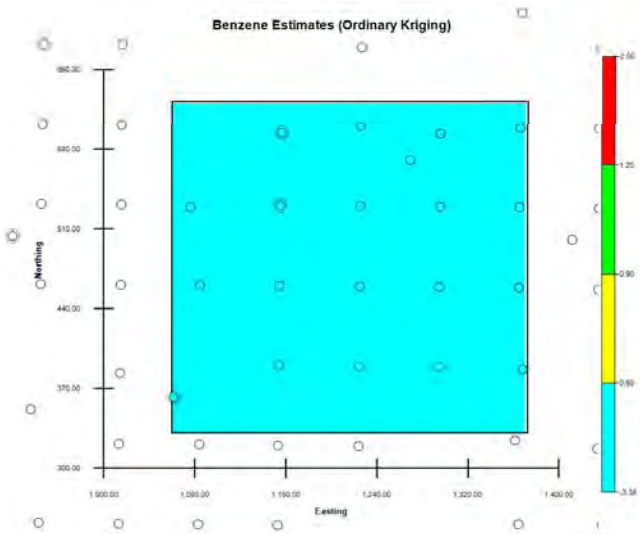



Old and New Data

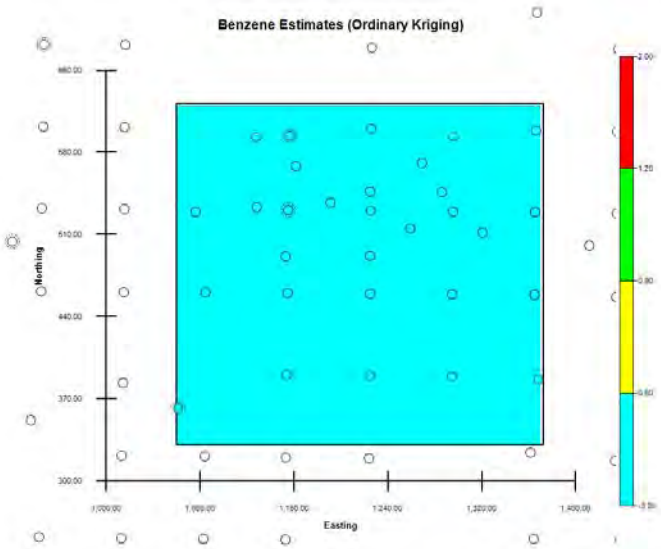
Area B

# Benzene

# Layer 1

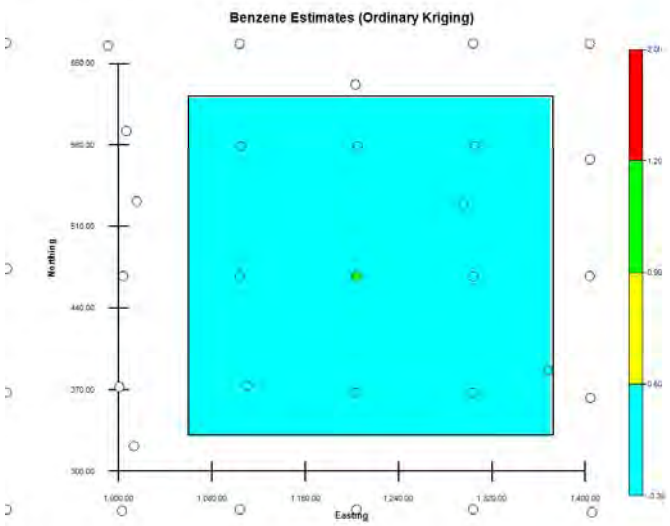



Old Data

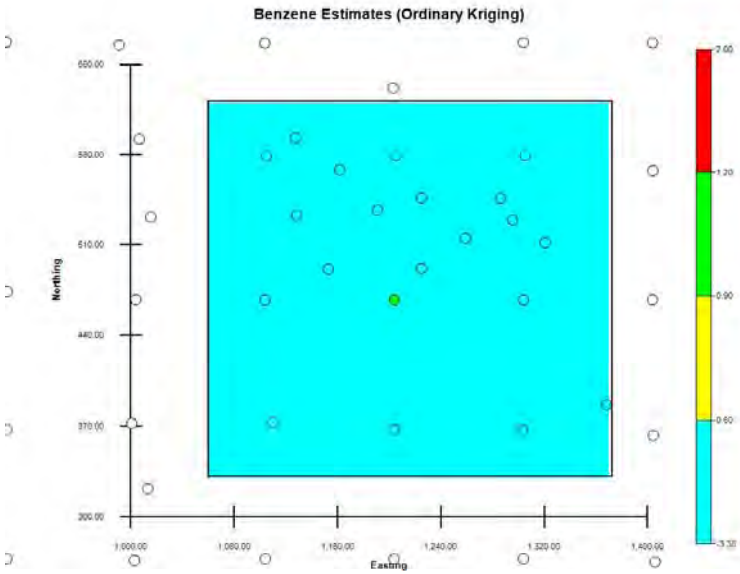



Old and New Data

# Layer 2

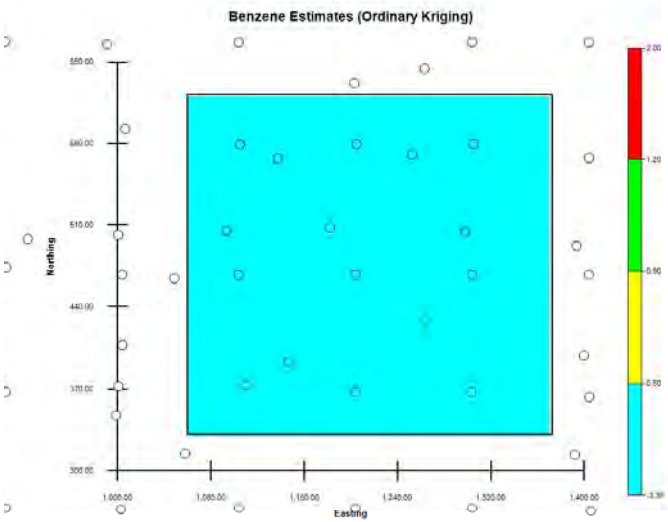



Old Data




Old and New Data

# Layer 3

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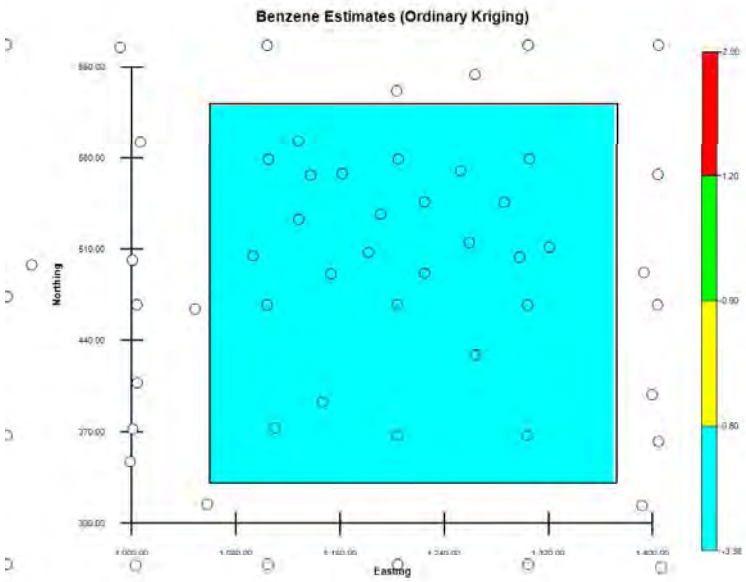


Old and New Data

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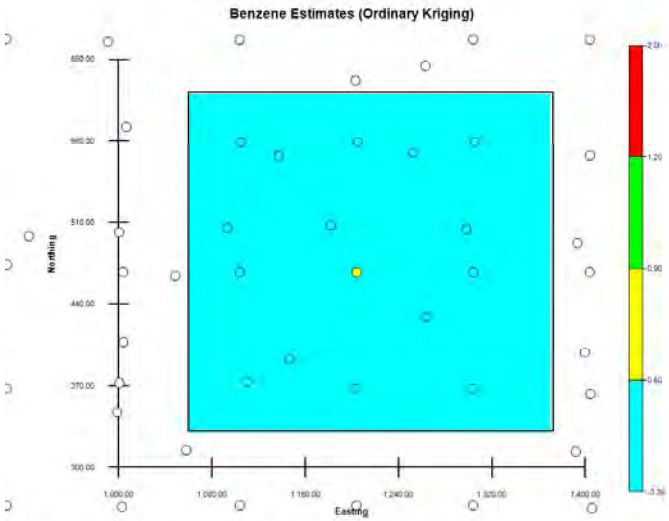


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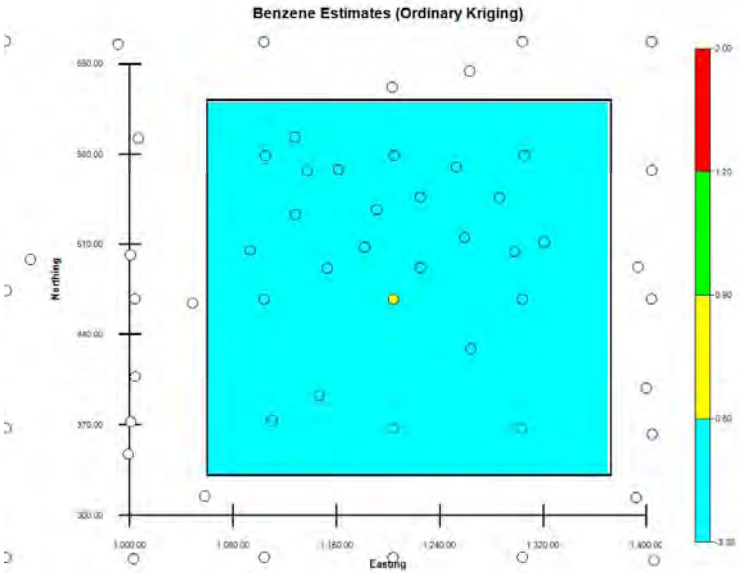
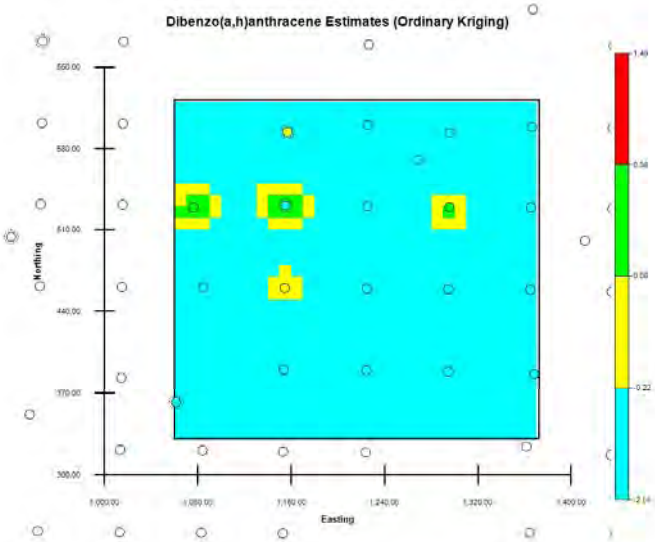



Old and New Data

Dibenzo(a,h)anthrazene

# Layer 1

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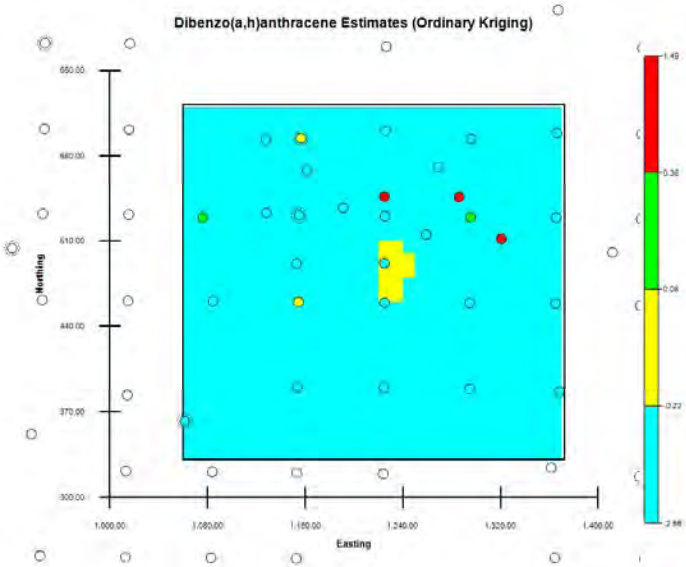


Old and New Data

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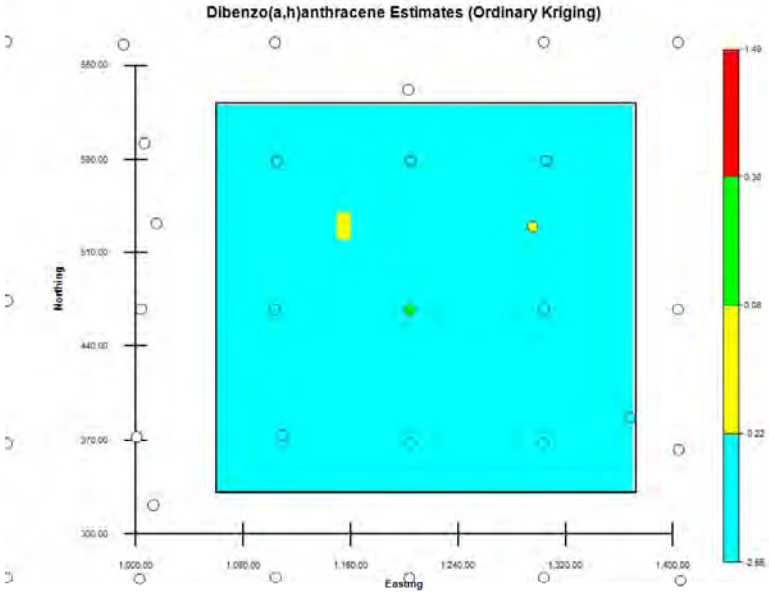


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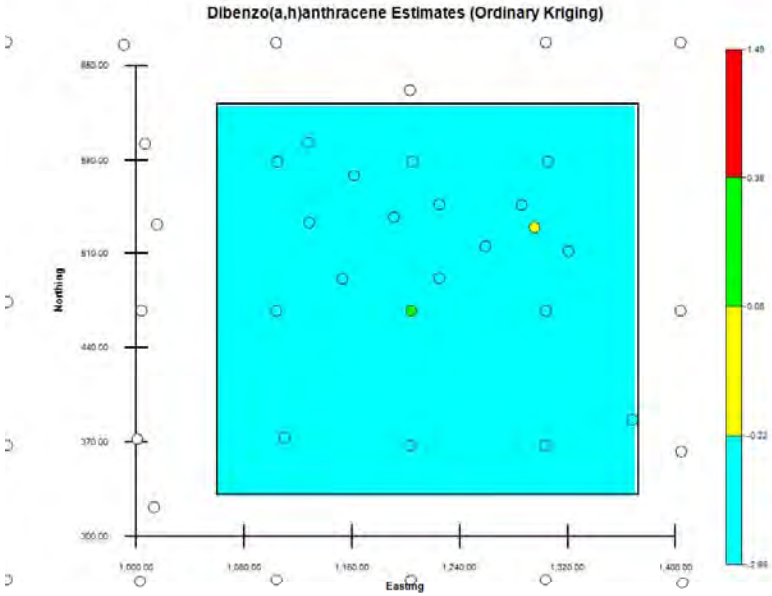


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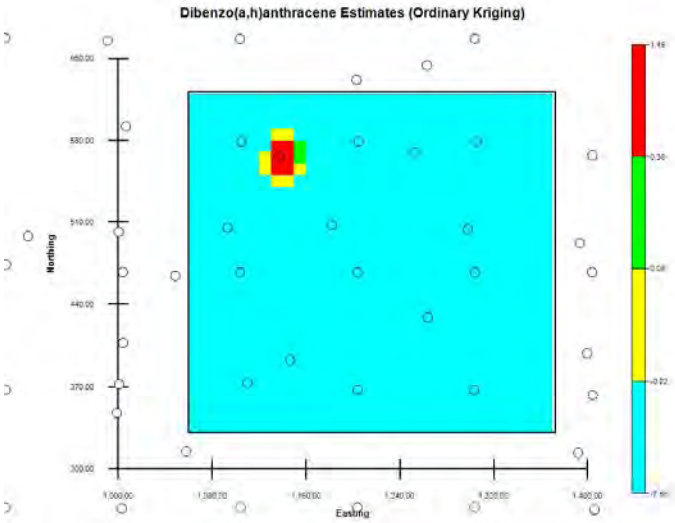


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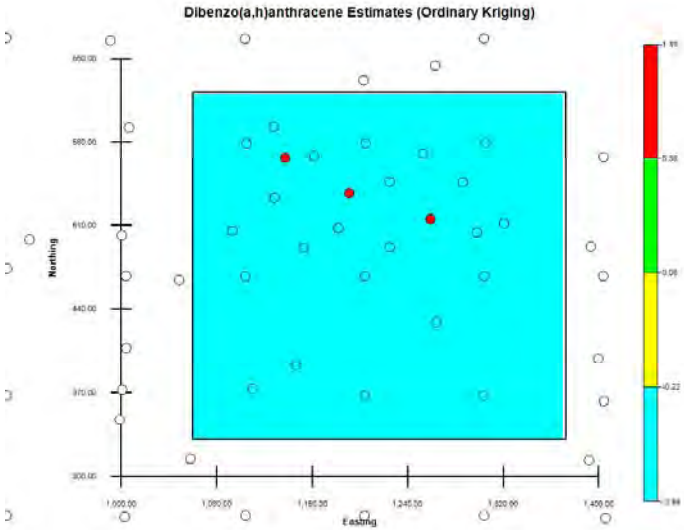


Old and New Data

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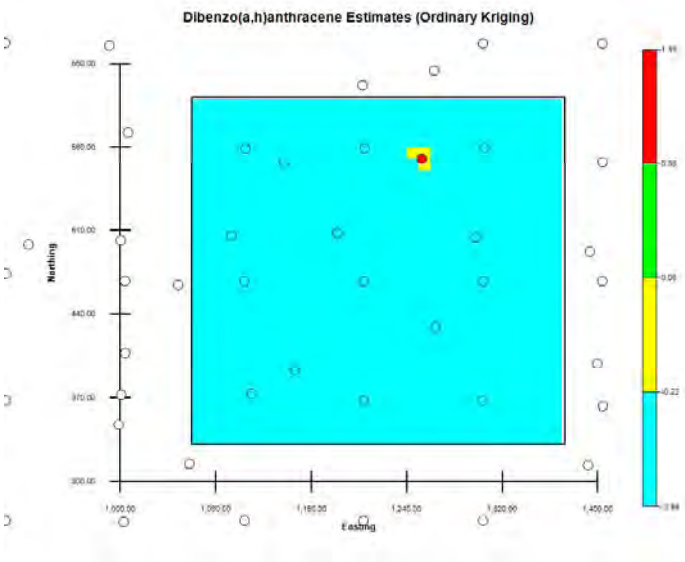


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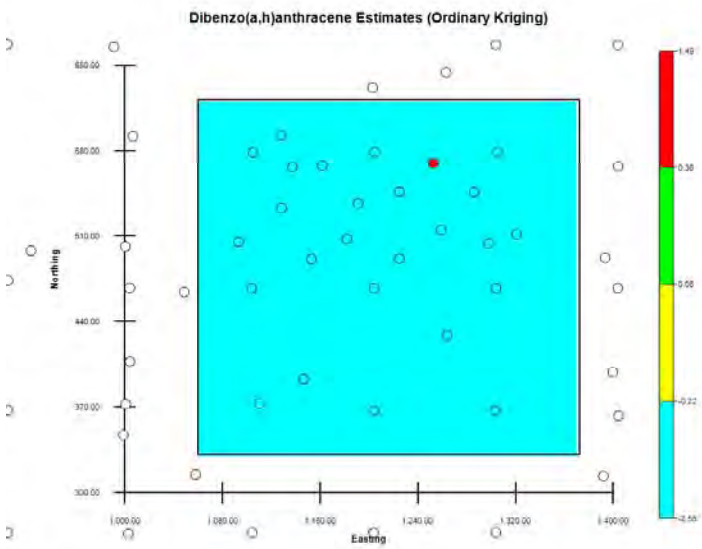
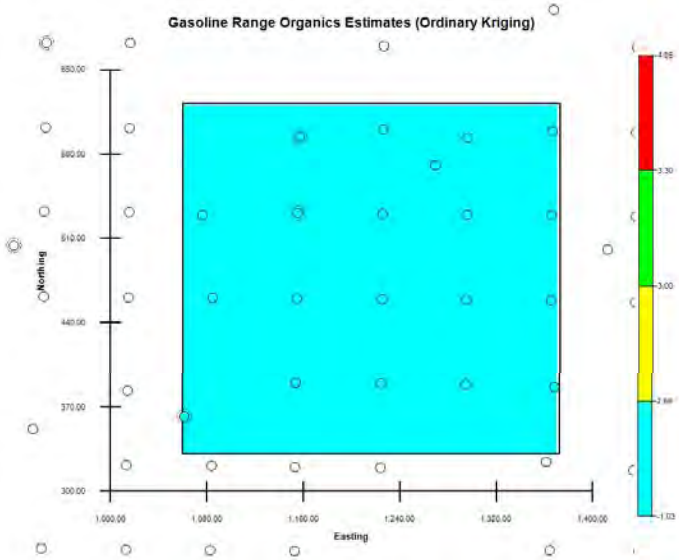



Old and New Data

# Gasoline Range Organic

# Layer 1

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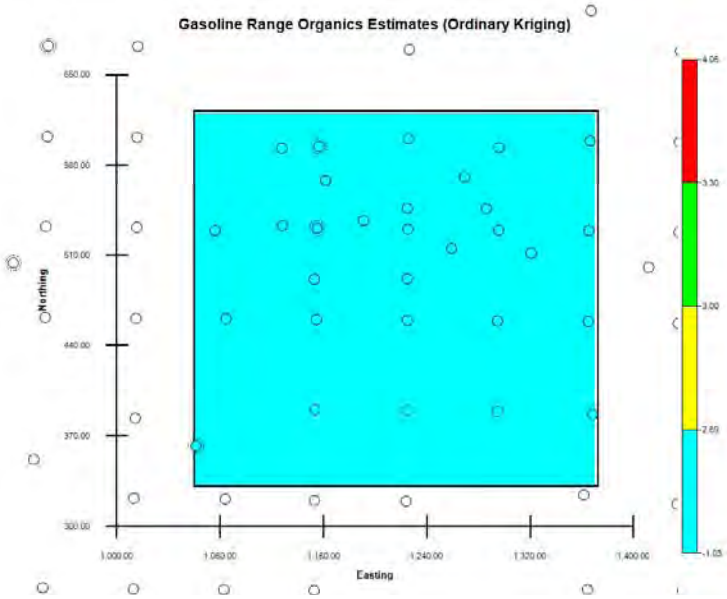


Old and New Data

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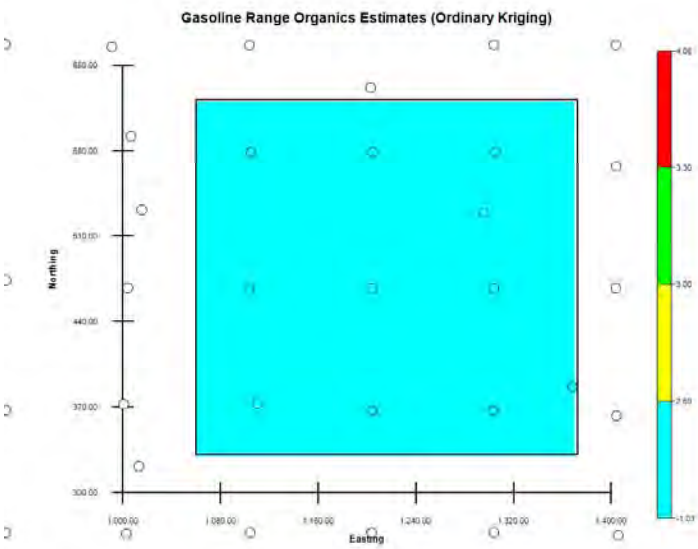


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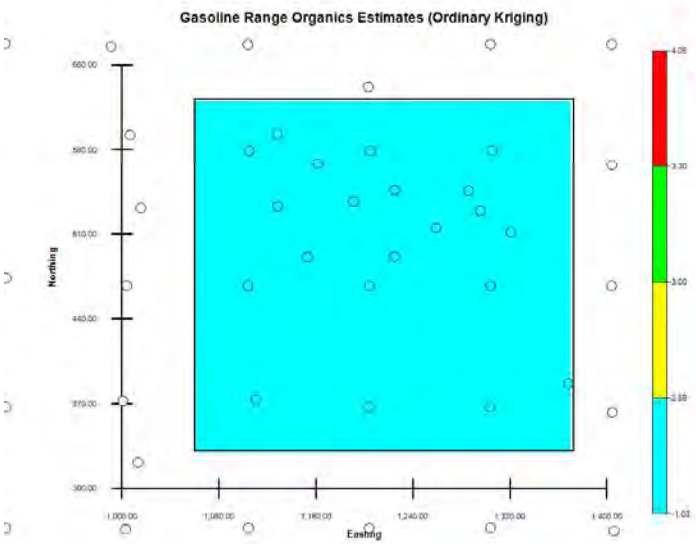


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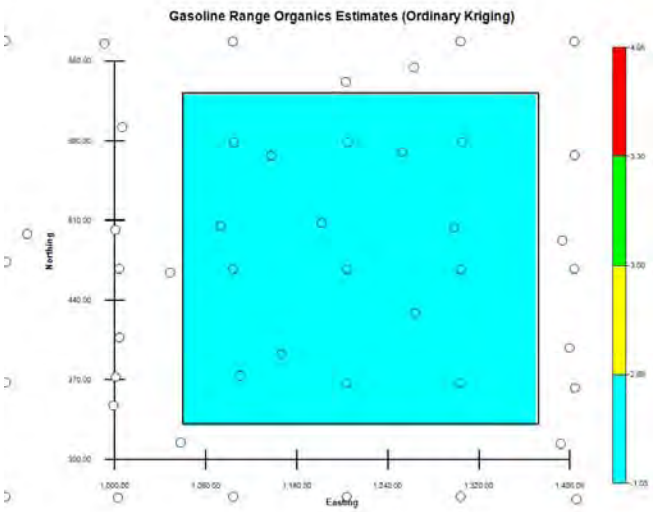


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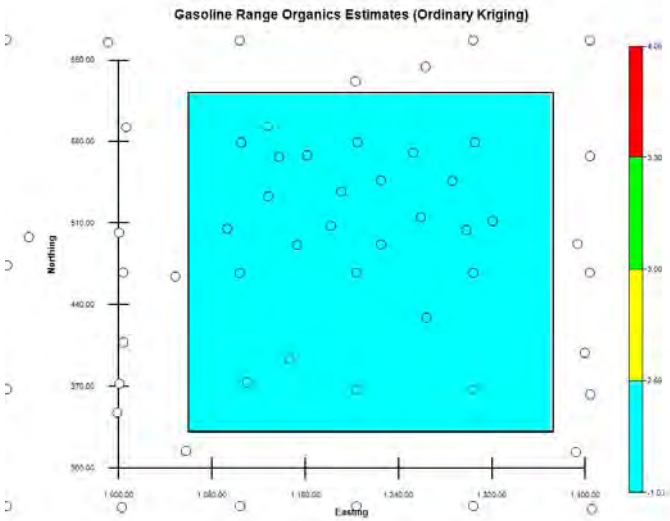


Old and New Data

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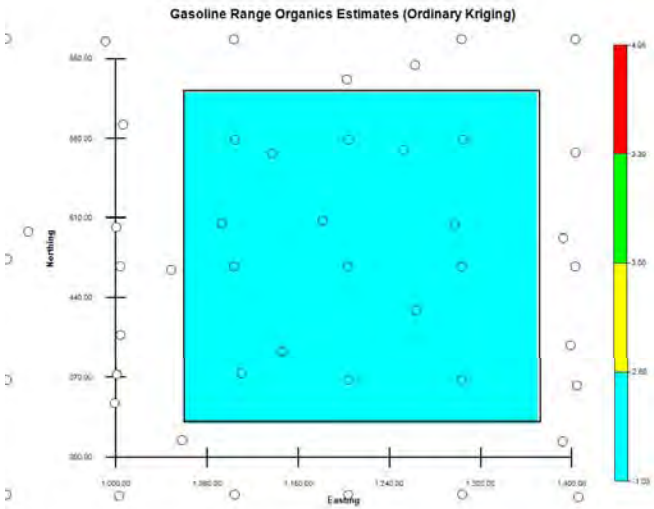


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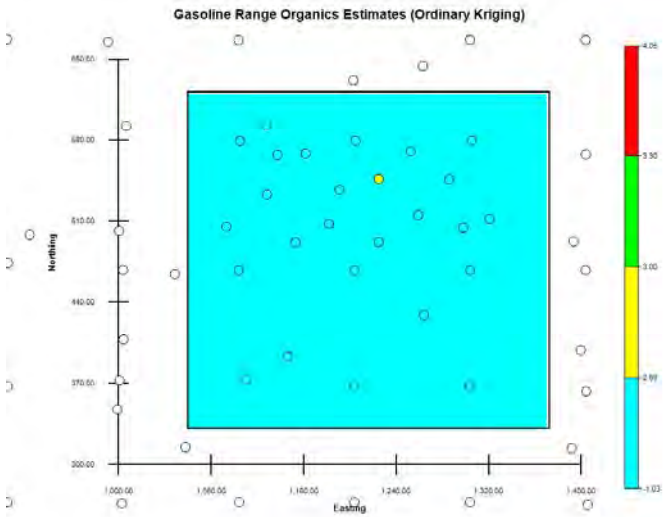
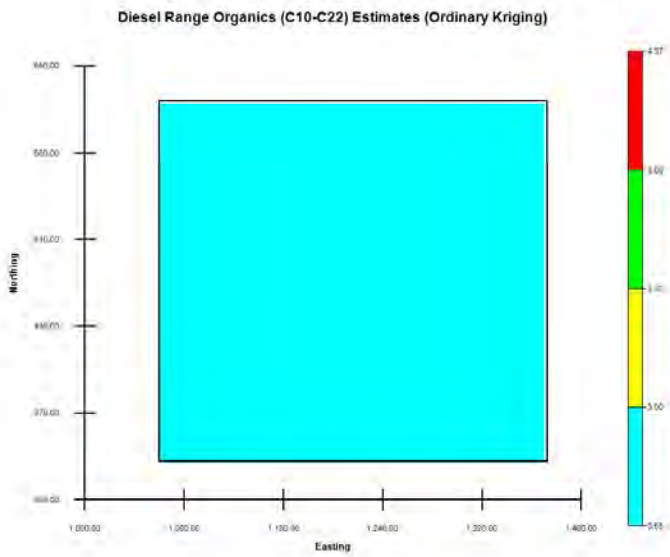



Old and New Data

# Diesel Range organics

# Layer 1

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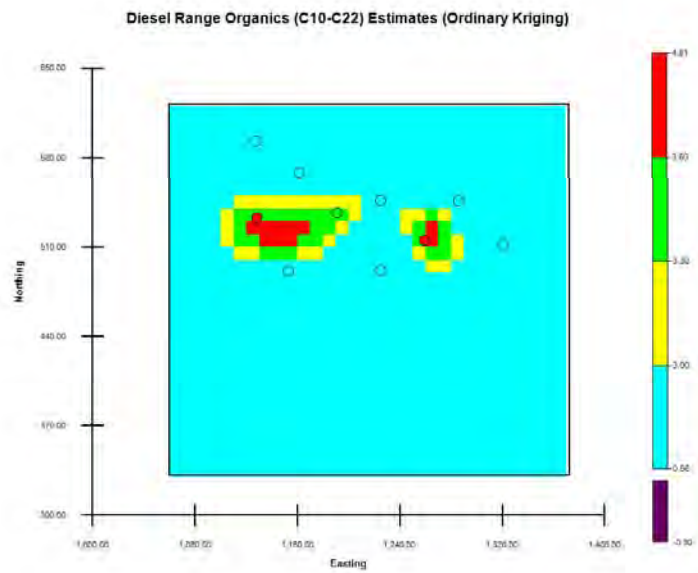


Old and New Data

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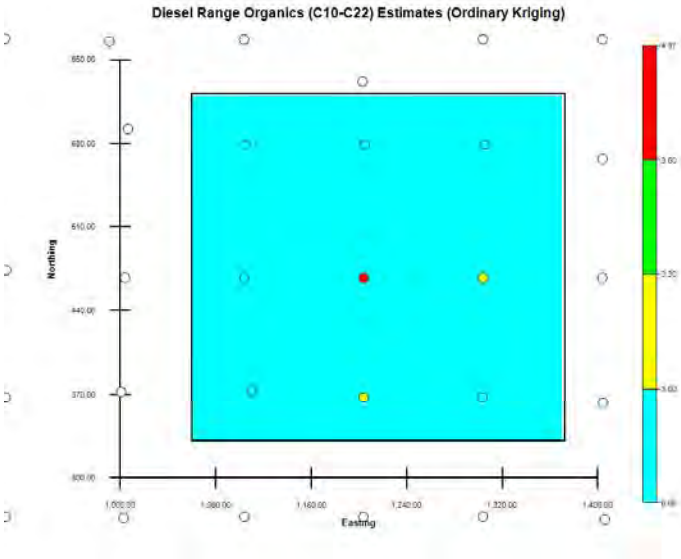


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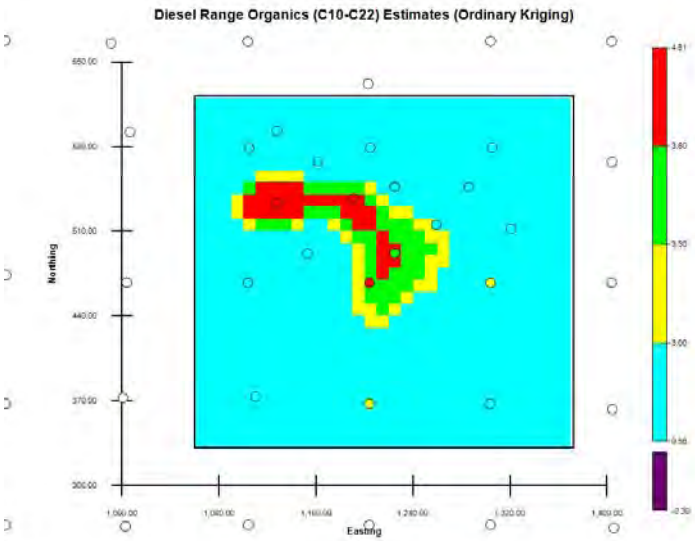


Old and New Data

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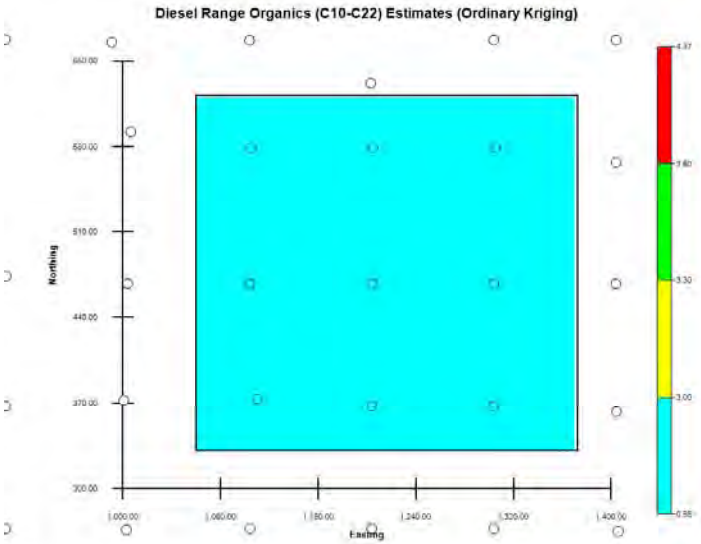


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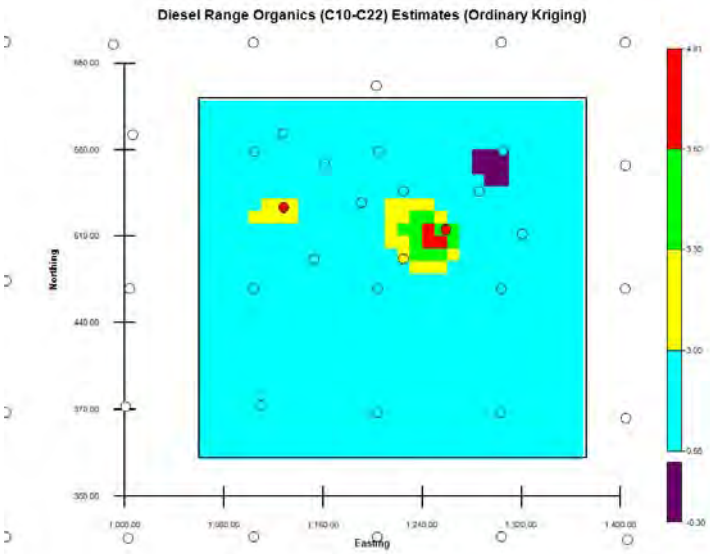


Old and New Data

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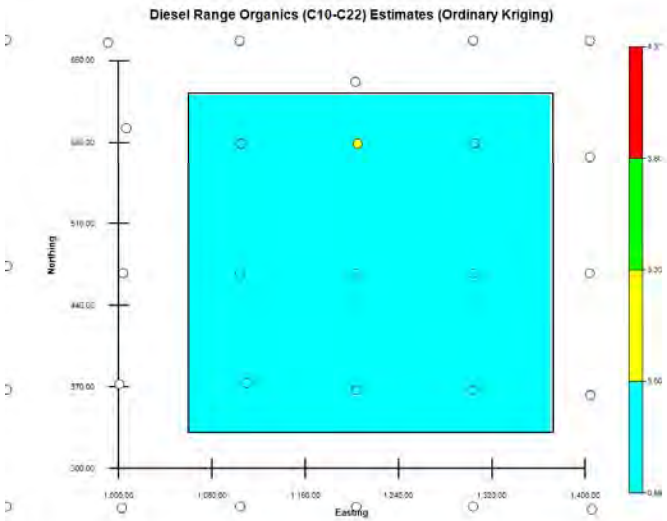


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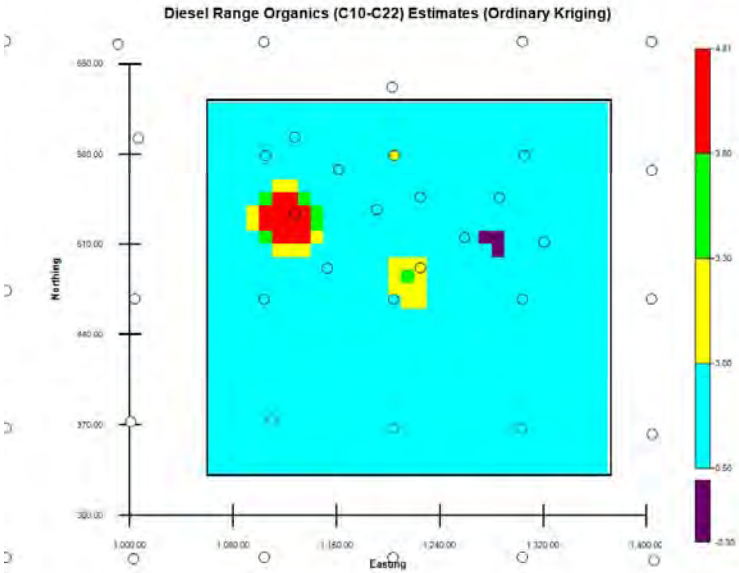
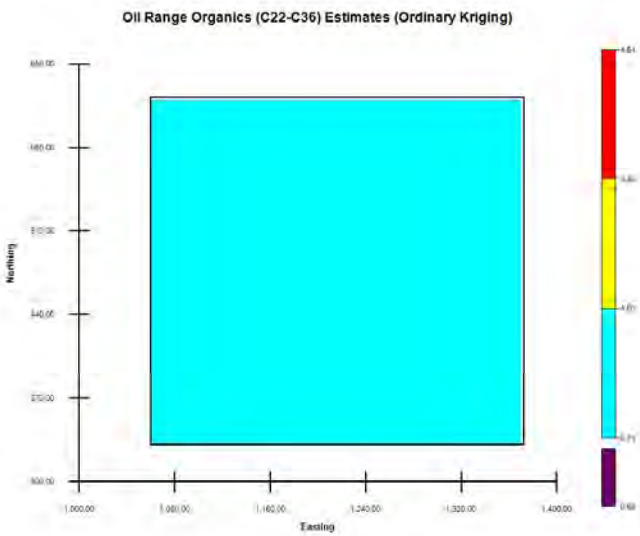



Old and New Data

# Oil Range Organics

# Layer 1

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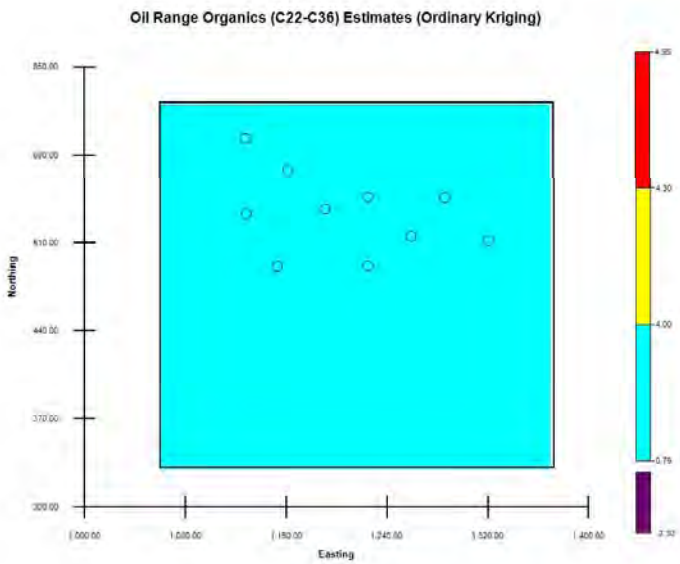
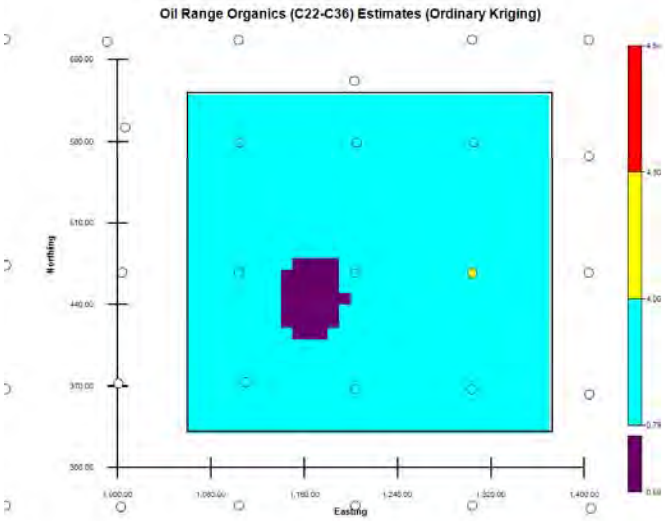



Old and New Data

# Layer 2

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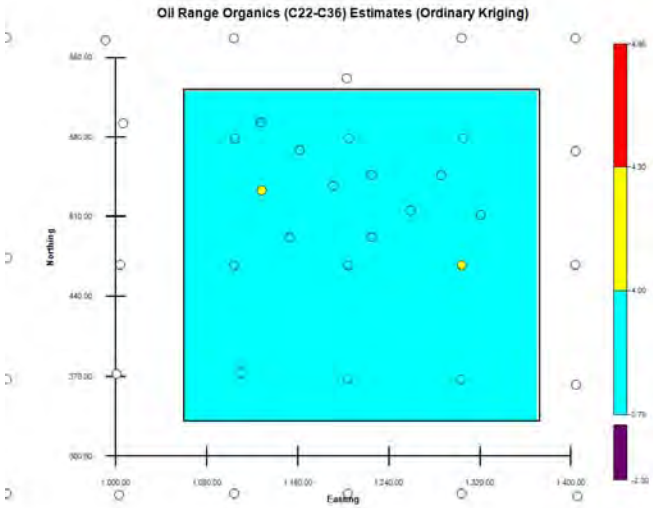
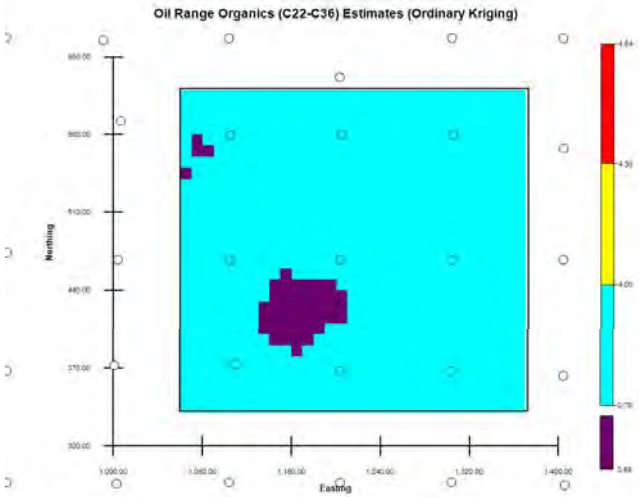



Old and New Data

# Layer 3

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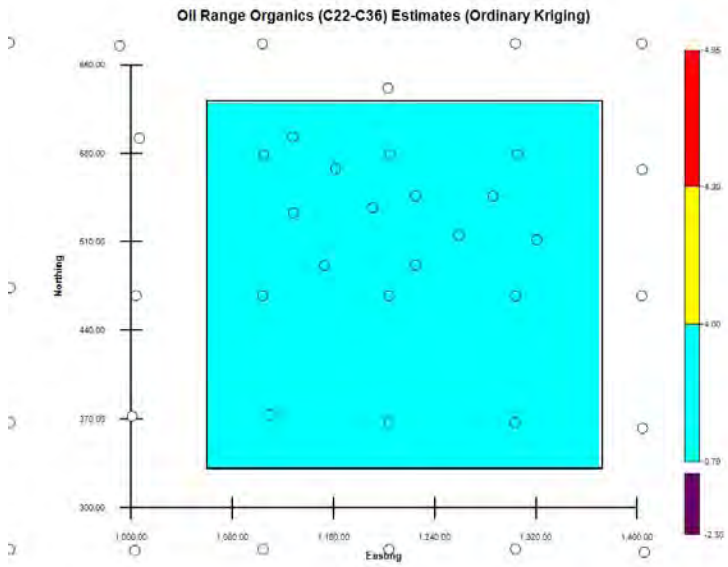
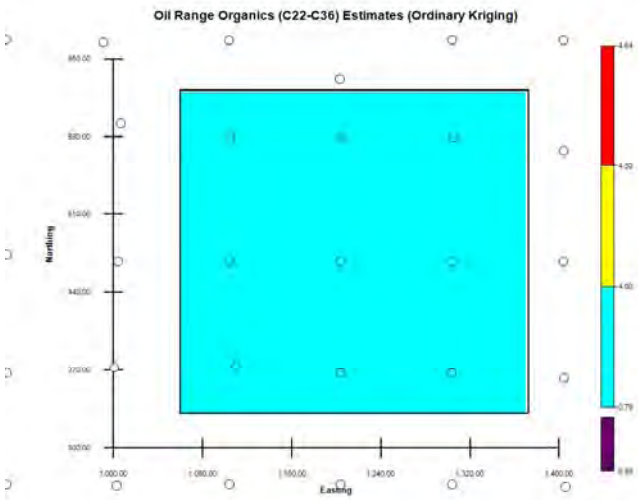



Old and New Data

# Layer 4

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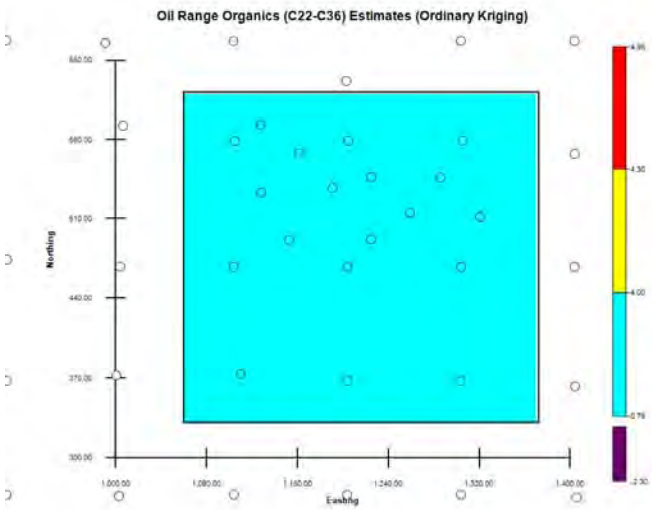
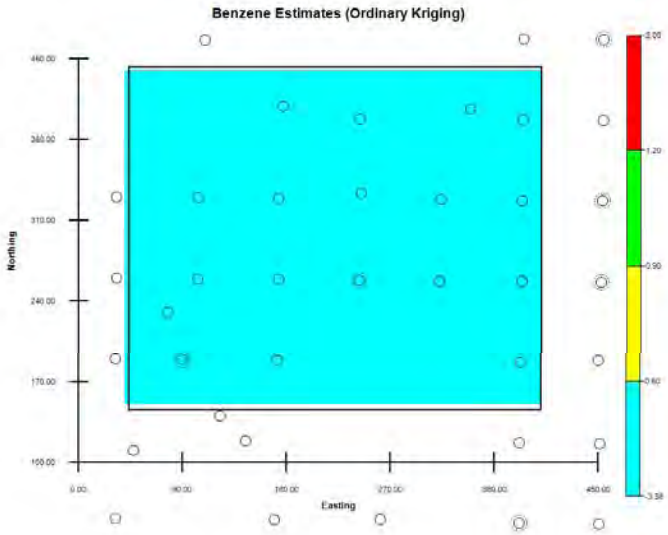



Old and New Data

Area C

# Benzene

# Layer 1

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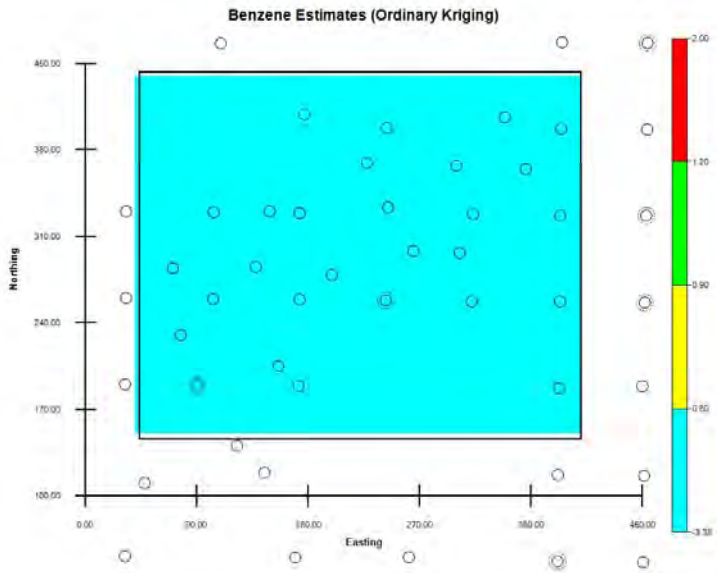


Old and New Data

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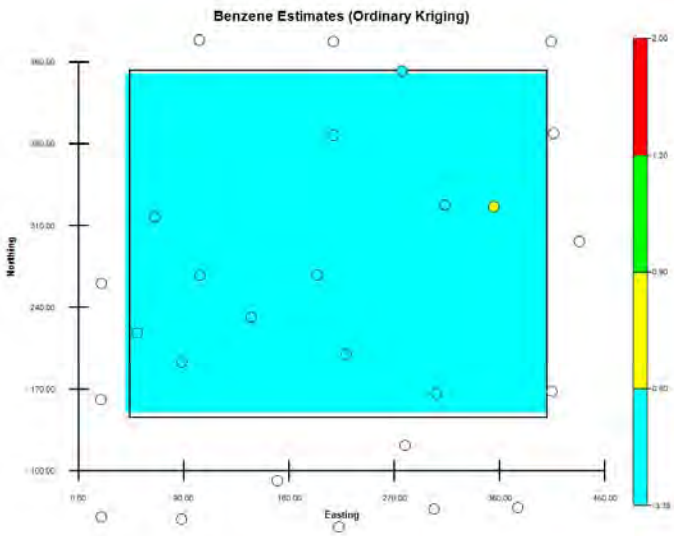


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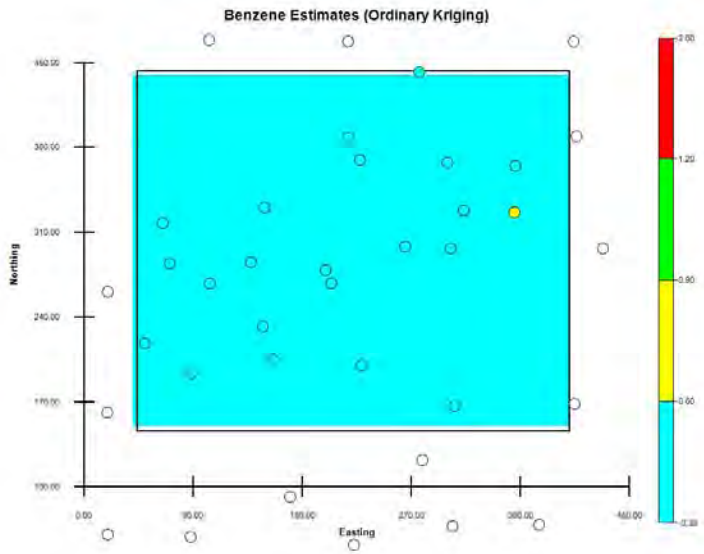
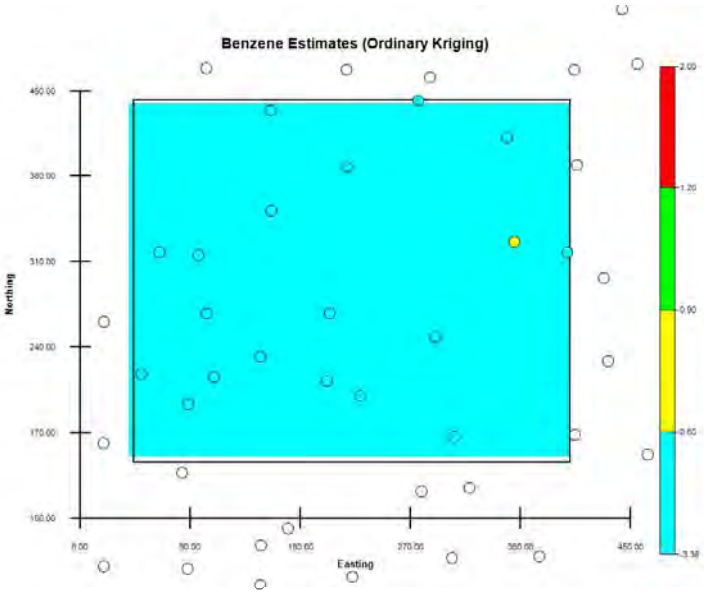



Old and New Data

# Layer 3

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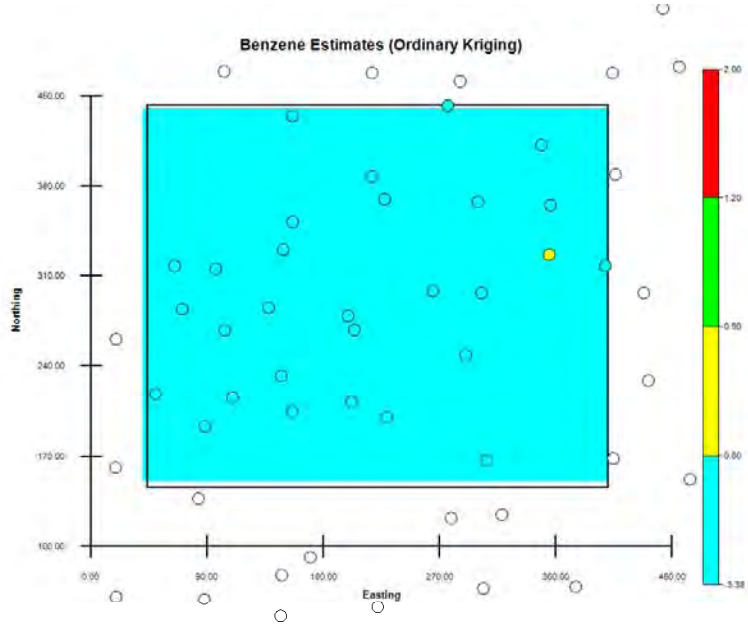
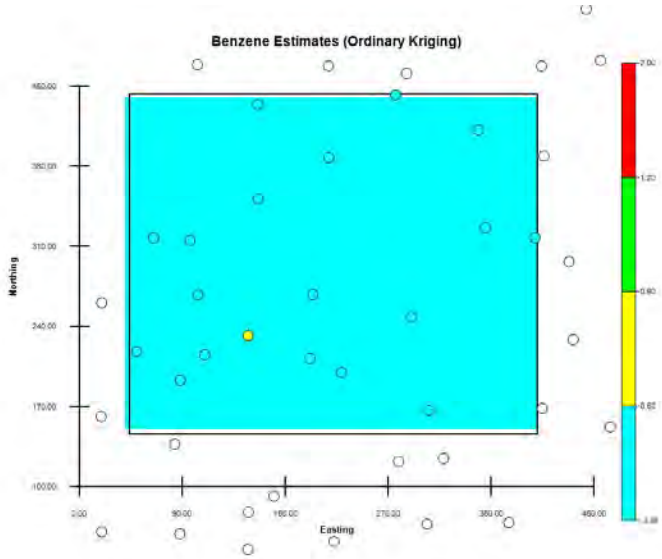



Old and New Data

# Layer 4

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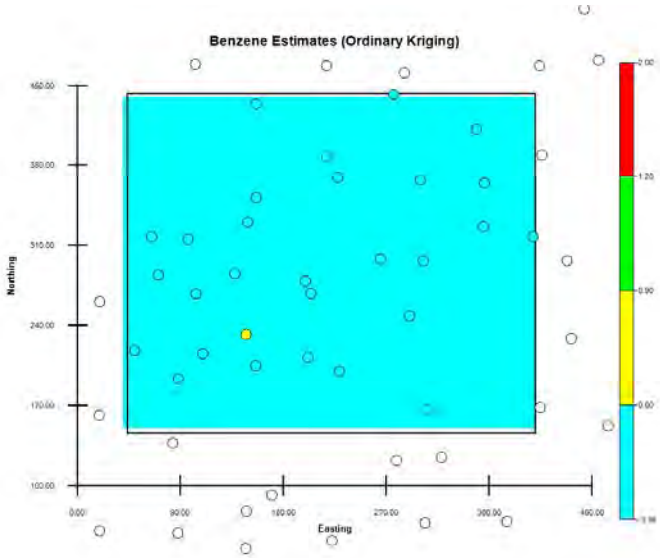
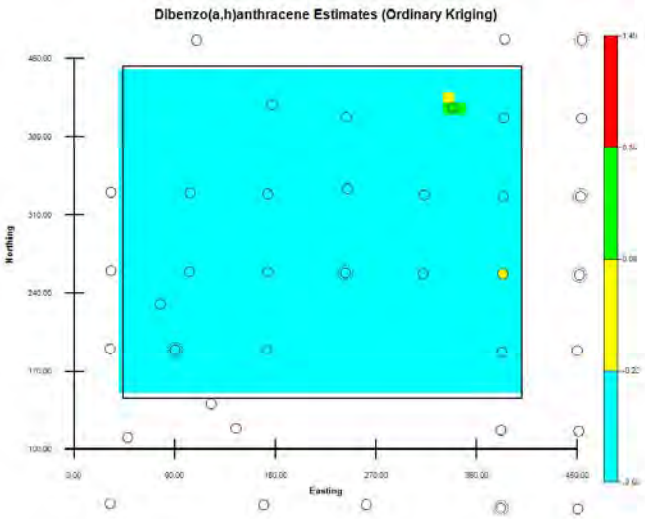



Old and New Data

Dibenzo(a,h)anthrazene

# Layer 1

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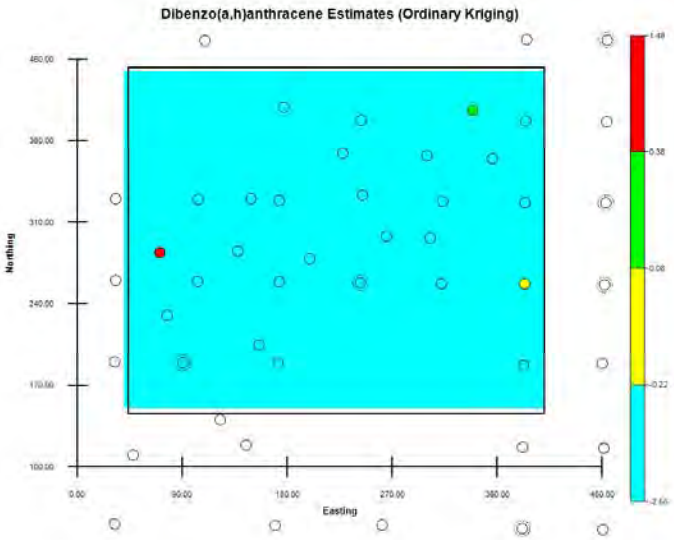
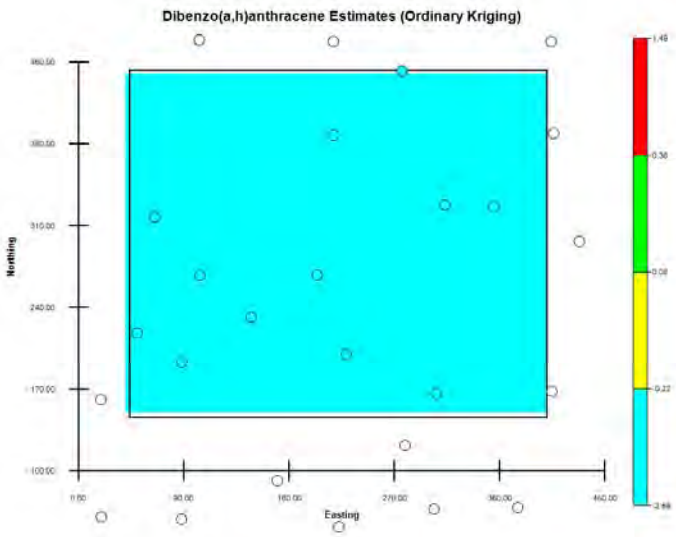



Old and New Data

# Layer 2

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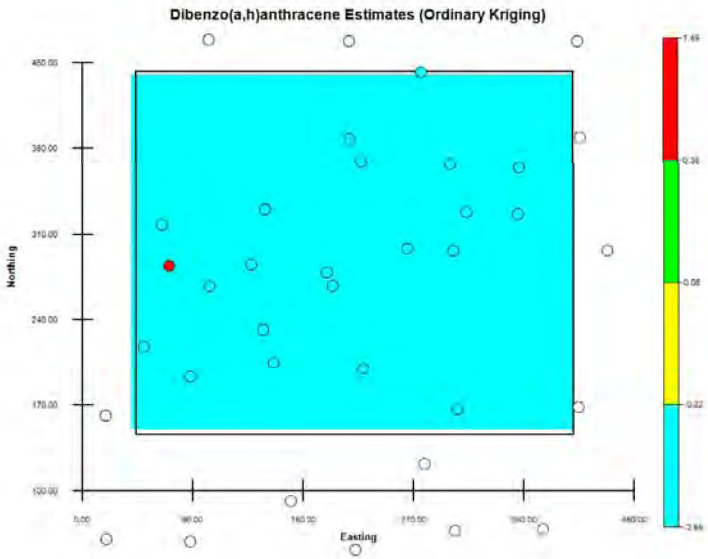
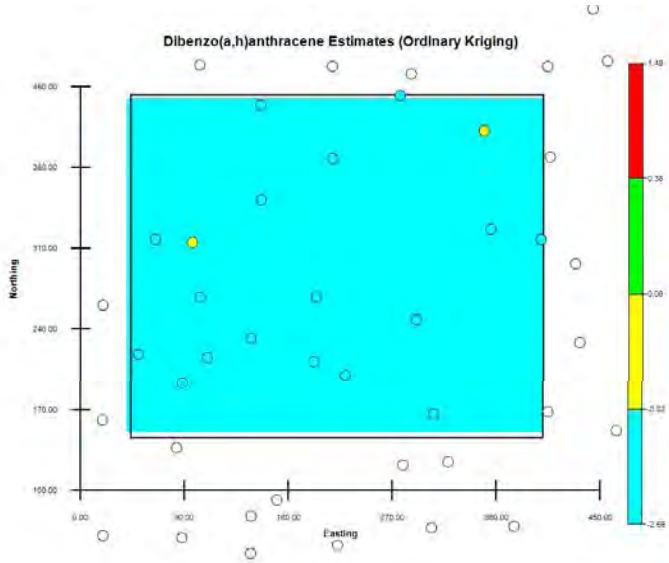



Old and New Data

# Layer 3

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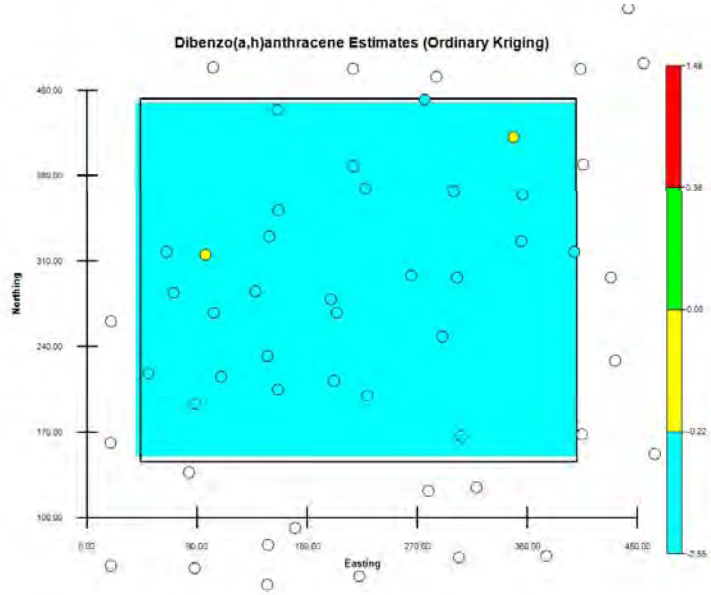
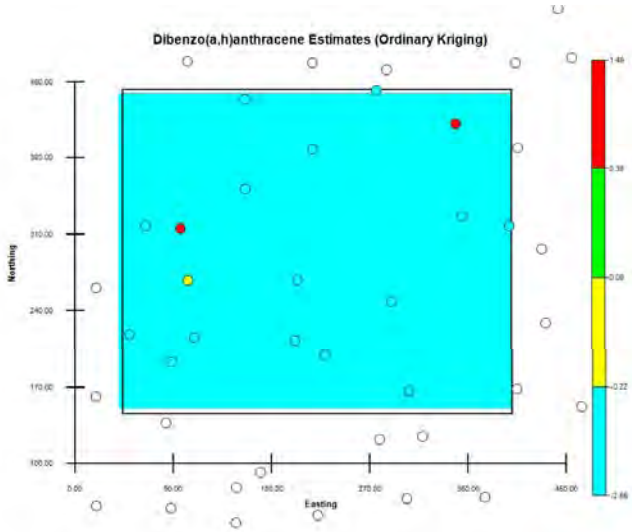



Old and New Data

# Layer 4

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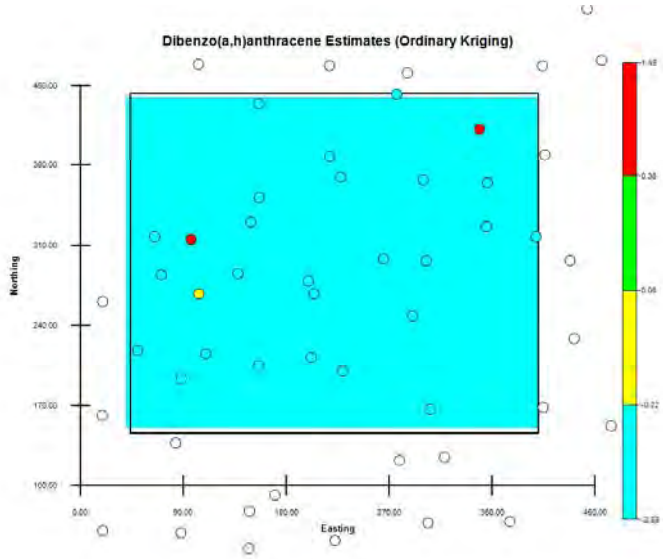
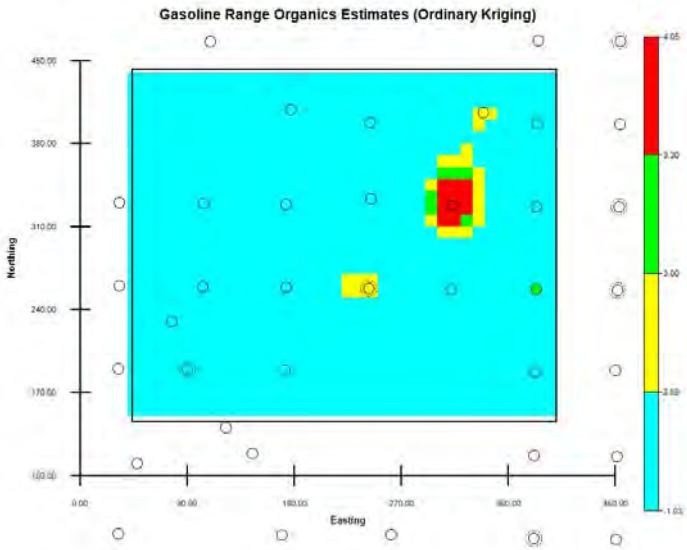



Old and New Data

# Gasoline Range Organics

# Layer 1

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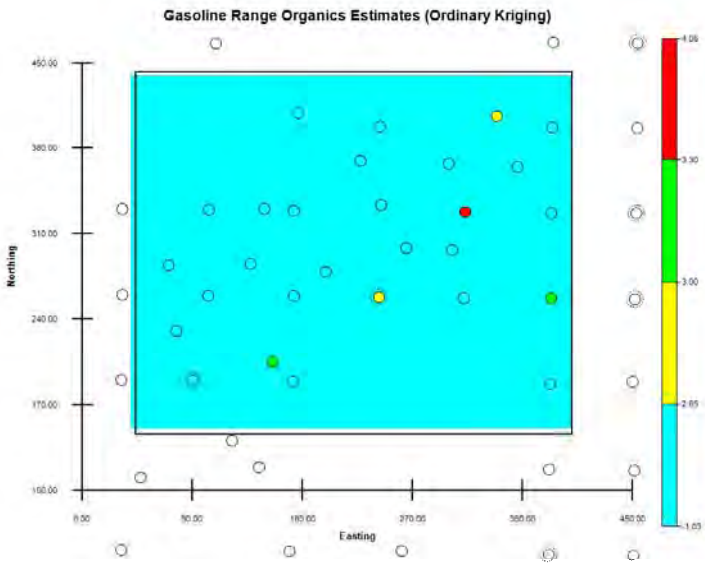
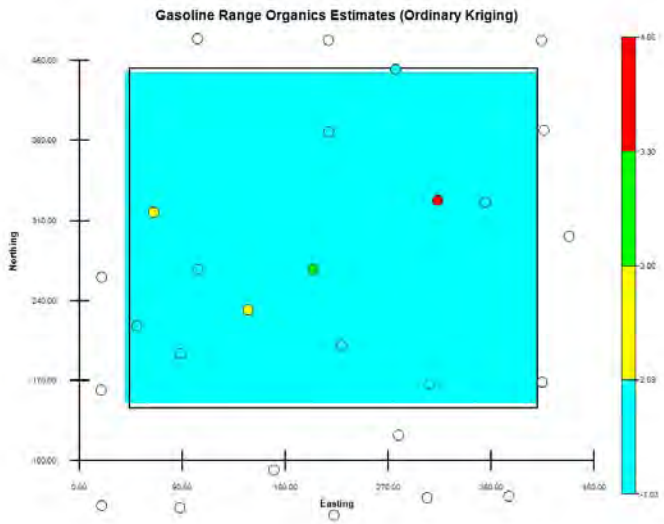



Old and New Data

# Layer 2

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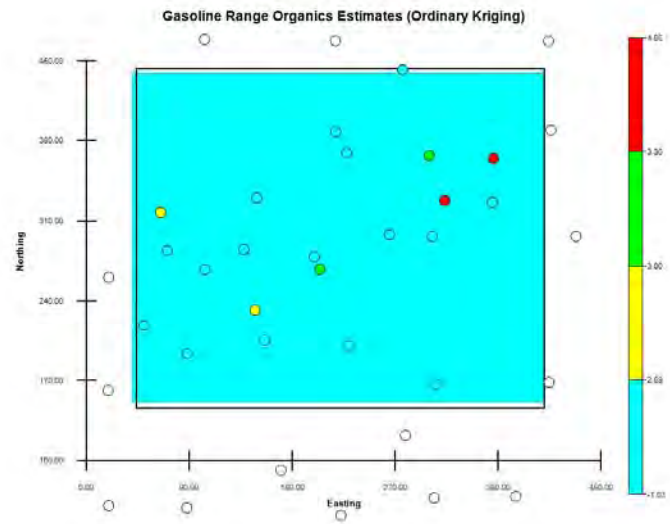
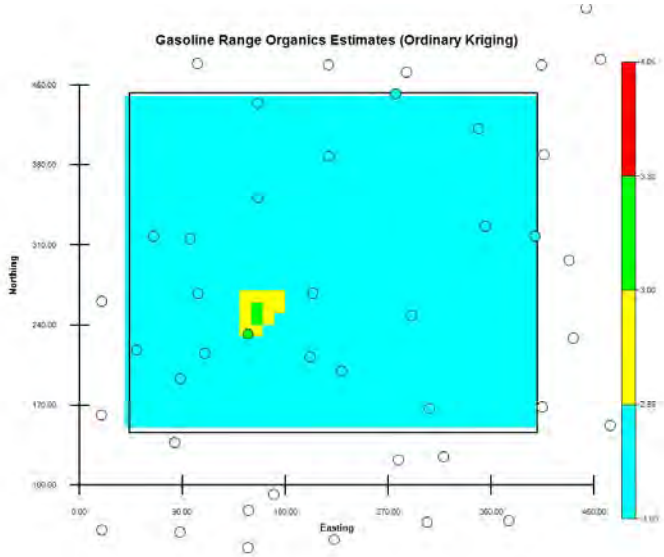
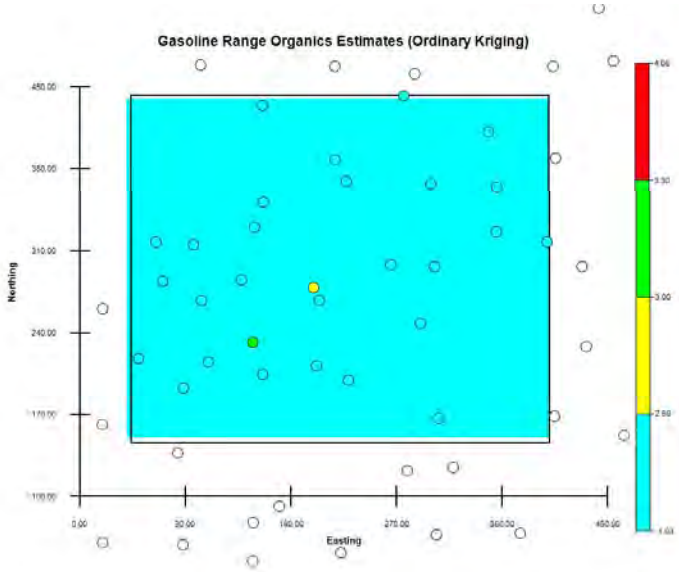



Old and New Data

# Layer 3

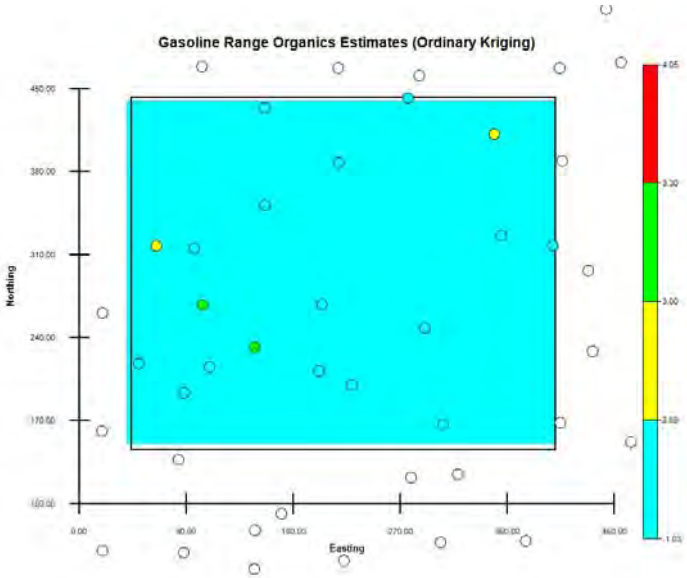



Old Data




Old and New Data

# Layer 4

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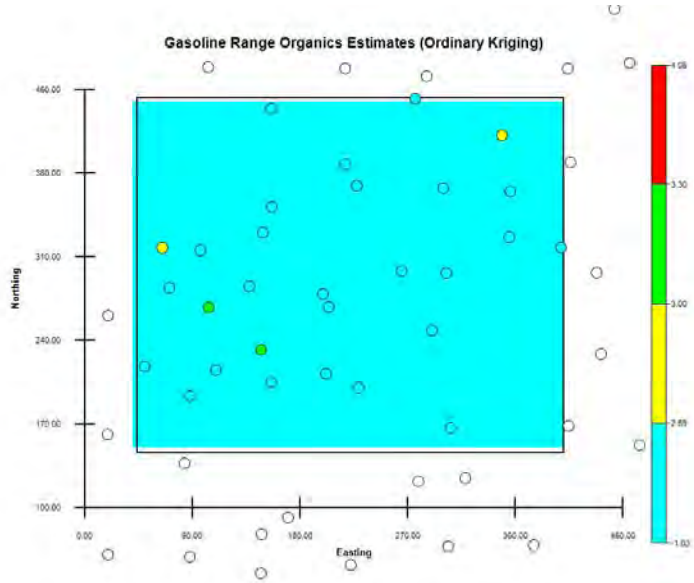
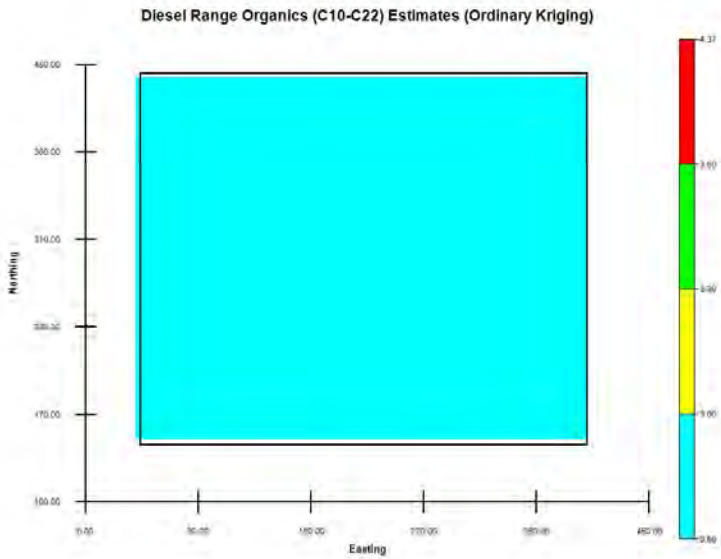



Old and New Data

# Diesel Range Organics

# Layer 1

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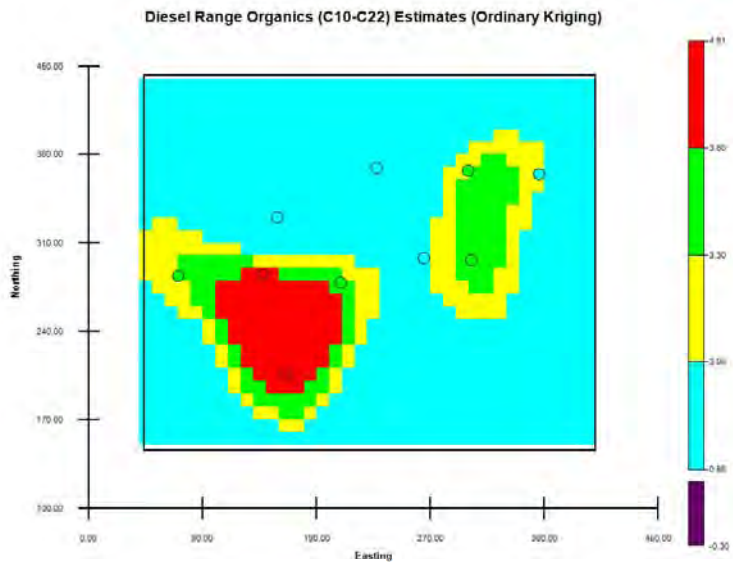
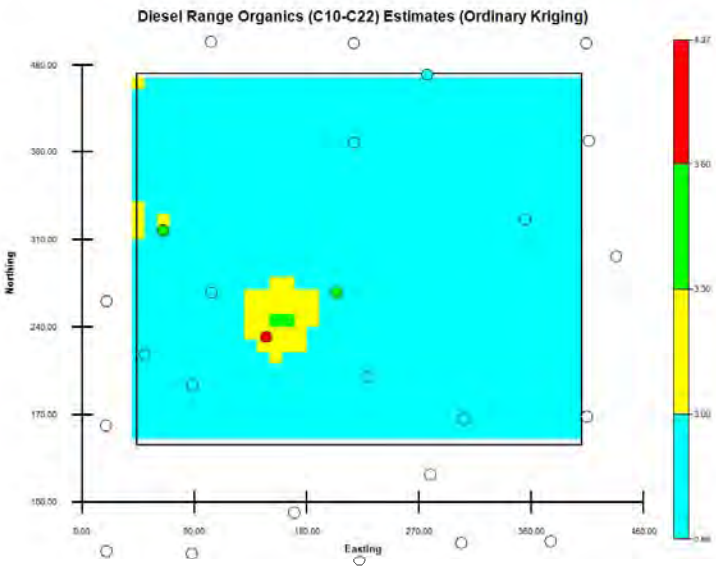
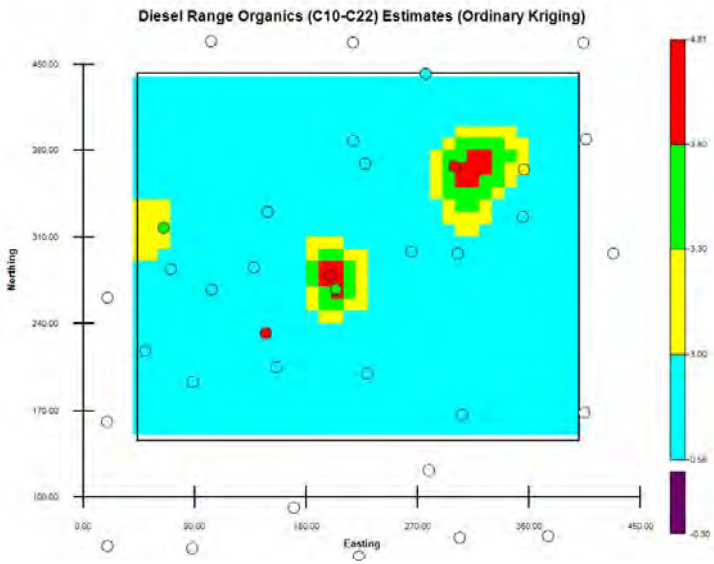



Old and New Data

# Layer 2

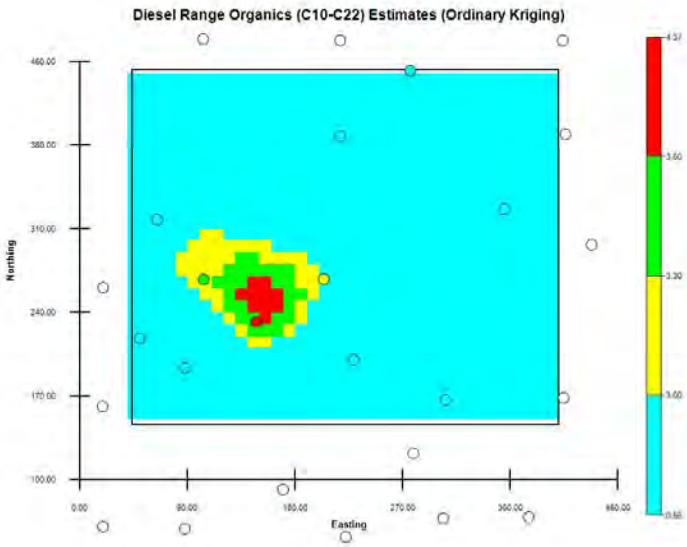



Old Data

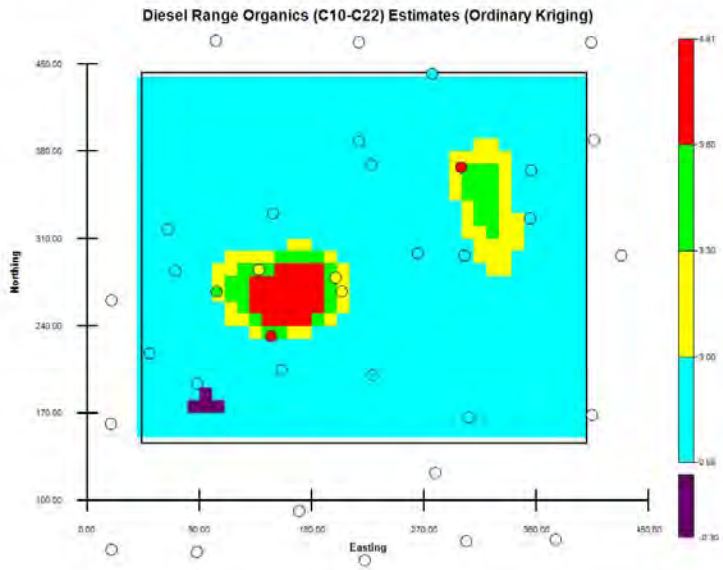



Old and New Data

# Layer 3

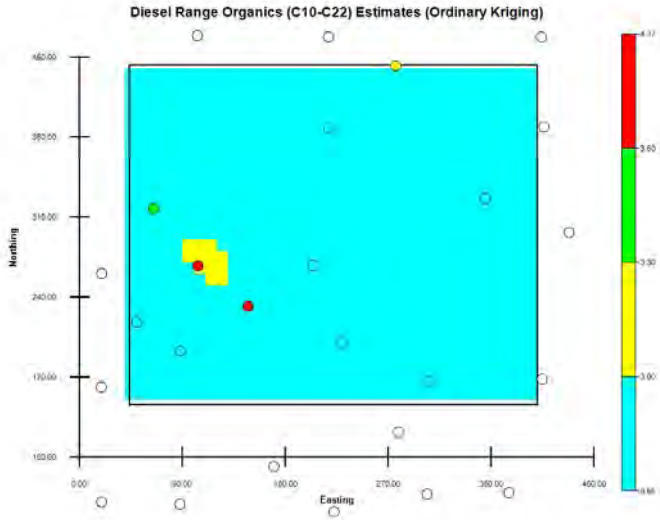



Old Data




Old and New Data

# Layer 4

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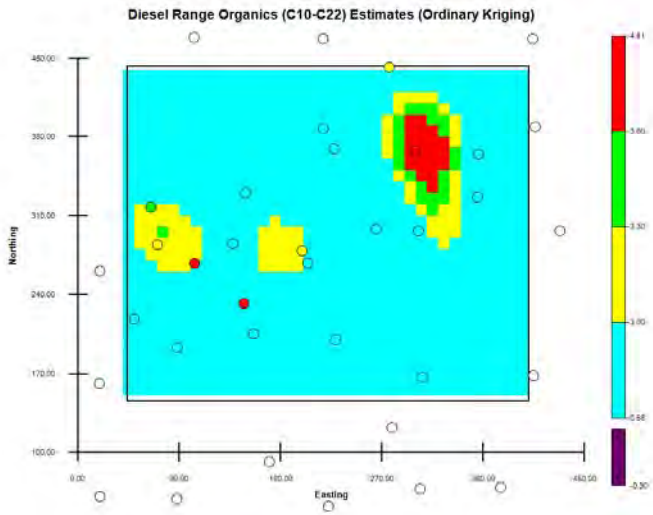
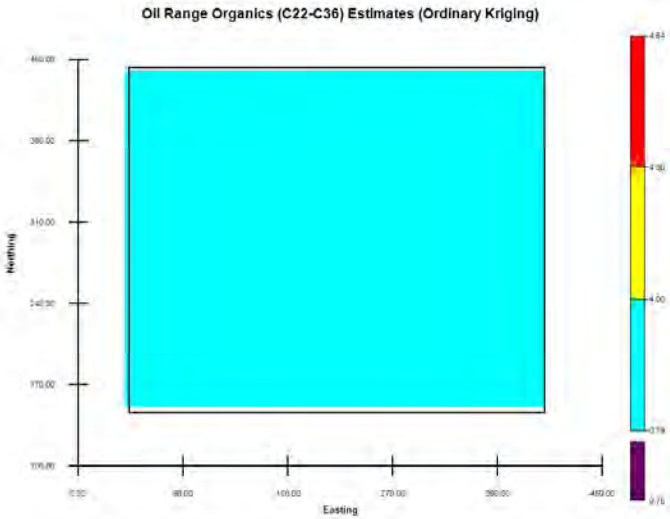


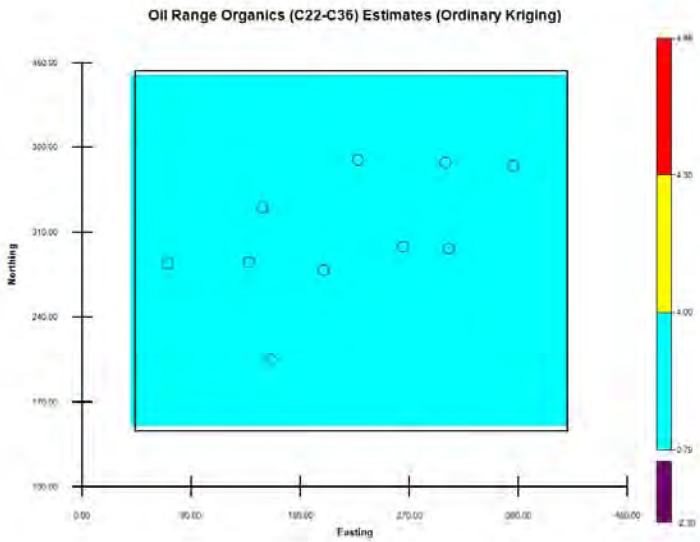

Old and New Data

# Oil Range Organics

# Layer 1

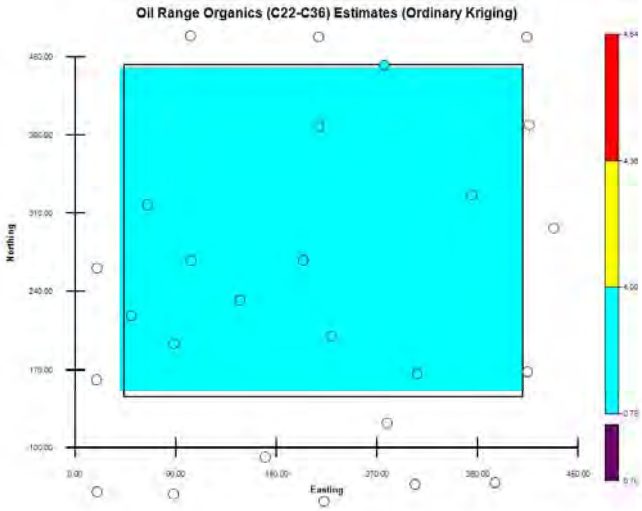



Old Data

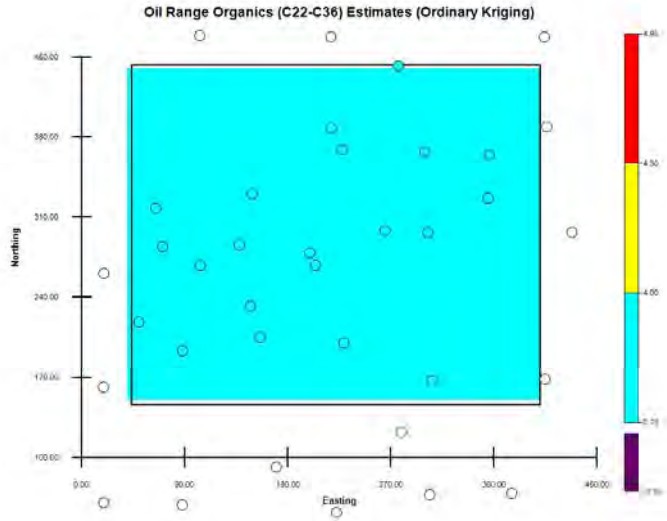



Old and New Data

# Layer 2

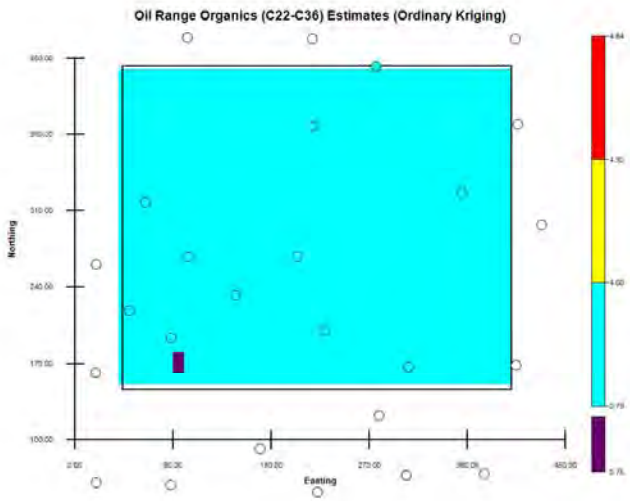



Old Data

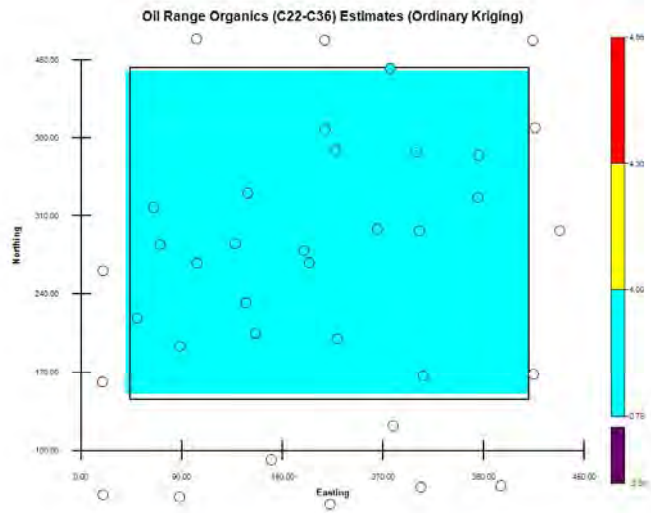



Old and New Data

# Layer 3

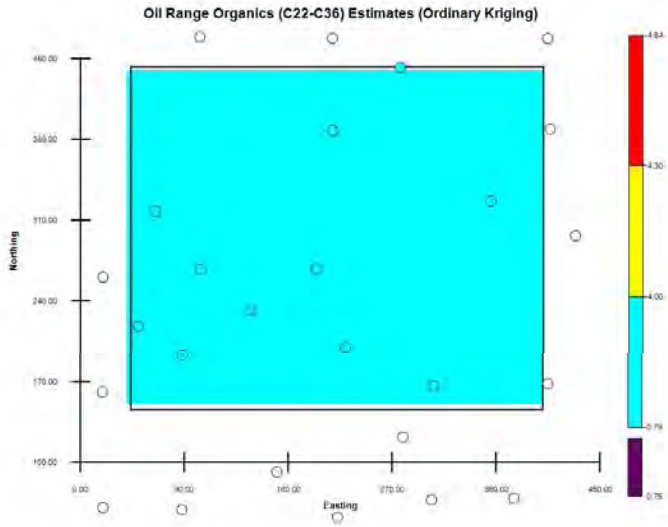



Old Data

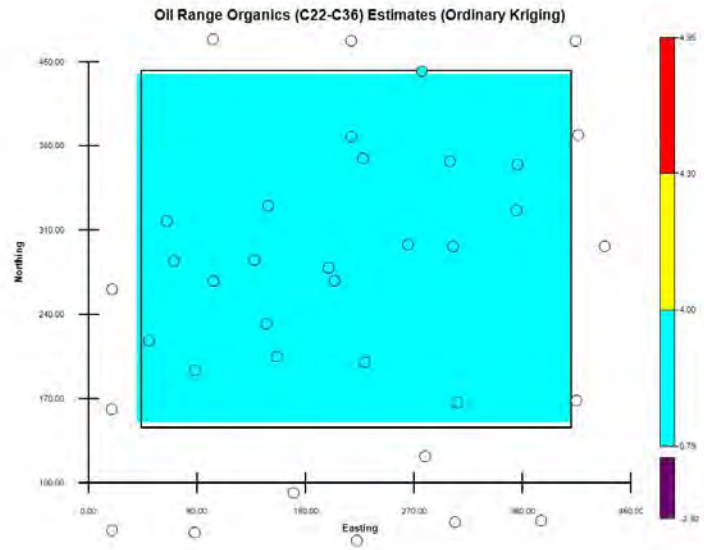



Old and New Data

# Layer 4




Old Data




Old and New Data

# Conclusion

- Similar to previous analysis, Dibenzo(a,h) anthracene and Diesel Range organics are most critical chemicals.

# Excavation

- Dibenzo in area A : 40,000 cubic ft
- Diesel in area A : 100,00 cubic ft
- Diesel in area B: 60,000 cubic ft
- Diesel in area C : 130,000 cubic ft

Including overburden