

**SITE INVESTIGATION REPORT  
2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA**

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**PREPARED FOR:**

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December 26, 2012  
Project No. 401896004

SLIC # RO0000382  
GeoTracker Global ID # T0600100980

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December 26, 2012  
Project No. 401896004

Ms. Carolyn C. Fong  
Trustee, Lily A. Chun 1991 Trust  
720 East Hermosa Drive  
San Gabriel, California 91775

Subject: Site Investigation Report  
2301 Santa Clara Avenue  
Alameda, California  
SLIC # RO0000382  
GeoTracker Global ID # T06000100980

Dear Ms. Fong:

Ninjo & Moore is pleased to present this Site Investigation (SI) Report for the property located at 2301 Santa Clara Avenue in Alameda, California.

The purpose of the SI Report is to determine the presence and extent of potential impacts to soil, soil gas, and indoor air at the site and adjacent properties from fuel related compounds historically used on the subject property.

The scope of services was performed in general accordance with Ninjo & Moore's work plan dated August 27, 2012.

We appreciate the opportunity to be of service to you on this project.

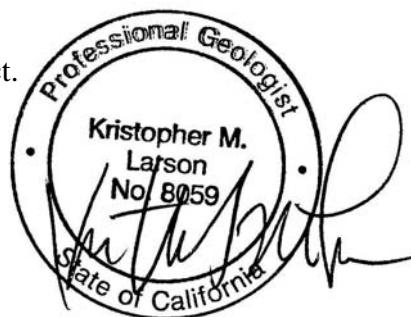
Sincerely,  
**NINYO & MOORE**



Peter Sims  
Project Environmental Geologist

PDS/KML/csj

Distribution: (1) Addressee (via e-mail)



Kris M. Larson, PG 8059  
Principal Environmental Geologist

December 26, 2012

To: Mr. Jerry Wickham  
Senior Hazardous Materials Specialist  
Alameda County Department of Environmental Health  
Health Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: Perjury Statement  
Site Investigation Report  
Bill Chun Service Station  
2301 Santa Clara Avenue  
Alameda, California 94501  
SLIC # RO0000382  
Geotracker Global ID # T0600100980

I declare, under penalty of perjury, that the information or recommendations contained in the attached report are true and correct to best of my knowledge.

*Carolyn Fong, Trustee*

Ms. Carolyn Fong  
Trustee for Lily A. Chun 1991 Trust  
711 E. Hermosa Drive  
San Gabriel, California 91775

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## **1. INTRODUCTION**

Ninyo & Moore has performed soil, soil gas, and indoor air sampling for a Site Investigation (SI) for the property located at 2301 Santa Clara Avenue in Alameda, California (site). The SI Report was performed in general accordance with the scope of services and methodology presented in the Alameda County Environmental Health (ACEH) approved work plan dated August 27, 2012.

The objectives of this sampling report are to determine the presence and extent of potential impacts to soil, soil gas, and indoor air at the site and adjacent properties. The purposes of this report are to document the field methods used collect analytical data, present the results of analytical testing, and provide conclusions and recommendations.

### **1.1. Site Description**

The site is located at 2301 Santa Clara Avenue, in Alameda, County of Alameda, California, as presented on Figure 1. The site is located in a mostly commercial area with some residential buildings. The site vicinity is presented on Figure 2. The rectangular lot measures approximately 65 feet long by 40 feet wide. The site is bordered by Oak Street to the northwest, a meeting hall and residences to the northeast and east, a clothing store to the southeast (formerly Towata Flowers) and by Santa Clara Avenue to the southwest.

### **1.2. Background**

The site is a former gasoline service station, and has been the subject of numerous subsurface assessments, remedial action plans, groundwater monitoring and closure petitions since 1992, when three gasoline underground storage tanks (USTs) were removed from the site (Parker Environmental Services, 1992). The site is listed as a Leaking Underground Storage Tank (LUST) facility on the Regional Water Quality Control Board Geotracker database and as a Leaking Underground Fuel Tank (LUFT) and Spills, Leaks, Investigation and Cleanup (SLIC) facility on the ACEH database.

Based on an ACEH Case File Review and a Monitoring Report dated August 8, 2011 (Goldman, 2011), ACEH stated the following in a letter dated September 8, 2011:

- Previous site investigation activities have shown that a significant mass of petroleum hydrocarbons remains at the site has migrated to the east beneath an adjacent commercial and residential building;
- Soil gas sampling at the adjacent property has detected volatile organic compounds (VOCs) at highly elevated concentrations that exceed applicable screening levels for potential vapor intrusion to indoor air;
- Indoor air sampling in the adjacent building has detected VOCs at concentrations that exceed indoor air screening levels; and
- The site requires both additional investigation and remediation.

Ninyo & Moore conducted a site and well inspection, and subsequently prepared a Well Inspection Report and Groundwater Sampling Plan, dated February 23, 2012. In a letter dated March 20, 2012, the ACEH requested that well installation and groundwater sampling be implemented and that a Well Installation and Groundwater Sampling Report be prepared and submitted.

In June 2012, Ninyo & Moore prepared a Well Installation and Groundwater Sampling Report for the site. The report discussed environmental tasks performed in May 2012, including abandoning or replacing groundwater monitoring wells that were incorrectly screened, blocked, or damaged, and conducting a groundwater monitoring event for new (replacement) and existing site wells. Groundwater monitoring results included reported concentrations of TPHg ranging from less than the laboratory detection limit in wells MW-9, MW-10, and MW-14 to 160,000 micrograms per liter (ug/l) in well MW-7R. Reported concentrations of benzene in groundwater ranged from less than the laboratory detection limit in wells MW-9, MW-10, MW-13, MW-14, and MW-16 to 14,000 (ug/l) in well MW-7R. The area with the highest concentrations of TPHg and benzene were reported in wells surrounding the former USTs, with the highest results detected in well MW-7R. The report recommendations included performing soil, soil gas, and indoor air sampling; monthly liquid petroleum hydrocarbon (LPH) monitoring and removal; and semi-annual groundwater monitoring.

Based on recommendations included in the June 2012 Ninyo & Moore report, the ACEH issued a Directive letter in July 2012 requesting a Work Plan for the additional environmental services discussed in the Ninyo & Moore report. Subsequently, Ninyo & Moore prepared the Soil, Soil Gas, and Indoor Air Sampling; Monthly Liquid Phase Petroleum Hydrocarbon Monitoring; and Semi-Annual Groundwater Monitoring Work Plan, dated August 27, 2012 which included monthly liquid petroleum hydrocarbon (LPH) monitoring and semi-annual groundwater monitoring. A copy of the Directive letter is included in Appendix A.

In December 2012, Ninyo & Moore prepared a Semi-Annual Groundwater Monitoring Report for the site detailing LPH and groundwater monitoring performed at the site. LPH was not detected in the monitoring wells. Dissolved phase TPHg and/or VOC concentrations in groundwater exceeded their respective ESLs in several wells, including MW-4R through MW-7R, MW-8, MW-11R, MW-12 and MW-16. Concentrations had slightly decreased from the May 10, 2012 groundwater sampling event with the exception of increases in benzene in MW-7R and MW-11R; ethylbenzene in MW-5R, MW-7R and MW-11R; total xylenes in MW-5R and MW-7R; toluene in MW11R; and naphthalene in MW-11R. The dissolved-groundwater plume appeared to be migrating off site toward the west to southwest and east to northeast directions from the former UST locations forming a lens-shaped plume. Based on the increasing lateral extent and COC concentrations in the dissolved phase groundwater plume, a source of petroleum remained in the subsurface at the site, most likely as residual petroleum in soil. The report recommendations included continuing semi-annual groundwater monitoring and ceasing monthly LPH monitoring.

### **1.3. Site Topography**

According to the United States Geological Survey, Oakland East Quadrangle, 7.5-minute Topographic Map (Revised 1997), the site has an elevation of approximately 30 feet above mean sea level (MSL) and the topography at the site is generally flat. The regional topographic gradient is to the southwest.

#### **1.4. Site Geology**

The site is located within the Coast Ranges Geomorphic province. The Coast Ranges extend about 600 miles from the Oregon border to the central coast of California. The Coast Ranges are northwest trending and are underlain by marine and non-marine sedimentary rocks. These sedimentary units are underlain by either the Mesozoic Franciscan Formation (metamorphosed sea-floor deposits) or the granitic Salinian Block (Norris and Webb, 1990).

Observations of continuous soil cores from borings advanced during this SI revealed that a minor amount of fill material is present beneath the paved surface of the site in the area of the excavated USTs and boring NMB-8. The fill material consisted of yellowish brown to reddish brown, poorly graded sand which extended to approximately 8.0 feet below ground surface (bgs) in boring NMB-8. Fill material was also encountered in boring NMB-11 beneath the asphalt paved surface to approximately 2 feet bgs. The fill material consisted of dark brown silty sand with gravel and concrete debris in boring NMB-11. Native material encountered throughout the site consisted primarily of moderate brown, silty sand to the total depth explored of 10 feet bgs. Greenish gray staining was encountered in the borings NMB-2, NMB-3, NMB-5 through NMB-10, and NMB-12 beginning at 5 feet bgs to the total depth explored of 10 feet bgs. Petroleum hydrocarbon odors were encountered in the borings NMB-2, NMB-3 through NMB-10, and NMB-12 beginning at approximately 5 feet bgs to the total depth explored of 10 feet bgs. Boring logs are presented in Appendix B and cross sections are presented in Figures 4 and 5.

#### **1.5. Site Hydrogeology**

During the advancement of soil borings at the subject site on November 1 and 2, 2012, groundwater was not encountered to the maximum depth explored of approximately 10 feet bgs across the site. Historic groundwater levels were measured from approximately 6.6 to 12.4 feet bgs in monitoring wells across the site. Groundwater flow direction is historically variable from the southwest to the east in the site vicinity and has appeared to flow to the southwest within the site boundaries.

## **2. SITE INVESTIGATION**

Ninyo & Moore conducted pre-field activities and investigative field activities. These activities are described below.

### **2.1. Health and Safety Plan**

Prior to conducting field activities, Ninyo & Moore updated a Site Specific Health and Safety Plan (HASP) previously prepared for the site, as required in 29 Code of Federal Regulations (CFR) Part 1910.120. The HASP addressed health and safety concerns with respect to the activities conducted by Ninyo & Moore and its subcontractors. A copy of the HASP is available upon request.

### **2.2. Permits**

A drilling permit was obtained from the Alameda County Public Works Agency for the advancement of 12 soil borings. A copy of the Permit is included in Appendix A.

### **2.3. Underground Service Alert and Utility Clearance**

Ninyo & Moore marked the boundaries of the site and contacted Underground Services Alert (USA) on October 29, 2012, to mark the locations of subsurface utilities entering the site, prior to the initiation of drilling activities. In order to minimize the chance of damaging a subsurface utility, the private utility locator Precision Locating of Brentwood, California was contracted. Precision Locating utilized geophysical survey methods to clear each proposed boring location on October 5, 2012.

### **2.4. Field Staff and Subcontractors**

Project Geologist, Mr. Peter Sims, supervised the advancement of soil borings and performed the collection of soil, soil gas, and indoor air samples on November 1, 2, 12, and 13, 2012. Field activities were overseen by Ninyo & Moore's Principal Geologist, Mr. Kris Larson, a California Professional Geologist.

Precision Locating of Brentwood, California, conducted the utility clearance activities. Penecore Drilling of Woodland, California, conducted the drilling activities. Penecore Drilling is a licensed California well drilling contractor (License Number C000002566).

## **2.5. Field Activities**

Field activities included the advancement of twelve soil borings (NMB-1 through NMB-12) for the collection of soil samples. Soil gas sampling probes were installed at 5 feet bgs in six of the 12 soil borings (NMB-1, NMB-3, NMB-6, NMB-9, NMB-11, and NMB-12) and below the sub-slab (NMSS-1, NMSS-2, and NMSS-3) for the collection of soil gas samples. Four indoor air samples (NMIA-2, NMIA-3, NMIA-5, and NMIA-6) and two ambient air samples (NMIA-1 and NMIA-4) were collected. Sampling activities were performed across the site and off-site at the northeast and southeast adjacent properties. The sample locations are indicated on Figure 3.

### **2.5.1. Soil Sample Collection**

Due to the concrete surface at boring locations NMB-6 and NMB-12, a concrete coring machine was used to penetrate the surface at each boring location. The concrete thickness varied from 4 to 5 inches. The soil borings were advanced by a track-mounted Geoprobe® type direct push rig. Borings NMB-1 through NMB-12 were advanced to a depth of approximately 10 feet bgs. Soil cores were obtained continuously during the advancement of the soil borings, and soil was screened in the field using a photo-ionization detector (PID) meter to evaluate the presence of volatile organic compounds (VOCs) in soil. Soil characteristics, lithology and PID readings, were recorded on boring logs, which are presented in Appendix B.

Soil sample depths were selected based on physical signs of impacts such as staining, odors, and/or PID readings. Soil samples were collected from the depth where physical signs of impacts were most pronounced, and from the depth where physical signs of impacts were no longer observed or had attenuated significantly. Soil samples were collected from the acetate liners inside the direct push drill rods by cutting open the liners

and transferring soil from the desired depth into appropriately-appropriately-preserved vials according to the EPA 5035 Method for analysis of total petroleum hydrocarbons as gasoline (TPHg) and VOCs. Soil samples were labeled, placed in individual zip-lock type plastic bags and stored in a cooler on ice under chain-of-custody for delivery to Advanced Technologies Laboratories (ATL), a state certified analytical laboratory located in Signal Hill, California.

### **2.5.2. Soil Sample Laboratory Analysis**

Based on field observations, the following soil samples were laboratory analyzed for TPHg by EPA Method 8015M and VOCs by EPA Method 8260B:

- NMB-1, from 4.5 to 5.0 feet bgs;
- NMB-1, from 9.5 to 10.0 feet bgs;
- NMB-2, from 5.5 to 6.0 feet bgs;
- NMB-2, from 8.5 to 9.0 feet bgs;
- NMB-3, from 6.5 to 7.0 feet bgs;
- NMB-3, from 9.5 to 10.0 feet bgs;
- NMB-4, from 2.5 to 3.0 feet bgs;
- NMB-4, from 5.5 to 6.0 feet bgs;
- NMB-5, from 4.5 to 5.0 feet bgs;
- NMB-5, from 7.5 to 8.0 feet bgs;
- NMB-6, from 4.5 to 5.0 feet bgs;
- NMB-6, from 9.5 to 10.0 feet bgs;
- NMB-7, from 4.5 to 5.0 feet bgs;
- NMB-7, from 6.5 to 7.0 feet bgs;
- NMB-8, from 7.5 to 8.0 feet bgs;
- NMB-8, from 9.5 to 10.0 feet bgs;
- NMB-9, from 7.5 to 8.0 feet bgs;
- NMB-9, from 9.5 to 10.0 feet bgs;
- NMB-10, from 4.5 to 5.0 feet bgs;
- NMB-10, from 7.5 to 8.0 feet bgs;
- NMB-11, from 7.5 to 8.0 feet bgs;
- NMB-11, from 9.5 to 10.0 feet bgs;
- NMB-12, from 7.5 to 8.0 feet bgs; and
- NMB-12, from 9.5 to 10.0 feet bgs.

### **2.5.3. Soil Vapor Sample Collection**

Soil vapor samples were collected from soil vapor probes at 5 feet bgs (NMB-1SV, NMB-3SV, NMB-6SV, NMB-9SV, NMB-11SV, and NMB-12SV) and sub-slab soil vapor probes at 10 inches bgs (NMSS-1, NMSS-2, and NMSS-3). The soil vapor probes at 5 feet bgs were installed by advancing an approximately 2.5-inch diameter steel sampling rod into the subsurface to 10 feet bgs for the collection of soil samples. The steel sampling rod was then withdrawn from the boring and the boring was backfilled with hydrated bentonite grout to 5.5 feet bgs. A stainless steel probe connected to Teflon tubing was emplaced midway within 1 foot of sand pack consisting of #2/12 filter sand. The remainder of the borehole was sealed with hydrated bentonite grout.

Sub-slab soil vapor sampling probes were installed by drilling a 5/8-inch diameter hole through the concrete slab and installing a stainless steel probe connected to Teflon tubing just beneath the slab. The hole in the concrete slab was sealed around the Teflon tubing using hydrated bentonite granules.

At least two hours elapsed between the time the soil vapor sampling probes were completed and purging/sampling began to allow sub-surface vapor conditions to equilibrate. The sampling manifold was connected to the down-hole tubing and leak detection agent (isopropyl alcohol) was introduced to the atmosphere in the sampling shroud surrounding the down-hole tubing and the bentonite seal. Isopropyl alcohol was included in the analysis of the soil gas samples to evaluate whether leaks occurred in the sampling system. The volume of air within the sampling probe, tubing and manifold was purged using a 6-liter purge Summa canister. Subsequent to purging, the soil vapor samples were collected in 1-liter Summa canisters. The flow controllers within the sample manifolds were pre-set by the laboratory to allow a maximum flow rate of 200 milliliters per minute. Sample canisters were stored in the shade and protected from significant changes in temperature while being transported under chain of custody to the laboratory for analysis.

#### **2.5.4. Soil Vapor Sample Laboratory Analysis**

Soil vapor samples collected from 5 feet bgs (NMB-1SV, NMB-3SV, NMB-6SV, NMB-9SV, NMB-11SV, and NMB-12SV) and sub-slab soil vapor probes at 10 inches bgs (NMSS-1, NMSS-2, and NMSS-3) were laboratory analyzed for TPHg, VOCs, and isopropyl alcohol by EPA Method TO-15.

#### **2.5.5. Indoor and Ambient Air Sample Collection**

Indoor air samples were collected from four locations (NMIA-2, NMIA-3, NMIA-5, and NMIA-6) within the buildings northeast and southeast of the site to evaluate potential impacts to indoor air from the TPHg and benzene groundwater plume. The canisters were positioned approximately 4 feet above the ground. Two ambient air samples (NMIA-1 and NMIA-4) were collected to evaluate indoor air versus ambient air conditions; one from an upwind location and one from a downwind location outside the buildings adjacent to the site. The ambient air samples were collected in discrete locations to minimize the likelihood that they would be tampered with. Both the indoor air and ambient air canisters were left open over an approximately 24-hour period.

#### **2.5.6. Indoor and Ambient Air Sample Laboratory Analysis**

Indoor and ambient air samples NMIA-1 through NMIA-6 were analyzed for TPHg and VOCs by EPA Method TO15.

### **2.6. Decontamination Procedures**

All equipment that came into contact with potentially contaminated soil was decontaminated consistently to assure the quality of samples collected. Disposable equipment intended for one-time use was not decontaminated. Decontamination occurred prior to and after each use of a piece of equipment. All drilling and sampling devices used were decontaminated using a steam cleaner or three bucket wash consisting of a rinse and scrub in tap water, rinse and scrub in an appropriate non-phosphate based detergent solution, and final rinse in distilled water. Nitrile gloves were changed between each sample collection to minimize the likelihood of cross contamination.

## **2.7. Investigation Derived Waste Disposal**

Soil cuttings and decontamination fluids generated from field activities were placed into two properly labeled 55-gallon drums, and stored on-site in the locked garage area on the northeast corner of the site. Gloves and miscellaneous trash remaining from the site sampling activities were stored in plastic bags and disposed of as municipal waste.

## **3. LABORATORY RESULTS**

The following sections summarize the laboratory analytical results for the soil, soil vapor, and indoor air samples collected on site. Summaries of the analytical reports are presented on Tables 1, 2 and 3, and copies of the laboratory analytical reports are presented in Appendix C.

The detected analyte concentrations in soil, soil vapor, and indoor air were compared to the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, Environmental Screening Levels (ESLs) for Residential Land Use Only and Commercial/Industrial Land Use Tables A, E-2, and E-3 (RWQCB, 2008).

### **3.1. TPHg and VOCs in Soil**

A summary of the soil sample laboratory analytical results for TPHg and VOCs is presented on Table 1. TPHg and Benzene soil sample results are presented in Figures 6 and 7. TPHg and Benzene soil sample results for select borings are also included as cross sections in Figures 4 and 5.

TPHg and fifteen VOCs were detected in the 24 soil samples analyzed. Nine of the 15 VOCs detected do not have established ESLs at this time. TPHg and VOCs with established ESLs are discussed below.

- TPHg was reported as detected in 11 of the 24 soil samples at concentrations greater than the ESL for residential and commercial/industrial land use of 83 milligrams per kilogram (mg/kg).
- Benzene was reported as detected in 11 of the 24 soil samples at concentrations greater than the ESLs for residential and commercial/industrial land use of 44 ug/kg.

- Bromomethane was reported as detected in one of the 24 soil samples at a concentration greater than the ESLs for residential and commercial/industrial land use of 390 ug/kg.
- Ethylbenzene was reported as detected in 10 of the 24 soil samples at concentrations greater than the ESLs for residential land use of 2,300 ug/kg and commercial/industrial land use of 3,300 ug/kg.
- Total xylenes were reported as detected in 14 of the 24 soil samples analyzed at concentrations greater than the ESLs for residential and commercial/industrial land use of 2,300 ug/kg.
- Naphthalene was reported as detected in 11 of the 24 soil samples analyzed at concentrations greater than the ESLs for residential land use of 1,300 ug/kg and commercial/industrial land use of 2,800 ug/kg.
- Toluene was reported as detected in 10 of the 24 soil samples analyzed at concentrations greater than the ESLs for residential and commercial/industrial land use of 2,900 ug/kg

### **3.2. TPHg and VOCs in Soil Gas**

A summary of the soil gas sample laboratory analytical results for TPHg and VOCs is presented on Table 2. TPHg and Benzene soil gas sample results are presented in Figure 8.

TPHg and fifteen VOCs were detected in the nine soil gas samples collected from 5 feet bgs and from the sub-slab. Eight of the 15 VOCs detected do not have established ESLs at this time. TPHg and VOCs with established ESLs are discussed below.

- TPHg was reported as detected in four of the nine soil gas samples at concentrations greater than the ESL for residential land use of 10,000 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and commercial/industrial land use of 29,000  $\mu\text{g}/\text{m}^3$ .
- Benzene was reported as detected in two of the nine soil gas samples at concentrations greater than the ESLs for residential land use of  $84 \mu\text{g}/\text{m}^3$  and commercial/industrial land use of  $280 \mu\text{g}/\text{m}^3$ .
- Ethylbenzene was reported as detected in two of the nine soil gas samples at concentrations greater than the ESLs for residential land use of  $980 \mu\text{g}/\text{m}^3$  and/or commercial/industrial land use of  $3,300 \mu\text{g}/\text{m}^3$ .

- Naphthalene was reported as detected in one of the nine soil gas samples at a concentration greater than the ESLs for residential land use of 72 ug/m<sup>3</sup> and commercial/industrial land use of 240 ug/m<sup>3</sup>.
- Chloroform, total xylenes, tetrachlorothene (PCE), and toluene were detected in some or all of the soil gas samples at concentrations less than their respective ESLs for residential and commercial/industrial land use.

### **3.3. TPH and VOCs in Indoor and Ambient Air**

A summary of the indoor and ambient air sample laboratory analytical results for TPHg and VOCs is presented on Table 3.

TPHg and twenty VOCs were detected in the four indoor air and two ambient air samples. Seven of the 20 VOCs detected do not have established ESLs at this time. TPHg and VOCs with established ESLs are discussed below.

- TPHg was reported as detected in both of the two ambient air and all four of the indoor air samples at concentrations greater than the ESL for residential land use of 10 ug/m<sup>3</sup> and commercial/industrial land use of 14 ug/m<sup>3</sup>.
- 1,2-dichloroethane (DCA) was reported as detected in one of the two ambient air and in three of the four indoor air samples at concentrations greater than the ESLs for residential land use of 0.094 ug/m<sup>3</sup> and/or commercial/industrial land use of 0.16 ug/m<sup>3</sup>.
- 1,2-dichlorobenzene was reported as detected in one of the four indoor air samples at a concentration greater than the ESLs for residential land use of 0.22 ug/m<sup>3</sup>, but less than the commercial/industrial land use of 0.37 ug/m<sup>3</sup>.
- Benzene was reported as detected in both of the two ambient air and in all four of the indoor air samples at a concentration greater than the ESLs for residential land use of 0.084 ug/m<sup>3</sup> and the commercial/industrial land use of 0.14 ug/m<sup>3</sup>.
- Carbon tetrachloride was reported as detected in both of the two ambient air and in all four of the indoor air samples at a concentration greater than the ESLs for residential land use of 0.019 ug/m<sup>3</sup> and the commercial/industrial land use of 0.031 ug/m<sup>3</sup>.
- Chloroform was reported as detected in three of the four indoor air samples at concentrations greater than the ESLs for residential land use of 0.46 ug/m<sup>3</sup>, but less than the commercial/industrial land use of 0.77 ug/m<sup>3</sup>.

- Ethylbenzene was reported as detected in three of the four indoor air samples at concentrations greater than the ESLs for residential land use of 0.46 ug/m<sup>3</sup> and/or the commercial/industrial land use of 1.6 ug/m<sup>3</sup>.
- Total xylenes were reported as detected in one of the four indoor air samples at concentrations greater than the ESLs for residential land use of 21 ug/m<sup>3</sup> and the commercial/industrial land use of 29 ug/m<sup>3</sup>.
- Ethylbenzene was reported as detected in both of the two ambient air samples and all four of the indoor air samples at concentrations greater than the ESLs for residential land use of 0.072 ug/m<sup>3</sup> and the commercial/industrial land use of 0.12 ug/m<sup>3</sup>.
- Acetone, chloromethane, methylene chloride, styrene, and toluene were detected in some or all of the four indoor air and two ambient air samples at concentrations less than their respective ESLs for residential and commercial/industrial land use.

### **3.4. Laboratory Quality Assurance/Quality Control (QA/QC)**

The laboratory analyses followed the approved methods. Laboratory QA/QC samples included method blanks, laboratory control samples (LCS), matrix spikes (MS), and matrix spike duplicates (MSD).

Matrix spike recovery was outside of the acceptance limit due to possible matrix interference in soil sample batches B2K0119, B2K0101, and B2K0241 matrix spike and matrix spike duplicate. Matrix spike recovery was outside of the acceptance limit in soil sample batches B2K0272 and B2K0037 matrix spike and matrix spike duplicate. The analytical batches were validated by the laboratory control samples.

The soil sample batch B2K0101 matrix spike values were estimated. The soil sample batches B2K0037, B2K0101, and B2K0241 relative percent difference between matrix spikes and matrix spike duplicates was outside acceptance criteria due to possible matrix interference, the calculation was based on raw values.

The soil sample batch B2K0169 laboratory control sample was outside of in-house established limits, but within method criteria.

The surrogate recoveries for TPHg in soil samples NMB-2-9, NMB-3-7, NMB-3-10, NMB-5-8, NMB-7-7, NMB-8-8, NMB-8-10, NMB-10-8, NMB-12-18, and NMB-12-10 were above the laboratory acceptance limit. Chromatograms showed concentrations of heavy hydrocarbons; reported concentrations of TPHg were not affected.

The surrogate recoveries for VOCs in soil samples NMB-2-9, NMB-3-7, NMB-7-7, NMB-10-8, NMB-12-8, and NMB-12-10 were above the laboratory acceptance limit. Chromatograms showed concentrations of heavy hydrocarbons; reported concentrations of VOCs were not affected.

Due to the high concentrations of petroleum constituents in many of the samples, the samples were diluted up to 10,000 times. Therefore, the reporting limits were increased in many of the samples. Detectable concentrations between the method detection limit and the laboratory reporting limit were estimated.

No outstanding issues were identified during the course of the QA/QC review. Overall, the presented data are reliable and useable for project decision making.

#### **4. FINDINGS AND CONCLUSIONS**

Based on the activities and laboratory results described above, Ninyo & Moore offers the following conclusions:

##### **Soil**

- Greenish gray soil staining was encountered in the borings NMB-2, NMB-3, NMB-5 through NMB-10, and NMB-12 beginning at 5 feet bgs to the total depth explored of 10 feet bgs. Petroleum hydrocarbon odors were encountered in the borings NMB-2, NMB-3 through NMB-10, and NMB-12 beginning at approximately 5 feet bgs to the total depth explored of 10 feet bgs. Elevated PID readings were encountered in all 12 soil borings with readings generally increasing with depth.
- TPHg exceeded the ESLs for residential and commercial/industrial land use in soil samples from borings NMB-2, NMB-3, NMB-5 through NMB-10, and NMB-12. Benzene exceeded the ESLs for residential and commercial/industrial land use in soil samples from borings NMB-2 through NMB-5, NMB-7, NMB-8, and NMB-10. Bromomethane exceeded the ESLs for residential and commercial/industrial land use in a soil sample from boring NMB-5.

Ethylbenzene, total xylenes, naphthalene, and toluene exceeded the ESLs for residential and commercial/industrial land use in soil samples from borings NMB-2, NMB-3, and NMB-5 through NMB-10.

- TPHg and VOCs were below the ESLs in soil samples from borings NMB-1 and NMB-11 located northeast and southeast of the site, respectively.
- In summary, soil sample analytical results indicate that gasoline related compounds have impacted on-site soils between 5 and 10 feet bgs. However, those impacts were not observed in off-site soil sample locations.

### **Soil Gas**

- TPHg exceeded the ESLs for residential and commercial/industrial land use in soil gas samples collected from 5-feet bgs in borings NMB-3, NMB-6, NMB-9, and NMB-12. Benzene and ethylbenzene exceeded the ESLs for residential and commercial/industrial land use in soil gas samples collected from 5-feet bgs in borings NMB-3 and NMB-6. naphthalene exceeded the ESLs for residential and commercial/industrial land use in the soil gas sample collected from 5-feet bgs in boring NMB-6.
- TPHg and VOCs were not detected or below the ESLs for residential and commercial/industrial land use in the two soil gas samples collected from 5-feet bgs in borings NMB-1 and NMB-11, located off-site to the northeast and southeast.
- TPHg and VOCs were not detected or below the ESLs for residential and commercial/industrial land use in the three sub-slab soil gas samples (NMSS-1, NMSS-2, and NMSS-3) collected from the buildings adjacent to the northeast and southeast of the site.
- In summary, the reported concentrations of TPHg and VOCs exceeding ESLs for residential and commercial/industrial land use in soil gas samples collected from 5-feet bgs in the on-site borings NMB-3, NMB-6, and NMB-9 represent a potential vapor intrusion concern for the buildings adjacent to the northeast and southeast of the site.

### **Indoor and Ambient Air**

- TPHg and select VOCs, including benzene, carbon tetrachloride, naphthalene, 1,2-DCA, chloroform, ethylbenzene, 1,4-dichlorobenzene, and total xylenes exceeded the ESLs for residential and/or commercial/industrial land use in some or all of the four indoor air samples (NMIA-2, NMIA-3, NMIA-5, and NMIA-6) collected within the buildings adjacent to the northeastern and southeastern site boundaries.

- TPHg, benzene, carbon tetrachloride, and naphthalene exceeded the ESLs for residential and commercial/industrial land use in both of the ambient air samples (NMIA-1 and NMIA-4) collected outside of the buildings adjacent to the northeast and southeast of the site.
- Concentrations of TPHg, 1,2-DCA, 1,4-dichlorobenzene, benzene, chloroform, ethylbenzene, and naphthalene in indoor air samples were two to six times higher than the reported concentrations in ambient air samples, in addition to exceeding the ESLs.

## 5. RECOMMENDATIONS

Based on the findings of this SI, Ninyo & Moore recommends the preparation of a correction action plan to address impacts to soil, soil gas, indoor air, and groundwater at the site and adjacent properties.

## 6. LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities. Please also note that this assessment did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific

chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by Ms. Carolyn Fong, as trustee of the Lily A. Chun 1991 Trust. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than those noted is undertaken at said parties' sole risk.

## 7. REFERENCES

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- Norris, R.M. and R.W. Webb, *Geology of California*, Second Edition, New York, NY, 1990
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- USGS, *Oakland East Quadrangle Topographic Map*, 1:24,000, 1997.



REFERENCE: METRO AREAS OF ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES, THOMAS GUIDE, 2008.



SCALE IN FEET



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

**Ninjo & Moore**

### SITE LOCATION

FIGURE

1

PROJECT NO.	DATE	2301 SANTA CLARA AVENUE ALAMEDA, CALIFORNIA
401896004	12/12	



REFERENCE: GOOGLE EARTH, 2012.



SCALE IN FEET

0 40 80

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
	APPROXIMATE SITE BOUNDARY
2301	ADDRESS

**Ninjo & Moore**

## SITE VICINITY

FIGURE

**2**

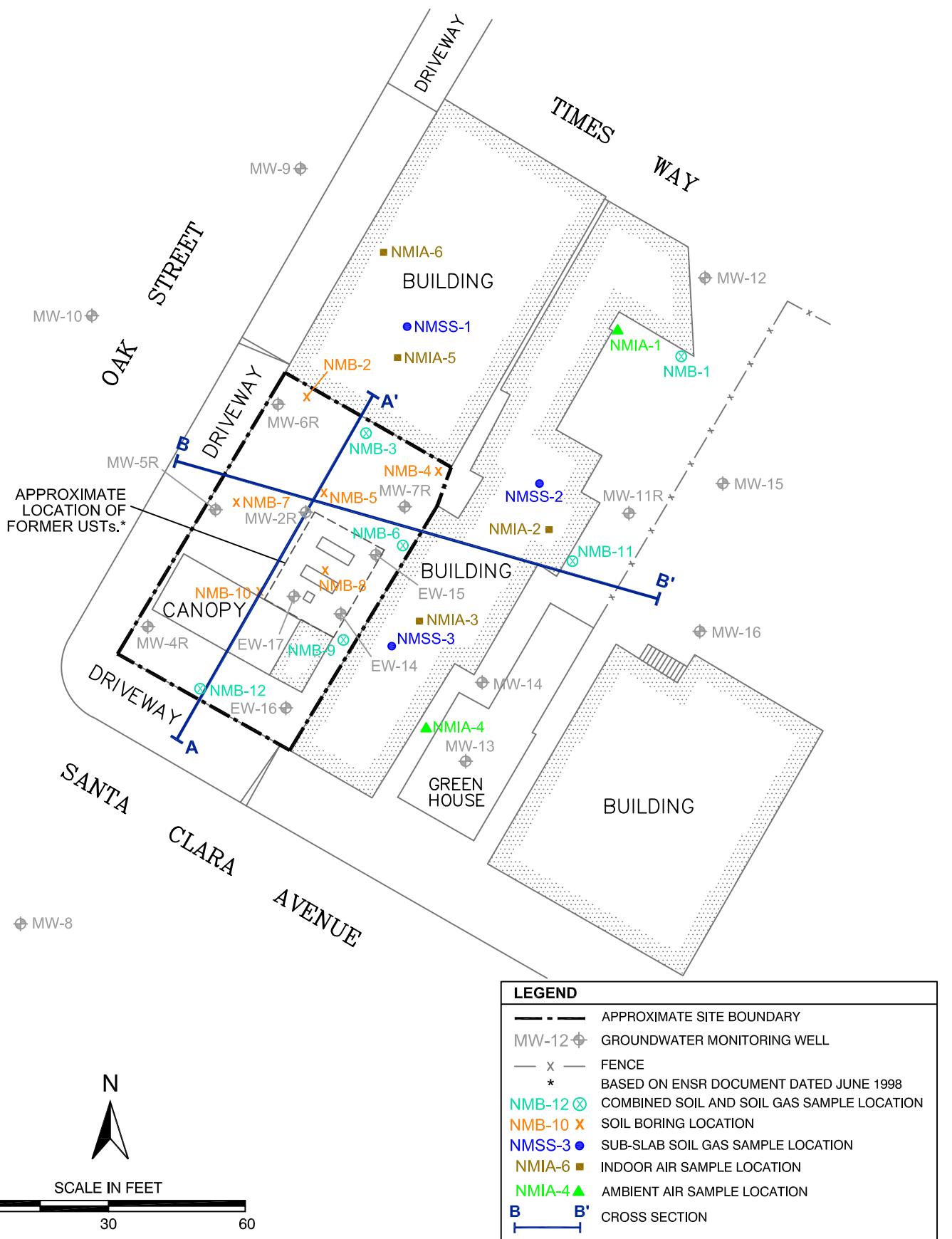
PROJECT NO.

DATE

401896004

12/12

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

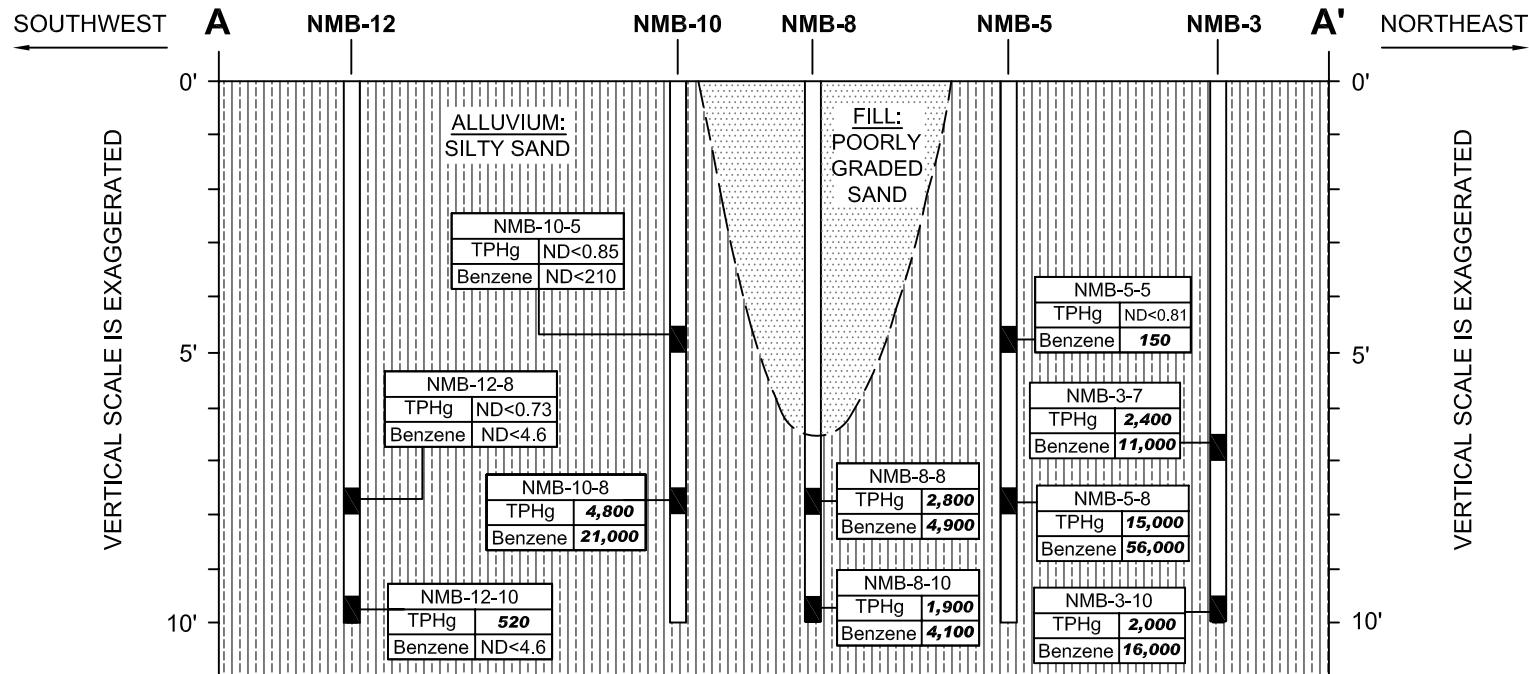
REFERENCE: VIRGIL CHAVEZ LAND SURVEYING, 2012.



# SAMPLING LOCATIONS

## FIGURE

<b>Ninyo &amp; Moore</b>		<b>SAMPLING LOCATIONS</b>	FIGURE
PROJECT NO.	DATE	2301 SANTA CLARA AVENUE ALAMEDA, CALIFORNIA	3
401896004	12/12		



#### LEGEND

- █ SOIL SAMPLE INTERVAL
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, MEASURED IN mg/kg
- Benzene MEASURED IN µg/kg
- µg/kg MICROGRAMS PER KILOGRAM
- mg/kg MILLIGRAMS PER KILOGRAM
- Bold** BOLD INDICATES CONCENTRATION IS ABOVE ESL
- ESL REGIONAL WATER QUALITY CONTROL BOARD SHALLOW SOIL SCREENING LEVEL (MAY 2008, TABLE A)

SCALE IN FEET



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

**Ninjo & Moore**

PROJECT NO.  
401896004

DATE  
12/12

CROSS SECTION A-A'

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

FIGURE  
**4**

WEST

**B**

NMB-7

NMB-5

NMB-6

NMB-11

**B'**

EAST

VERTICAL SCALE IS EXAGGERATED

0'

5'

10'

0'

5'

10'

ALLUVIUM:  
SILTY SANDFILL:  
SILTY SAND;  
FEW GRAVEL AND  
CONCRETE DEBRIS

NMB-7-5

TPHg ND<0.90  
Benzene ND<230

NMB-7-7

TPHg 13,000  
Benzene 12,000

NMB-5-5

TPHg ND<0.81  
Benzene 150

NMB-5-8

TPHg 15,000  
Benzene 56,000

NMB-6-5

TPHg ND<0.90  
Benzene ND<4.4

NMB-6-10

TPHg 1,200  
Benzene ND<2,000

NMB-11-8

TPHg ND<0.88  
Benzene ND<4.3

NMB-11-10

TPHg ND<0.86  
Benzene 2.1

## LEGEND

SOIL SAMPLE INTERVAL

TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, MEASURED IN mg/kg

Benzene MEASURED IN µg/kg

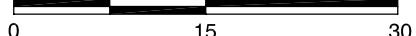
µg/kg MICROGRAMS PER KILOGRAM

mg/kg MILLIGRAMS PER KILOGRAM

**Bold** BOLD INDICATES CONCENTRATION IS ABOVE ESL

ESL REGIONAL WATER QUALITY CONTROL BOARD SHALLOW SOIL SCREENING LEVEL (MAY 2008, TABLE A)

SCALE IN FEET



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

**Ninjo & Moore**

PROJECT NO.

DATE

401896004

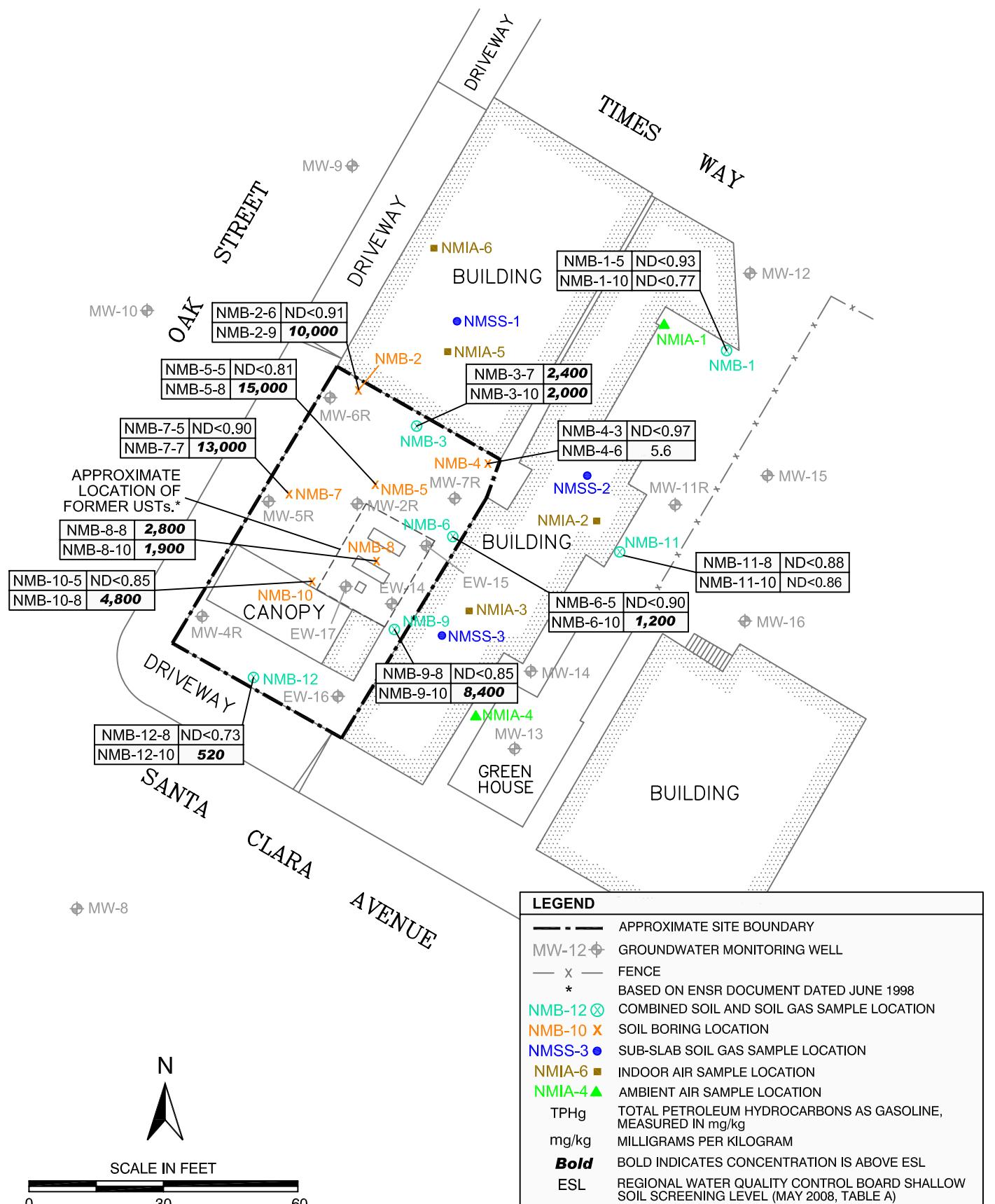
12/12

## CROSS SECTION B-B'

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

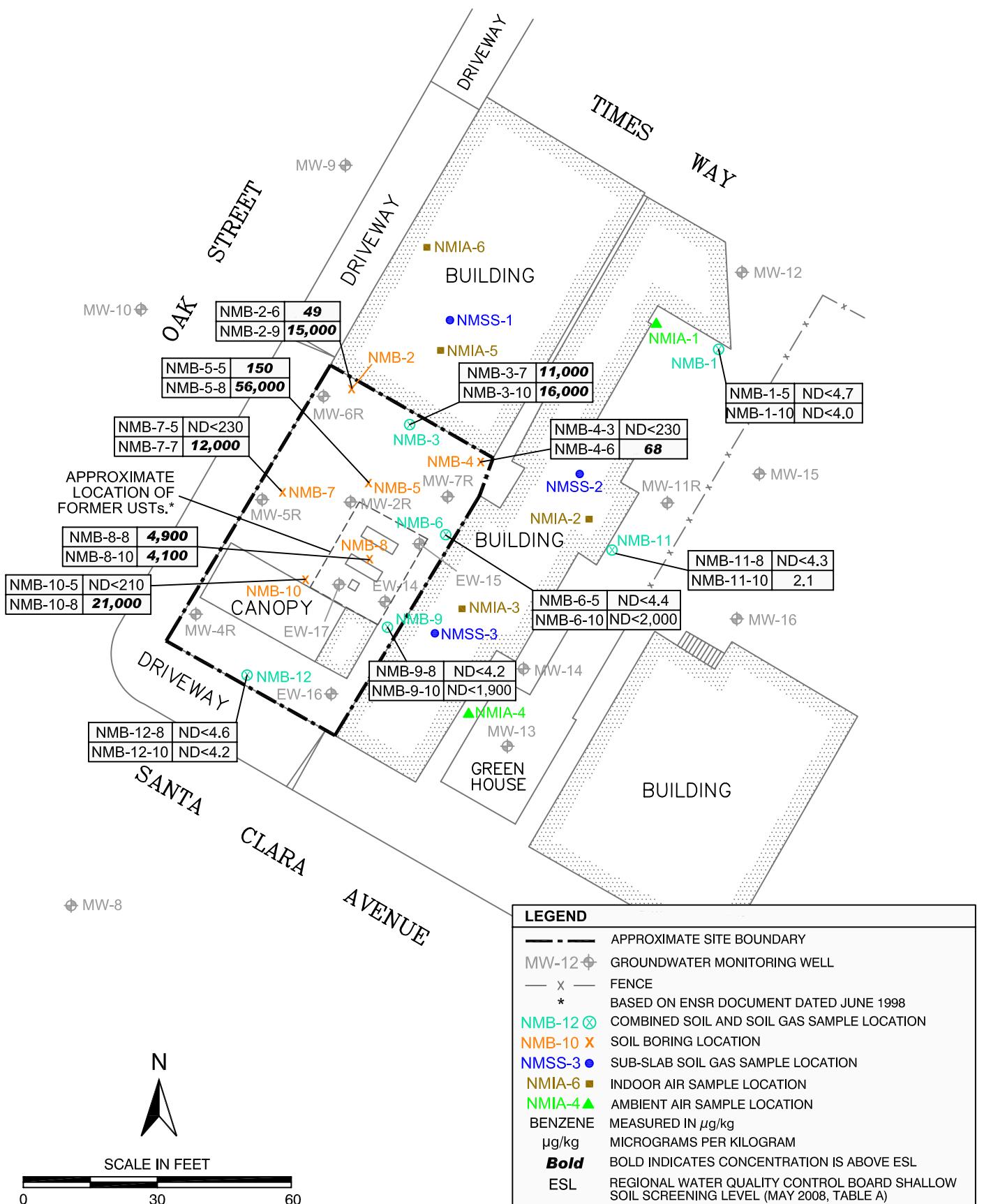
FIGURE

**5**



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

REFERENCE: VIRGIL CHAVEZ LAND SURVEYING, 2012.



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

REFERENCE: VIRGIL CHAVEZ LAND SURVEYING, 2012.

# Ninjo & Moore

## BENZENE CONCENTRATIONS IN SOIL

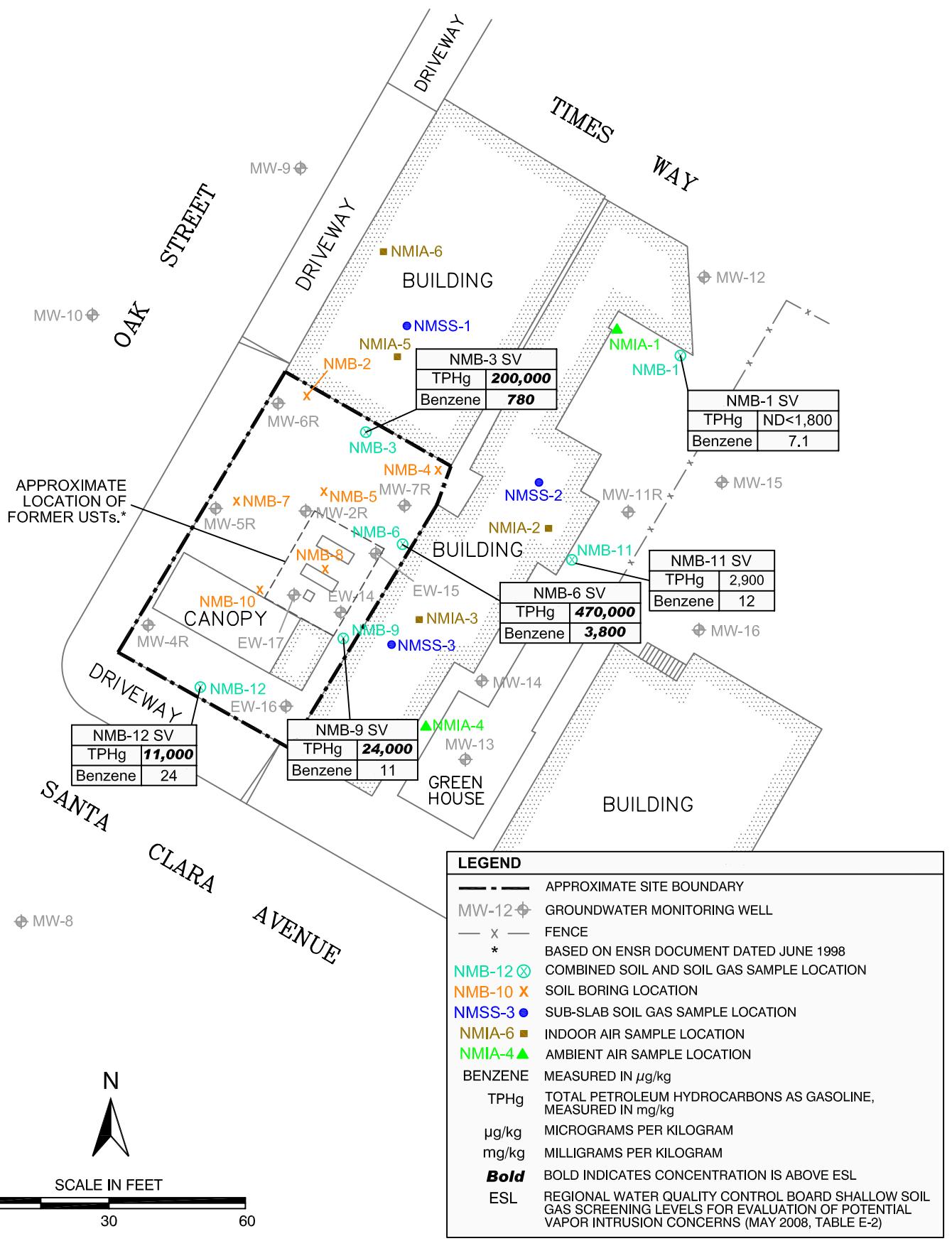
**PROJECT NO.**

DATE

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

## FIGURE

7



**Table 1 – SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS - TPHg and VOCs**

Sample ID	Date Collected	Sample Depth (feet bgs)	TPHg (mg/kg)	VOCs (µg/kg)															
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Chlorotoluene	4-Isopropyltoluene	Benzene	Bromomethane	Carbon Disulfide	Ethylbenzene	Isopropylbenzene	Xylenes (total)	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	tert-Butylbenzene	Toluene
NMB-1-5	11/2/2012	5	ND<0.93	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<9.5	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	
NMB-1-10	11/2/2012	10	ND<0.77	0.76 J	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	0.99 J	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	
NMB-2-6	11/1/2012	6	ND<0.91	3,400	910	ND<220	ND<220	49 J	96 J	ND<220	930	110 J	5,800	290	460	1,600	66 J	ND<220	1,000
NMB-2-9	11/1/2012	9	10,000	490,000	200,000	ND<830	6,300	15,000	200 J	ND<830	260,000	20,000	1,210,000	66,000	110,000	85,000	10,000	ND<830	400,000
NMB-3-7	11/2/2012	7	2,400	160,000	47,000	ND<8,100	ND<8,100	11,000	ND<8,100	ND<8,100	73,000	6,000 J	460,000	12,000	25,000	18,000	3,400 J	ND<8,100	180,000
NMB-3-10	11/2/2012	10	2,000	82,000	27,000	ND<2,300	2,400	16,000	ND<2,300	ND<2,300	55,000	3,900	251,000	7,000	16,000	10,000	1,800 J	ND<2,300	130,000
NMB-4-3	11/1/2012	3	ND<0.97	1,100	300	ND<230	ND<230	ND<230	99 J	ND<230	250	ND<230	1,860	ND<230	130 J	420	ND<230	ND<230	280
NMB-4-6	11/1/2012	6	5.6	1,100	330	ND<220	ND<220	68 J	100 J	ND<220	260	ND<220	2,200	ND<220	98 J	340	ND<220	ND<220	760
NMB-5-5	11/1/2012	5	ND<0.81	1,400	510	ND<3.9	6.0	150	ND<3.9	3.6 J	150	12	2,700	ND<3.9	53	110	7.9	ND<3.9	510
NMB-5-8	11/1/2012	8	15,000	720,000	210,000	ND<2,200	7,000	56,000	420 J	ND<2,200	340,000	30,000	1,800,000	59,000	110,000	110,000	13,000	ND<2,200	800,000
NMB-6-5	11/2/2012	5	ND<0.90	1.5 J	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	2.1 J	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	
NMB-6-10	11/2/2012	10	1,200	63,000	21,000	ND<2,000	1,500 J	ND<2,000	ND<2,000	ND<2,000	11,000	2,900	67,000	11,000	13,000	3,700	2,700	ND<2,000	7,700
NMB-7-5	11/1/2012	5	ND<0.90	2,500	690	ND<230	ND<230	ND<230	ND<230	ND<230	590	81 J	4,300	220 J	320	990	57 J	ND<230	650
NMB-7-7	11/1/2012	7	13,000	540,000	180,000	ND<760	6,300	12,000	ND<760	ND<760	210,000	20,000	1,180,000	61,000	100,000	77,000	11,000	ND<760	330,000
NMB-8-8	11/1/2012	8	2,800	130,000	41,000	ND<2,400	1,200 J	4,900	ND<2,400	ND<2,400	54,000	5,200	298,000	11,000	20,000	16,000	2,800	ND<2,400	72,000
NMB-8-10	11/1/2012	10	1,900	85,000	25,000	ND<2,300	ND<2,300	4,100	ND<2,300	ND<2,300	36,000	3,400	219,000	6,700	13,000	10,000	1,700 J	ND<2,300	58,000
NMB-9-8	11/2/2012	8	ND<0.85	51	14	ND<4.2	ND<4.2	ND<4.2	ND<4.2	ND<4.2	ND<4.2	0.93 J	37	3.4 J	3.9 J	17	1.2 J	ND<4.2	0.77 J
NMB-9-10	11/2/2012	10	8,400	580,000	160,000	ND<1,900	5,400	ND<1,900	ND<1,900	ND<1,900	230,000	21,000	1,370,000	46,000	77,000	61,000	11,000	ND<1,900	21,000
NMB-10-5	11/1/2012	5	ND<0.85	1,400	390	ND<210	ND<210	86 J	ND<210	320	ND<210	2,440	65 J	180 J	540	ND<210	ND<210	390	
NMB-10-8	11/1/2012	8	4,800	700,000	200,000	ND<2,100	9,000	21,000	ND<2,100	ND<2,100	300,000	30,000	1,760,000	70,000	100,000	79,000	17,000	ND<2,100	500,000
NMB-11-8	11/2/2012	8	ND<0.88	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<8.7	ND<8.7	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	
NMB-11-10	11/2/2012	10	ND<0.86	4.8	51	ND<4.2	2.0 J	2.1 J	ND<4.2	ND<4.2	8.3	2.7 J	13	8.4	8.5	9.2	2.8 J	ND<4.2	ND<4.2
NMB-12-8	11/2/2012	8	ND<0.73	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	14	ND<4.6	ND<4.6	ND<9.1	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	
NMB-12-10	11/2/2012	10	520	ND<4.2	ND<4.2	3.4 J	ND<4.2	ND<4.2	ND<4.2	18	ND<4.2	170	ND<8.4	26	180	25	88	4.8	ND<4.2
<b>ESLs for Residential Land Use</b>		83	NE	NE	NE	NE	NE	44	390	NE	2,300	NE	2,300	NE	1,300	NE	NE	2,900	
<b>ESLs for Commercial/Industrial Land Use</b>		83	NE	NE	NE	NE	NE	44	390	NE	3,300	NE	2,300	NE	2,800	NE	NE	2,900	

**Notes:**

TPHg - total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015B

VOCs - Volatile Organic Compounds were analyzed by EPA Method 8260B.

bgs = below ground surface

mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram

Only VOCs detected above laboratory reporting limits are shown in table

ESLs = San Francisco Bay regional Water Quality Control Board Environmental Screening Levels, Table A, Shallow Soil Screening Level

ND<x = indicates not detected above laboratory detection limit of x (detection limits vary, see lab report)

J = Analyte detected below the practical quantitation limit but above or equal to the method detection limit. Result is an estimated concentration

NE = not established

**Table 2 – SUMMARY OF SOIL GAS SAMPLE ANALYTICAL RESULTS - TPHg and VOCs**

Sample ID	Date Collected	Depth (feet bgs)	TPHg ug/m <sup>3</sup>	VOCs ug/m <sup>3</sup>															
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Ethyltoluene	4-Methyl-2-pentanone	Benzene	Chloroform	Ethanol	Ethylbenzene	Heptane	Hexane	Xylenes (total)	Naphthalene	Tetrachloroethene	Tetrahydrofuran	Toluene	
NMB-1SV	11/2/2012	5	ND<1,800	ND<10	ND<10	ND<10	ND<8.3	7.1	ND<9.9	ND<96	ND<8.8	ND<210	ND<180	ND<27	ND<11	ND<14	ND<6.0	32	
NMB-3SV	11/2/2012	5	<b>200,000</b>	610	300	300	ND<8.3	<b>780</b>	ND<9.9	ND<96	<b>1,400</b>	2,700	6,400	5,100	ND<11	20	ND<6.0	2,000	
NMB-6SV	11/2/2012	5	<b>470,000</b>	6,700	3,400	2,800	ND<8.3	<b>3,800</b>	ND<9.9	ND<96	<b>3,800</b>	3,300	6,100	16,000	<b>560</b>	ND<14	ND<6.0	8,300	
NMB-9SV	11/2/2012	5	<b>24,000</b>	470	190	180	ND<8.3	11	ND<9.9	ND<96	230	ND<210	230	1,100	16	ND<14	ND<6.0	110	
NMB-11SV	11/2/2012	5	2,900	42	15	14	9.2	12	ND<9.9	ND<96	32	ND<210	ND<180	140	ND<11	ND<14	ND<6.0	120	
NMB-12SV	11/2/2012	5	<b>11,000</b>	35	14	11	9.0	24	ND<9.9	ND<96	25	ND<210	ND<180	130	ND<11	ND<14	ND<6.0	150	
NMSS-1	11/13/2012	0.5	ND<1,800	ND<10	ND<10	ND<10	ND<8.3	ND<6.5	ND<9.9	ND<96	ND<8.8	ND<210	ND<180	ND<27	ND<11	ND<14	ND<6.0	ND<7.7	
NMSS-2	11/13/2012	0.5	ND<1,800	ND<10	ND<10	ND<10	ND<8.3	ND<6.5	81	ND<96	ND<8.8	ND<210	ND<180	ND<27	ND<11	ND<14	7.3	ND<7.7	
NMSS-3	11/13/2012	0.5	ND<1,800	ND<10	ND<10	ND<10	ND<8.3	ND<6.5	ND<9.9	120	ND<8.8	ND<210	ND<180	ND<27	ND<11	ND<14	ND<6.0	ND<7.7	
<b>ESLs for Residential Land Use</b>				10,000	NE	NE	NE	NE	84	460	NE	980	NE	NE	21,000	72	410	NE	63,000
<b>ESLs for Commercial/Industrial Land Use</b>				29,000	NE	NE	NE	NE	280	1,500	NE	3,300	NE	NE	58,000	240	1,400	NE	180,000

**Notes:**

TPHg = total petroleum hydrocarbons as gasoline was analyzed by EPA Method TO15

VOCs = Volatile Organic Compounds were analyzed by EPA Method TO15.

bgs = below ground surface

Only VOCs detected above laboratory reporting limits are shown in table

**Bold** indicates concentration is above ESL.

ug/m<sup>3</sup> = micrograms per cubic meter

ESLs = RWQCB ESL, shallow soil gas screening levels for evaluation of potential vapor intrusion concerns (May 2008, Table E-2

<x = indicates not detected above laboratory detection limit of x (detection limits vary, see lab report)

NE = ESL for that compound has not been established.

Table 3 – SUMMARY OF INDOOR AND AMBIENT AIR SAMPLE ANALYTICAL RESULTS - TPHg and VOCs

Sample ID	Date Collected	TPHg ug/m <sup>3</sup>	VOCs ug/m <sup>3</sup>																			
			1,2-Dichloroethane	1,4-Dichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Ethyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Carbon tetrachloride	Chloroform	Chloromethane	Dichlorodifluoromethane	Ethyl acetate	Ethylbenzene	Xylenes (total)	Methylene chloride	Naphthalene	Styrene	Toluene	Tri chlorofluorocethane
NMIA-1*	11/12/2012	110	ND<0.1	0.17	1.3	ND<0.5	ND<0.5	ND<0.42	27	1.6	0.45	0.26	0.29	2.9	4.5	0.63	4.2	0.39	0.36	ND<0.43	4.0	1.3
NMIA-2	11/12/2012	620	<b>1.4</b>	ND<0.15	16	5.6	4.5	ND<0.42	27	3.8	0.45	<b>0.55</b>	ND<0.21	ND<0.5	3.7	<b>8.4</b>	<b>40</b>	2.4	<b>0.97</b>	2.4	26	1.5
NMIA-3	11/12/2012	440	<b>1.5</b>	0.15	4.1	1.4	1.4	ND<0.42	51	1.9	0.44	<b>0.54</b>	ND<0.21	1.2	11	<b>2.0</b>	11	1.7	<b>0.52</b>	0.68	11	1.2
NMIA-4*	11/12/2012	80	<b>0.30</b>	ND<0.15	1.2	ND<0.5	ND<0.5	ND<0.42	20	1.7	<b>0.46</b>	0.25	0.48	2.9	7.2	0.62	4.1	0.41	<b>0.28</b>	ND<0.43	4.0	1.3
NMIA-5	11/12/2012	210	ND<0.1	0.16	2.3	1.0	1.3	0.77	32	1.9	<b>0.47</b>	0.31	0.48	2.4	8.2	0.71	5.0	0.41	<b>0.35</b>	ND<0.43	4.5	1.2
NMIA-6	11/12/2012	160	<b>0.15</b>	<b>0.29</b>	2.2	0.86	1.1	3.2	37	2.2	<b>0.50</b>	<b>0.52</b>	ND<0.21	ND<0.5	5.6	<b>1.0</b>	6.1	0.51	<b>0.50</b>	0.47	6.0	1.4
ESLs for Residential Land Use		10	0.094	0.22	NE	NE	NE	NE	660	0.084	0.019	0.46	19	NE	NE	0.98	21	5.2	0.072	190	63	NE
ESLs for Commercial/Industrial Land Use Only		14	0.16	0.37	NE	NE	NE	NE	920	0.14	0.031	0.77	26	NE	NE	1.6	29	8.7	0.12	260	88	NE

Notes:

TPHg = total petroleum hydrocarbons as gasoline was analyzed by EPA Method TO15

VOCs = Volatile Organic Compounds were analyzed by EPA Method TO15

bgs = below ground surface

\* = NMIA-1 and NMIA-4 are ambient air samples, the remaining four samples are indoor air sample

Only VOCs detected above laboratory reporting limits are shown in table

**Bold** indicates concentration is above the ESL for Residential Land Use Only and/or Commercial/Industrial Land Us

µg/m<sup>3</sup> = micrograms per cubic meter

ESLs = RWQCB ESL, Ambient and Indoor Air Screening Levels (May 2008, Table E-3

<x = indicates not detected above laboratory detection limit of x (detection limits vary, see lab repor

NE = ESL for that compound has not been established

2301 Santa Clara Avenue  
Alameda, California

December 26, 2012  
Project No. 401896004

---

## **APPENDIX A**

### **ACPWA DIRECTIVE LETTER AND DRILLING PERMIT**



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

September 19, 2012

Lily A. Chun 1991 Trust  
Carolyn C. Fong, Trustee  
711 East Hermosa Drive  
San Gabriel, CA 91775  
(Sent via E-mail to: [carolynfong1@sbcglobal.net](mailto:carolynfong1@sbcglobal.net))

Subject: Case File Review for Fuel Leak Case No. RO0000382 and GeoTracker Global ID T0600100980, Bill Chun Service Station, 2301 Santa Clara Avenue, Alameda, CA 94501

To Lily A. Chun Trust:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above referenced site including the recently submitted document entitled, "*Soil, Soil Gas, Indoor Air Sampling; Monthly Liquid Phase Petroleum Hydrocarbon Monitoring; and Semi-Annual Groundwater Monitoring Work Plan, Bill Chun Service Station, 2301 Santa Clara Avenue, Alameda, CA 94501*," dated August 27, 2012 (Work Plan). The Work Plan, which was prepared on your behalf by Ninyo & Moore, presents plans that are based on recommendations in a June 30, 2012 "*Well Installation and Groundwater Sampling Report*."

The scope of work presented in the Work Plan is acceptable and may be implemented as proposed. We request that you implement the proposed work and send us the reports requested below.

#### **TECHNICAL REPORT REQUEST**

Please upload technical reports to the ACEH ftp site (Attention: Jerry Wickham), and to the State Water Resources Control Board's GeoTracker website according to the following schedule and file-naming convention:

- **January 21, 2013** – Site Investigation Report  
File to be named: SWI\_R\_YYYY-MM-DD RO0382

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum ST system, and require your compliance with this request.

Lily A. Chun Trust  
RO0000382  
September 19, 2012  
Page 2

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at [jerry.wickham@acgov.org](mailto:jerry.wickham@acgov.org). Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297  
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Sue Russell, City of Alameda Economic Development, 2263 Santa Clara Avenue, Room 120,  
Alameda, CA 94501-4477 (*Sent via E-mail to: [srussell@ci.alameda.ca.us](mailto:srussell@ci.alameda.ca.us)*)

Kris Larson, Ninyo & Moore, 1956 Webster Street, Suite 400, Oakland, CA 94612 (*Sent via E-mail to: [klarson@ninyoandmoore.com](mailto:klarson@ninyoandmoore.com)*)

Donna Drogos, ACEH (*Sent via E-mail to: [donna.drogos@acgov.org](mailto:donna.drogos@acgov.org)*)  
Jerry Wickham, ACEH (*Sent via E-mail to: [jerry.wickham@acgov.org](mailto:jerry.wickham@acgov.org)*)

GeoTracker, eFile

## **Attachment 1**

### **Responsible Party(ies) Legal Requirements/Obligations**

#### **REPORT/DATA REQUESTS**

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

#### **ELECTRONIC SUBMITTAL OF REPORTS**

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements. ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/))

#### **PERJURY STATEMENT**

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### **PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS**

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### **UNDERGROUND STORAGE TANK CLEANUP FUND**

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### **AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)</b>	<b>REVISION DATE:</b> July 25, 2012 <b>ISSUE DATE:</b> July 5, 2005 <b>PREVIOUS REVISIONS:</b> October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

## REQUIREMENTS

- Please **do not** submit reports as attachments to electronic mail.
- Entire report including cover letter must be submitted to the ftp site as a **single Portable Document Format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

## Submission Instructions

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [loptoxic@acgov.org](mailto:loptoxic@acgov.org)
  - b) In the subject line of your request, be sure to include "ftp PASSWORD REQUEST" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to [://alcoftp1.acgov.org](http://alcoftp1.acgov.org)
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [loptoxic@acgov.org](mailto:loptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 10/31/2012 By jamesy

Permit Numbers: W2012-0775  
Permits Valid from 11/01/2012 to 11/02/2012

<b>Application Id:</b>	1351553045984	<b>City of Project Site:</b>	Alameda
<b>Site Location:</b>	2301 Santa Clara Ave, Alameda, CA	<b>Completion Date:</b>	11/02/2012
<b>Project Start Date:</b>	11/01/2012		
<b>Assigned Inspector:</b>	Contact NO INSPECTOR ASSIGNED at (510) 670-6633 or wells@acpwa.org		
<b>Applicant:</b>	Ninyo & Moore - Peter Sims 1956 Webster St, Oakland, CA 94612	<b>Phone:</b>	510-343-3000
<b>Property Owner:</b>	Lily Chun Living Trust 1991 2301 Santa Clara Ave, Alameda, CA 94501	<b>Phone:</b>	--
<b>Client:</b>	** same as Property Owner **		
<b>Receipt Number:</b> WR2012-0357 <b>Payer Name :</b> Ninyo & Moore		<b>Total Due:</b> \$265.00	
		<b>Total Amount Paid:</b> \$265.00	
		<b>Paid By:</b> CHECK	<b>PAID IN FULL</b>

## Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitoring Study - 12 Boreholes

Driller: Penecore - Lic #: 906899 - Method: DP

**Work Total: \$265.00**

## Specifications

Permit Number	Issued Dt	Expire Dt	#	Hole Diam	Max Depth
W2012-0775	10/31/2012	01/30/2013	12	1.75 in.	10.00 ft

## Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
5. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

## **Alameda County Public Works Agency - Water Resources Well Permit**

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

7. No Inspector Assigned to this site.

Applicant shall contact this office by email with photos at [wells@acpwa.org](mailto:wells@acpwa.org) and certify in writing that work was completed and according to County Standards within 5 working days after the completion of work.

---

2301 Santa Clara Avenue  
Alameda, California

December 26, 2012  
Project No. 401896004

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## **APPENDIX B**

### **BORING LOGS**

## BORING LOG EXPLANATION SHEET

DEPTH (feet)	BULK DRIVEN	SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0								Bulk sample.  Modified split-barrel drive sampler.  No recovery with modified split-barrel drive sampler.  Sample retained by others.  Standard Penetration Test (SPT).  No recovery with a SPT.  Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.  No recovery with Shelby tube sampler.  Continuous Push Sample.  Seepage. Groundwater encountered during drilling. Groundwater measured after drilling.
10	XX/XX			O			SM	ALLUVIUM: Solid line denotes unit change.  Dashed line denotes material change.  Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Sheared Bedding Surface
20								The total depth line is a solid line that is drawn at the bottom of the boring.

**Ninjo & Moore**

### BORING LOG

EXPLANATION OF BORING LOG SYMBOLS

PROJECT NO.

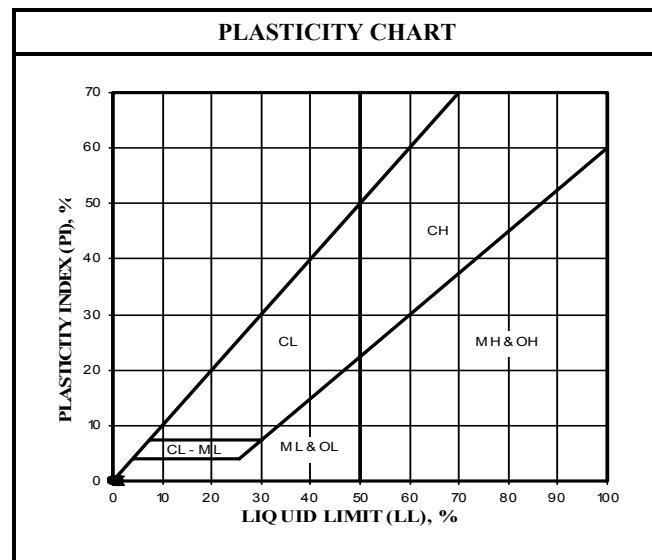
DATE  
Rev. 01/03

FIGURE

## U.S.C.S. METHOD OF SOIL CLASSIFICATION

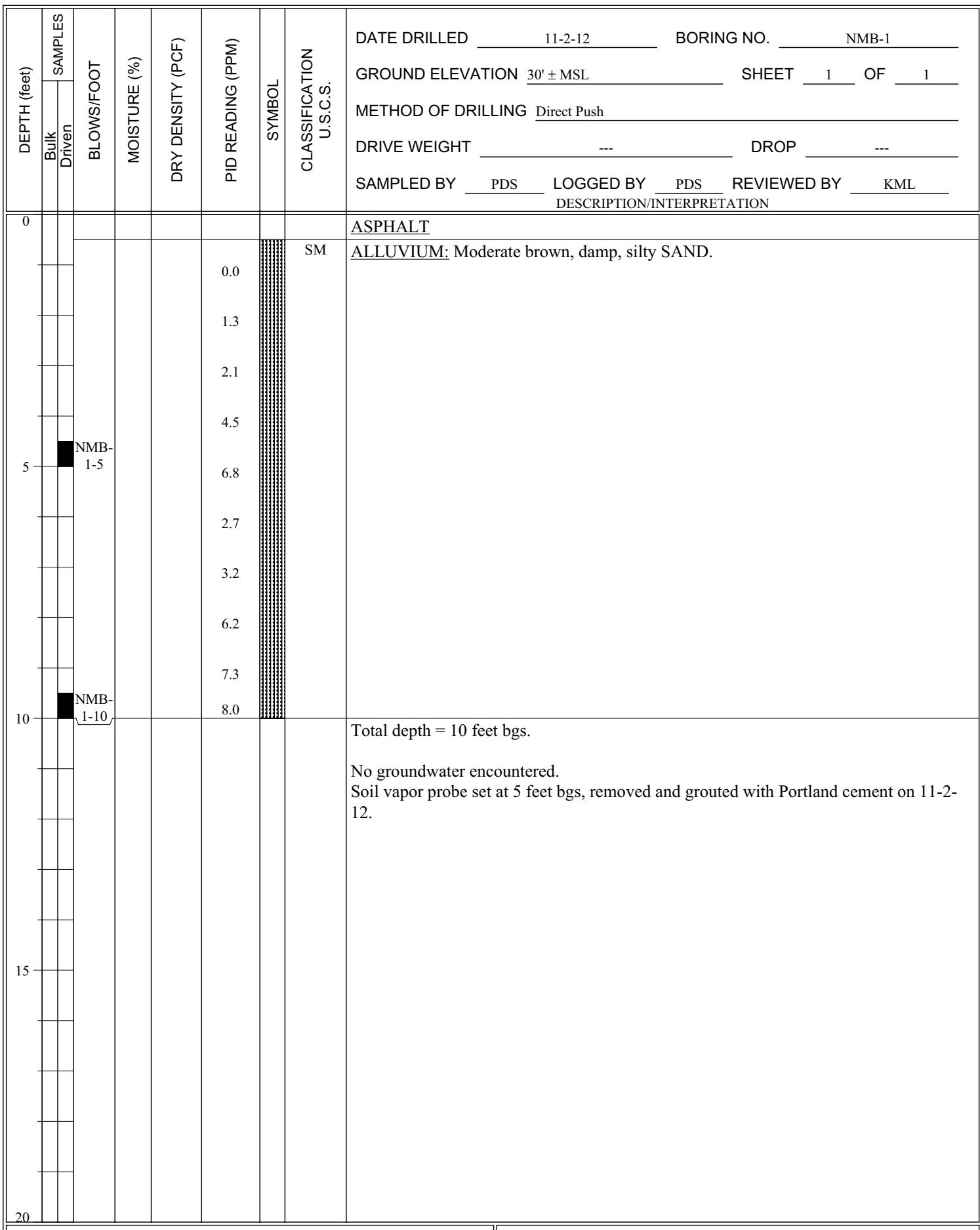
MAJOR DIVISIONS		SYMBOL	TYPICAL NAMES
COARSE-GRAINED SOILS (More than 1/2 of soil >No. 200 sieve size)	GRAVELS (More than 1/2 of coarse fraction > No. 4 sieve size)	GW	Well graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than 1/2 of coarse fraction <No. 4 sieve size)	SW	Well graded sands or gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (More than 1/2 of soil <No. 200 sieve size)	SILTS & CLAYS Liquid Limit <50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean
		OL	Organic silts and organic silty clays of low plasticity
		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	SILTS & CLAYS Liquid Limit >50	CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silty clays, organic silts
		Pt	Peat and other highly organic soils

GRAIN SIZE CHART		
CLASSIFICATION	RANGE OF GRAIN SIZE	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL Coarse Fine	3" to No. 4 3" to 3/4" 3/4" to No. 4	76.2 to 4.76 76.2 to 19.1 19.1 to 4.76
SAND Coarse Medium Fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.76 to 0.075 4.76 to 2.00 2.00 to 0.420 0.420 to 0.075
SILT & CLAY	Below No. 200	Below 0.075



**Ninjo & Moore**

U.S.C.S. METHOD OF SOIL CLASSIFICATION



**Ninyo & Moore**

### BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

PROJECT NO. 401896004	DATE 12/12	FIGURE B-1
--------------------------	---------------	---------------

DEPTH (feet)	Bulk	SAMPLES	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.
	Driven							11-1-12	NMB-2
0							ASPHALT		
							SM	ALLUVIUM: Moderate brown, damp, silty SAND.	
5					0.0				
					0.3				
					0.0				
					0.6				
					0.8			Petroleum odor from 5 feet bgs to 10 feet bgs.	
					1.0				
					5.9				
					43.4			Greenish gray staining from 8 feet bgs to 10 feet bgs.	
					125.0				
					106.1				
10								Total depth = 10 feet bgs.	
								No groundwater encountered. Boring grouted with Portland cement on 11-1-12.	
15									
20									

**Ninyo & Moore**

### BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

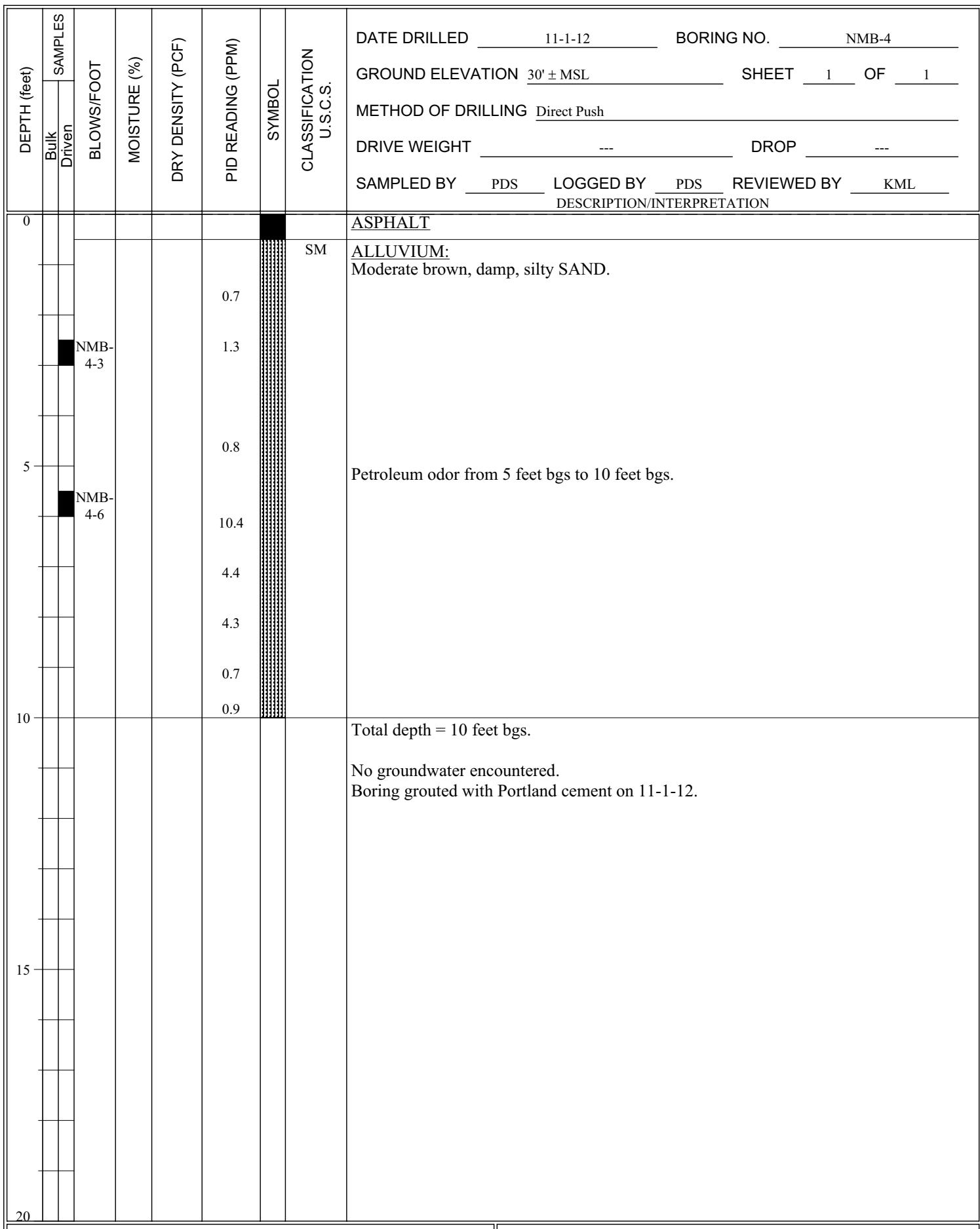
PROJECT NO.	DATE	FIGURE
401896004	12/12	B-2

**Ninyo & Moore**

BORING LOG

**2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA**

PROJECT NO.  
401896004



**Ninyo & Moore**

### BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

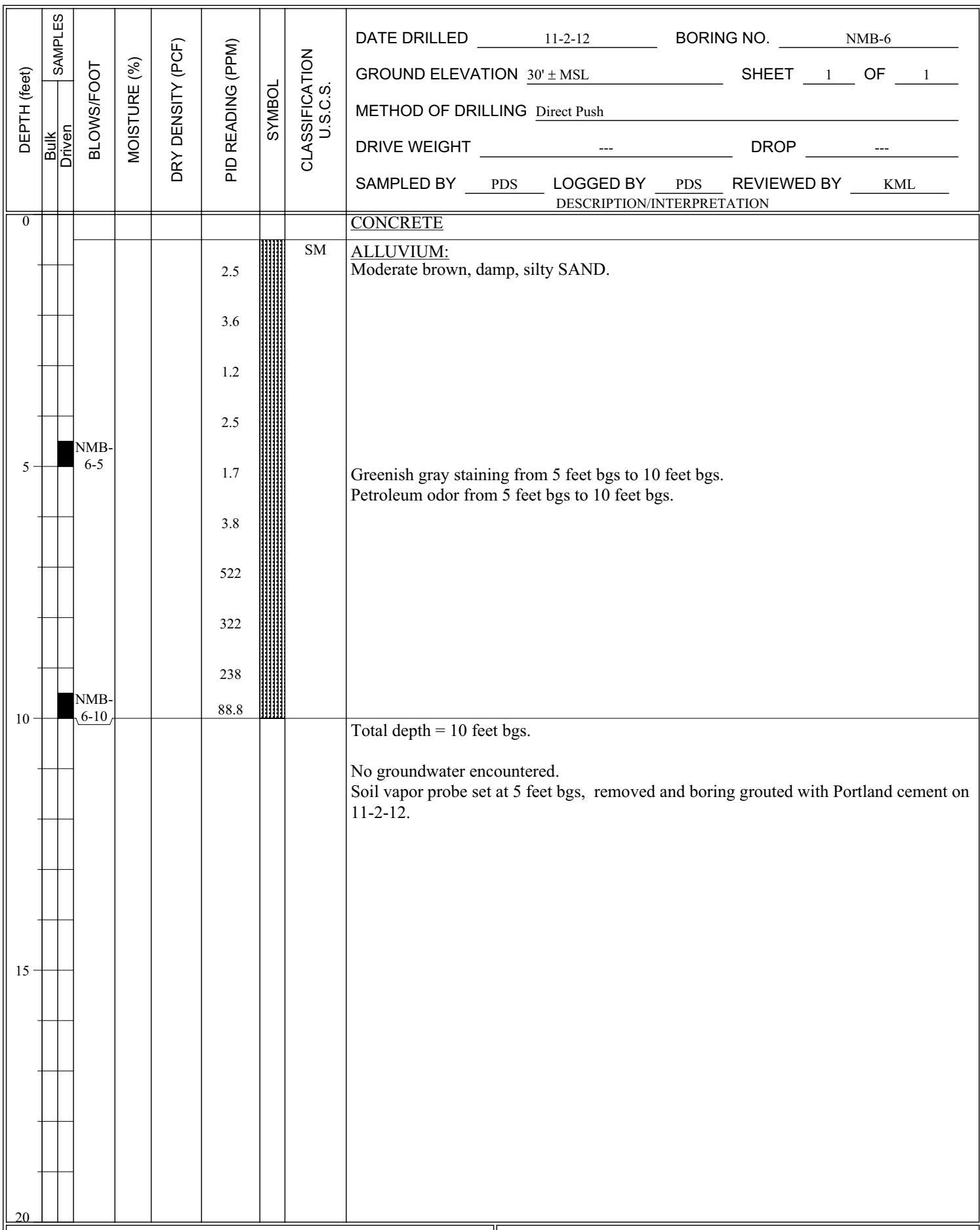
PROJECT NO.	DATE	FIGURE
401896004	12/12	B-4

**Ninjo & Moore**

BORING LOG

**2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA**

PROJECT NO.



**Ninyo & Moore**

### BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
401896004	12/12	B-6

**Ninyo & Moore**

BORING LOG

**2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA**

PROJECT NO.  
401896004

DEPTH (feet)	BLOWS/FOOT		MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 11-1-12		BORING NO. NMB-8	
	Bulk Driven	SAMPLES						GROUND ELEVATION 30' ± MSL		SHEET 1 OF 1	
								METHOD OF DRILLING Direct Push			
								DRIVE WEIGHT	---	DROP	---
								SAMPLED BY PDS	LOGGED BY PDS	REVIEWED BY KML	DESCRIPTION/INTERPRETATION
0							SP	<u>ASPHALT</u>			
					0.1			<u>FILL:</u> Yellowish brown, damp, poorly graded SAND.			
					0.9						
					0.6						
					1.1						
					0.7						
					0.5						
					4.4			Reddish brown, petroleum odor from 7 feet bgs to 10 feet bgs.			
	NMB-8-8				65.9		SP	<u>ALLUVIUM:</u> Moderate brown, damp, silty SAND. Greenish gray staining from 8 feet bgs to 10 feet bgs.			
					8.8						
	NMB-8-10				9.8						
10								Total depth = 10 feet bgs.			
								No groundwater encountered.			
								Boring grouted with Portland cement on 11-1-12.			
15											
20											

**Ninjo & Moore**

BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
401896004	12/12	B-8

**Ninjo & Moore**

BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

PROJECT NO.  
401896004

DEPTH (feet)	BLOWS/FOOT		MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 11-1-12		BORING NO. NMB-10	
	Bulk Driven	SAMPLES						GROUND ELEVATION 30' ± MSL		SHEET 1 OF 1	
								METHOD OF DRILLING Direct Push			
								DRIVE WEIGHT	---	DROP	---
								SAMPLED BY PDS	LOGGED BY PDS	REVIEWED BY KML	DESCRIPTION/INTERPRETATION
0							ASPHALT				
5	NMB-10-5				0.1 0.0 0.1 0.0 0.2 52.7 54.9 1757 876 1122	SM	<u>ALLUVIUM:</u> Moderate brown, damp, silty SAND.  Greenish gray staining and petroleum odor from 5 feet bgs to 10 feet bgs.				
10	NMB-10-8						Total depth = 10 feet bgs.  No groundwater encountered. Boring grouted with Portland cement on 11-1-12.				
15											
20											

# *Ninjo & Moore*

BORING LOG

**2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA**

PROJECT NO.  
401896004

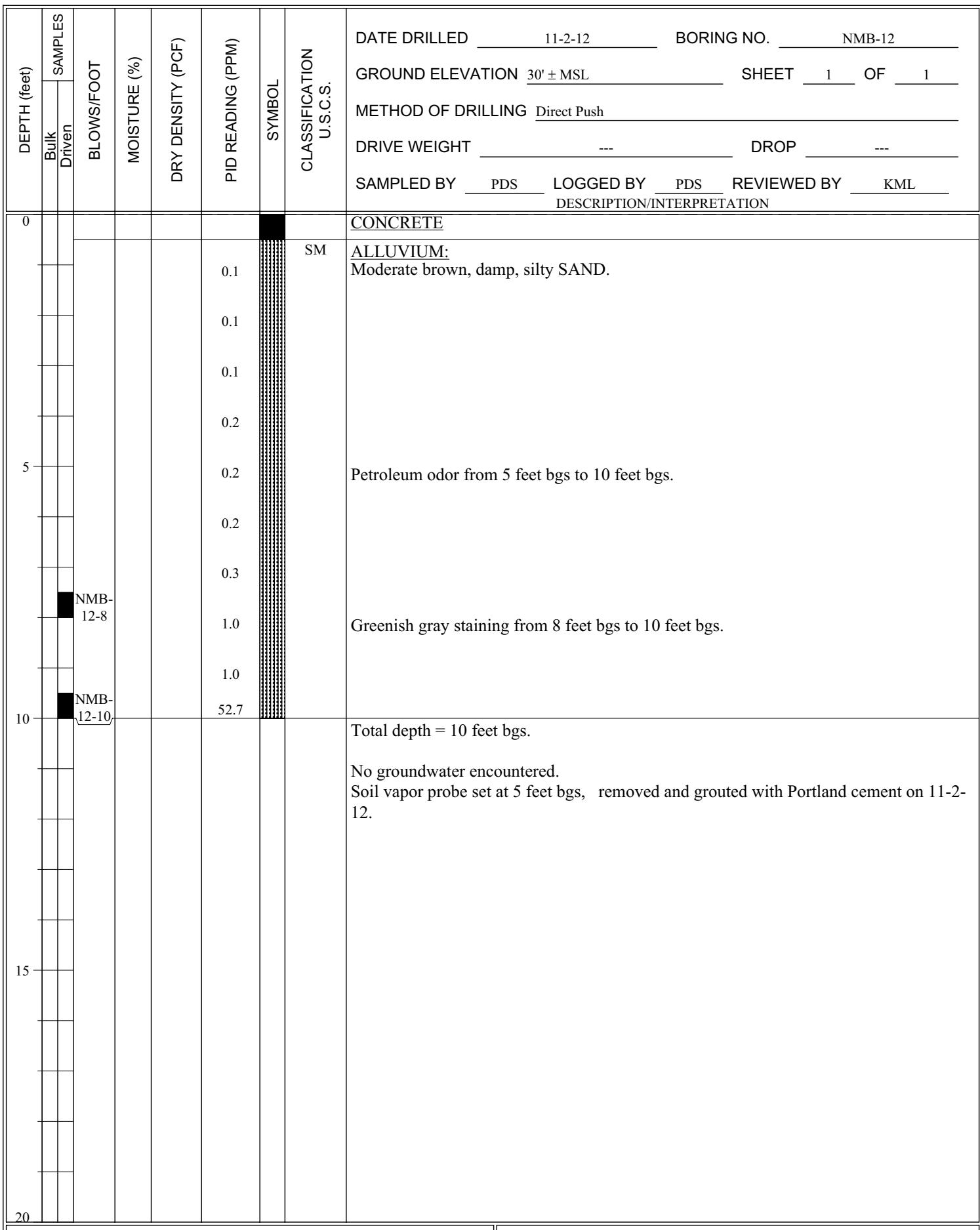
DEPTH (feet)	Bulk Driven	SAMPLES	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	11-2-12	BORING NO.	NMB-11
	BLOWS/FOOT							GROUND ELEVATION	30' ± MSL	SHEET	1 OF 1
0								<u>ASPHALT</u>			
							SM	<u>FILL:</u> Dark brown, damp, silty SAND; few gravel.			
								<u>CONCRETE</u>			
							SM	<u>ALLUVIUM:</u> Moderate brown, damp, silty SAND.			
5					0.0						
					0.0						
					0.4						
					0.8						
					3.3						
					0.0						
10					1.4			Total depth = 10 feet bgs.  No groundwater encountered. Soil vapor probe set at 5 feet bgs, removed and grouted with Portland cement on 11-2-12.			
15											
20											

**Ninyo & Moore**

### BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
401896004	12/12	A-11



**Ninyo & Moore**

### BORING LOG

2301 SANTA CLARA AVENUE  
ALAMEDA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
401896004	12/12	B-12

2301 Santa Clara Avenue  
Alameda, California

December 26, 2012  
Project No. 401896004

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## **APPENDIX C**

### **LABORATORY ANALYTICAL REPORTS**



November 20, 2012



Peter Sims  
Ninyo & Moore  
1956 Webster Street, Suite 400  
Oakland, CA 94612  
Tel: (510) 633-5640  
Fax:(510) 633-5646

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No.: T104704502

Re: ATL Work Order Number : 1203850

Client Reference : Chun/Alameda, 401896004

Enclosed are the results for sample(s) received on November 02, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eddie Rodriguez'.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NMB-5-5	1203850-01	Soil	11/01/12 8:28	11/02/12 9:00
NMB-5-8	1203850-02	Soil	11/01/12 8:37	11/02/12 9:00
NMB-4-3	1203850-03	Soil	11/01/12 9:02	11/02/12 9:00
NMB-4-6	1203850-04	Soil	11/01/12 9:11	11/02/12 9:00
NMB-2-9	1203850-05	Soil	11/01/12 9:45	11/02/12 9:00
NMB-2-6	1203850-06	Soil	11/01/12 9:52	11/02/12 9:00
NMB-7-7	1203850-07	Soil	11/01/12 10:12	11/02/12 9:00
NMB-7-5	1203850-08	Soil	11/01/12 10:17	11/02/12 9:00
NMB-8-10	1203850-09	Soil	11/01/12 10:39	11/02/12 9:00
NMB-8-8	1203850-10	Soil	11/01/12 10:35	11/02/12 9:00
NMB-10-8	1203850-11	Soil	11/01/12 11:00	11/02/12 9:00
NMB-10-5	1203850-12	Soil	11/01/12 11:09	11/02/12 9:00

### CASE NARRATIVE

All volatile analyses were performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.

EPA 8260 results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-5-5

**Lab ID: 1203850-01**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.81	NA	1	B2K0372	11/14/2012	11/14/12 14:58	
Surrogate: 4-Bromofluorobenzene	101 %		44 - 168		B2K0372	11/14/2012	11/14/12 14:58	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.9	1.0	1	B2K0037	11/01/2012	11/02/12 17:08	
1,1,1-Trichloroethane	ND	3.9	0.55	1	B2K0037	11/01/2012	11/02/12 17:08	
1,1,2,2-Tetrachloroethane	ND	3.9	2.4	1	B2K0037	11/01/2012	11/02/12 17:08	
1,1,2-Trichloroethane	ND	3.9	0.63	1	B2K0037	11/01/2012	11/02/12 17:08	
1,1-Dichloroethane	ND	3.9	0.74	1	B2K0037	11/01/2012	11/02/12 17:08	
1,1-Dichloroethene	ND	3.9	0.78	1	B2K0037	11/01/2012	11/02/12 17:08	
1,1-Dichloropropene	ND	3.9	0.87	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2,3-Trichloropropane	ND	3.9	2.1	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2,3-Trichlorobenzene	ND	3.9	2.8	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2,4-Trichlorobenzene	ND	3.9	2.3	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>1,2,4-Trimethylbenzene</b>	<b>1400</b>	210	34	50	B2K0070	11/01/2012	11/05/12 20:21	
1,2-Dibromo-3-chloropropane	ND	7.8	2.9	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2-Dibromoethane	ND	3.9	0.89	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2-Dichlorobenzene	ND	3.9	1.6	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2-Dichloroethane	ND	3.9	0.55	1	B2K0037	11/01/2012	11/02/12 17:08	
1,2-Dichloropropane	ND	3.9	2.4	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>1,3,5-Trimethylbenzene</b>	<b>510</b>	210	48	50	B2K0070	11/01/2012	11/05/12 20:21	
1,3-Dichlorobenzene	ND	3.9	1.2	1	B2K0037	11/01/2012	11/02/12 17:08	
1,3-Dichloropropane	ND	3.9	0.86	1	B2K0037	11/01/2012	11/02/12 17:08	
1,4-Dichlorobenzene	ND	3.9	1.1	1	B2K0037	11/01/2012	11/02/12 17:08	
2,2-Dichloropropane	ND	3.9	0.94	1	B2K0037	11/01/2012	11/02/12 17:08	
2-Chlorotoluene	ND	3.9	0.61	1	B2K0037	11/01/2012	11/02/12 17:08	
4-Chlorotoluene	ND	3.9	0.62	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>4-Isopropyltoluene</b>	<b>6.0</b>	3.9	0.78	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>Benzene</b>	<b>150</b>	3.9	0.54	1	B2K0037	11/01/2012	11/02/12 17:08	
Bromobenzene	ND	3.9	1.0	1	B2K0037	11/01/2012	11/02/12 17:08	
Bromochloromethane	ND	3.9	1.2	1	B2K0037	11/01/2012	11/02/12 17:08	
Bromodichloromethane	ND	3.9	0.65	1	B2K0037	11/01/2012	11/02/12 17:08	
Bromoform	ND	3.9	1.4	1	B2K0037	11/01/2012	11/02/12 17:08	
Bromomethane	ND	3.9	0.70	1	B2K0037	11/01/2012	11/02/12 17:08	



## Certificate of Analysis

Ninno &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-5-5

**Lab ID: 1203850-01**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Carbon disulfide</b>	<b>3.6</b>	3.9	0.67	1	B2K0037	11/01/2012	11/02/12 17:08	J
Carbon tetrachloride	ND	3.9	0.98	1	B2K0037	11/01/2012	11/02/12 17:08	
Chlorobenzene	ND	3.9	0.46	1	B2K0037	11/01/2012	11/02/12 17:08	
Chloroethane	ND	3.9	1.8	1	B2K0037	11/01/2012	11/02/12 17:08	
Chloroform	ND	3.9	0.69	1	B2K0037	11/01/2012	11/02/12 17:08	
Chloromethane	ND	3.9	0.56	1	B2K0037	11/01/2012	11/02/12 17:08	
cis-1,2-Dichloroethene	ND	3.9	0.75	1	B2K0037	11/01/2012	11/02/12 17:08	
cis-1,3-Dichloropropene	ND	3.9	0.55	1	B2K0037	11/01/2012	11/02/12 17:08	
Di-isopropyl ether	ND	3.9	0.64	1	B2K0037	11/01/2012	11/02/12 17:08	
Dibromochloromethane	ND	3.9	0.66	1	B2K0037	11/01/2012	11/02/12 17:08	
Dibromomethane	ND	3.9	0.72	1	B2K0037	11/01/2012	11/02/12 17:08	
Dichlorodifluoromethane	ND	3.9	0.65	1	B2K0037	11/01/2012	11/02/12 17:08	
Ethyl Acetate	ND	39	4.3	1	B2K0037	11/01/2012	11/02/12 17:08	
Ethyl Ether	ND	39	8.6	1	B2K0037	11/01/2012	11/02/12 17:08	
Ethyl tert-butyl ether	ND	3.9	0.55	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>Ethylbenzene</b>	<b>150</b>	3.9	0.37	1	B2K0037	11/01/2012	11/02/12 17:08	
Freon-113	ND	3.9	0.66	1	B2K0037	11/01/2012	11/02/12 17:08	
Hexachlorobutadiene	ND	3.9	2.3	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>Isopropylbenzene</b>	<b>12</b>	3.9	0.88	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>m,p-Xylene</b>	<b>1700</b>	420	49	50	B2K0070	11/01/2012	11/05/12 20:21	
Methylene chloride	ND	3.9	3.9	1	B2K0037	11/01/2012	11/02/12 17:08	
MTBE	ND	3.9	0.65	1	B2K0037	11/01/2012	11/02/12 17:08	
n-Butylbenzene	ND	3.9	1.1	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>n-Propylbenzene</b>	<b>53</b>	3.9	0.76	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>Naphthalene</b>	<b>110</b>	3.9	2.5	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>o-Xylene</b>	<b>1000</b>	210	22	50	B2K0070	11/01/2012	11/05/12 20:21	
<b>sec-Butylbenzene</b>	<b>7.9</b>	3.9	0.89	1	B2K0037	11/01/2012	11/02/12 17:08	
Styrene	ND	3.9	0.49	1	B2K0037	11/01/2012	11/02/12 17:08	
tert-Amyl methyl ether	ND	3.9	0.57	1	B2K0037	11/01/2012	11/02/12 17:08	
tert-Butanol	ND	78	17	1	B2K0037	11/01/2012	11/02/12 17:08	
tert-Butylbenzene	ND	3.9	0.89	1	B2K0037	11/01/2012	11/02/12 17:08	
Tetrachloroethene	ND	3.9	0.74	1	B2K0037	11/01/2012	11/02/12 17:08	
<b>Toluene</b>	<b>510</b>	210	28	50	B2K0070	11/01/2012	11/05/12 20:21	
trans-1,2-Dichloroethene	ND	3.9	0.84	1	B2K0037	11/01/2012	11/02/12 17:08	
trans-1,3-Dichloropropene	ND	39	0.78	1	B2K0037	11/01/2012	11/02/12 17:08	
Trichloroethene	ND	3.9	0.75	1	B2K0037	11/01/2012	11/02/12 17:08	
Trichlorofluoromethane	ND	3.9	0.60	1	B2K0037	11/01/2012	11/02/12 17:08	



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-5-5

Lab ID: 1203850-01

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	39	4.6	1	B2K0037	11/01/2012	11/02/12 17:08	
Vinyl chloride	ND	3.9	0.66	1	B2K0037	11/01/2012	11/02/12 17:08	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %		65 - 135		B2K0070	11/01/2012	11/05/12 20:21	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	124 %		65 - 135		B2K0037	11/01/2012	11/02/12 17:08	
<i>Surrogate: 4-Bromofluorobenzene</i>	99.5 %		57 - 126		B2K0070	11/01/2012	11/05/12 20:21	
<i>Surrogate: 4-Bromofluorobenzene</i>	121 %		57 - 126		B2K0037	11/01/2012	11/02/12 17:08	
<i>Surrogate: Dibromofluoromethane</i>	92.1 %		72 - 121		B2K0037	11/01/2012	11/02/12 17:08	
<i>Surrogate: Dibromofluoromethane</i>	90.3 %		72 - 121		B2K0070	11/01/2012	11/05/12 20:21	
<i>Surrogate: Toluene-d8</i>	99.1 %		80 - 107		B2K0070	11/01/2012	11/05/12 20:21	
<i>Surrogate: Toluene-d8</i>	96.0 %		80 - 107		B2K0037	11/01/2012	11/02/12 17:08	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-5-8

**Lab ID: 1203850-02**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>15000</b>	450	NA	500	B2K0372	11/14/2012	11/14/12 16:33	
Surrogate: 4-Bromofluorobenzene	460 %		44 - 168		B2K0372	11/14/2012	11/14/12 16:33	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	2200	600	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,1,1-Trichloroethane	ND	2200	320	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,1,2,2-Tetrachloroethane	ND	2200	1400	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,1,2-Trichloroethane	ND	2200	360	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,1-Dichloroethane	ND	2200	430	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,1-Dichloroethene	ND	2200	450	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,1-Dichloropropene	ND	2200	500	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2,3-Trichloropropane	ND	2200	1200	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2,3-Trichlorobenzene	ND	2200	1600	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2,4-Trichlorobenzene	ND	2200	1300	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>1,2,4-Trimethylbenzene</b>	<b>720000</b>	22000	2900	5000	B2K0101	11/01/2012	11/06/12 20:47	
1,2-Dibromo-3-chloropropane	ND	4500	1700	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2-Dibromoethane	ND	2200	520	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2-Dichlorobenzene	ND	2200	910	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2-Dichloroethane	ND	2200	320	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,2-Dichloropropane	ND	2200	1400	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>1,3,5-Trimethylbenzene</b>	<b>210000</b>	22000	2700	5000	B2K0101	11/01/2012	11/06/12 20:47	
1,3-Dichlorobenzene	ND	2200	690	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,3-Dichloropropane	ND	2200	500	500	B2K0070	11/01/2012	11/05/12 20:41	D6
1,4-Dichlorobenzene	ND	2200	660	500	B2K0070	11/01/2012	11/05/12 20:41	D6
2,2-Dichloropropane	ND	2200	550	500	B2K0070	11/01/2012	11/05/12 20:41	D6
2-Chlorotoluene	ND	2200	350	500	B2K0070	11/01/2012	11/05/12 20:41	D6
4-Chlorotoluene	ND	2200	360	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>4-Isopropyltoluene</b>	<b>7000</b>	2200	450	500	B2K0070	11/01/2012	11/05/12 20:41	
<b>Benzene</b>	<b>56000</b>	2200	310	500	B2K0070	11/01/2012	11/05/12 20:41	
Bromobenzene	ND	2200	600	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Bromochloromethane	ND	2200	680	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Bromodichloromethane	ND	2200	380	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Bromoform	ND	2200	830	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>Bromomethane</b>	<b>420</b>	2200	410	500	B2K0070	11/01/2012	11/05/12 20:41	D6, J



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-5-8****Lab ID: 1203850-02****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	2200	390	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Carbon tetrachloride	ND	2200	570	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Chlorobenzene	ND	2200	270	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Chloroethane	ND	2200	1000	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Chloroform	ND	2200	400	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Chloromethane	ND	2200	320	500	B2K0070	11/01/2012	11/05/12 20:41	D6
cis-1,2-Dichloroethene	ND	2200	440	500	B2K0070	11/01/2012	11/05/12 20:41	D6
cis-1,3-Dichloropropene	ND	2200	320	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Di-isopropyl ether	ND	2200	370	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Dibromochloromethane	ND	2200	380	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Dibromomethane	ND	2200	420	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Dichlorodifluoromethane	ND	2200	380	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Ethyl Acetate	ND	22000	2500	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Ethyl Ether	ND	22000	5000	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Ethyl tert-butyl ether	ND	2200	320	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>Ethylbenzene</b>	<b>340000</b>	22000	3500	5000	B2K0101	11/01/2012	11/06/12 20:47	
Freon-113	ND	2200	380	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Hexachlorobutadiene	ND	2200	1300	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>Isopropylbenzene</b>	<b>30000</b>	2200	510	500	B2K0070	11/01/2012	11/05/12 20:41	
<b>m,p-Xylene</b>	<b>1300000</b>	45000	5300	5000	B2K0101	11/01/2012	11/06/12 20:47	
Methylene chloride	ND	2200	2200	500	B2K0070	11/01/2012	11/05/12 20:41	D6
MTBE	ND	2200	380	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>n-Butylbenzene</b>	<b>59000</b>	2200	660	500	B2K0070	11/01/2012	11/05/12 20:41	
<b>n-Propylbenzene</b>	<b>110000</b>	2200	440	500	B2K0070	11/01/2012	11/05/12 20:41	
<b>Naphthalene</b>	<b>110000</b>	2200	1400	500	B2K0070	11/01/2012	11/05/12 20:41	
<b>o-Xylene</b>	<b>500000</b>	22000	3800	5000	B2K0101	11/01/2012	11/06/12 20:47	
<b>sec-Butylbenzene</b>	<b>13000</b>	2200	520	500	B2K0070	11/01/2012	11/05/12 20:41	
Styrene	ND	2200	290	500	B2K0070	11/01/2012	11/05/12 20:41	D6
tert-Amyl methyl ether	ND	2200	330	500	B2K0070	11/01/2012	11/05/12 20:41	D6
tert-Butanol	ND	45000	9900	500	B2K0070	11/01/2012	11/05/12 20:41	D6
tert-Butylbenzene	ND	2200	510	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Tetrachloroethene	ND	2200	430	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<b>Toluene</b>	<b>800000</b>	22000	3600	5000	B2K0101	11/01/2012	11/06/12 20:47	
trans-1,2-Dichloroethene	ND	2200	490	500	B2K0070	11/01/2012	11/05/12 20:41	D6
trans-1,3-Dichloropropene	ND	22000	450	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Trichloroethene	ND	2200	430	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Trichlorofluoromethane	ND	2200	350	500	B2K0070	11/01/2012	11/05/12 20:41	D6



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-5-8

Lab ID: 1203850-02

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	22000	2700	500	B2K0070	11/01/2012	11/05/12 20:41	D6
Vinyl chloride	ND	2200	380	500	B2K0070	11/01/2012	11/05/12 20:41	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	90.3 %		<i>65 - 135</i>		B2K0101	11/01/2012	<i>11/06/12 20:47</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	117 %		<i>65 - 135</i>		B2K0070	11/01/2012	<i>11/05/12 20:41</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	92.6 %		<i>57 - 126</i>		B2K0101	11/01/2012	<i>11/06/12 20:47</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	123 %		<i>57 - 126</i>		B2K0070	11/01/2012	<i>11/05/12 20:41</i>	
<i>Surrogate: Dibromofluoromethane</i>	94.6 %		<i>72 - 121</i>		B2K0070	11/01/2012	<i>11/05/12 20:41</i>	
<i>Surrogate: Dibromofluoromethane</i>	85.8 %		<i>72 - 121</i>		B2K0101	11/01/2012	<i>11/06/12 20:47</i>	
<i>Surrogate: Toluene-d8</i>	85.9 %		<i>80 - 107</i>		B2K0101	11/01/2012	<i>11/06/12 20:47</i>	
<i>Surrogate: Toluene-d8</i>	92.2 %		<i>80 - 107</i>		B2K0070	11/01/2012	<i>11/05/12 20:41</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-4-3

**Lab ID: 1203850-03**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.97	NA	1	B2K0372	11/14/2012	11/14/12 15:14	
Surrogate: 4-Bromofluorobenzene	89.2 %		44 - 168		B2K0372	11/14/2012	11/14/12 15:14	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	230	61	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,1,1-Trichloroethane	ND	230	33	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,1,2,2-Tetrachloroethane	ND	230	140	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,1,2-Trichloroethane	ND	230	37	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,1-Dichloroethane	ND	230	44	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,1-Dichloroethene	ND	230	46	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,1-Dichloropropene	ND	230	52	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2,3-Trichloropropane	ND	230	130	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2,3-Trichlorobenzene	ND	230	170	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2,4-Trichlorobenzene	ND	230	130	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>1,2,4-Trimethylbenzene</b>	<b>1100</b>	230	37	50	B2K0070	11/01/2012	11/05/12 19:42	
1,2-Dibromo-3-chloropropane	ND	460	170	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2-Dibromoethane	ND	230	53	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2-Dichlorobenzene	ND	230	93	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2-Dichloroethane	ND	230	32	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,2-Dichloropropane	ND	230	140	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>1,3,5-Trimethylbenzene</b>	<b>300</b>	230	53	50	B2K0070	11/01/2012	11/05/12 19:42	
1,3-Dichlorobenzene	ND	230	71	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,3-Dichloropropane	ND	230	51	50	B2K0070	11/01/2012	11/05/12 19:42	D6
1,4-Dichlorobenzene	ND	230	67	50	B2K0070	11/01/2012	11/05/12 19:42	D6
2,2-Dichloropropane	ND	230	56	50	B2K0070	11/01/2012	11/05/12 19:42	D6
2-Chlorotoluene	ND	230	36	50	B2K0070	11/01/2012	11/05/12 19:42	D6
4-Chlorotoluene	ND	230	37	50	B2K0070	11/01/2012	11/05/12 19:42	D6
4-Isopropyltoluene	ND	230	46	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Benzene	ND	230	32	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Bromobenzene	ND	230	61	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Bromochloromethane	ND	230	70	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Bromodichloromethane	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Bromoform	ND	230	85	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>Bromomethane</b>	<b>99</b>	230	42	50	B2K0070	11/01/2012	11/05/12 19:42	D6, J



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-4-3

**Lab ID: 1203850-03**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	230	40	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Carbon tetrachloride	ND	230	58	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Chlorobenzene	ND	230	27	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Chloroethane	ND	230	110	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Chloroform	ND	230	41	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Chloromethane	ND	230	33	50	B2K0070	11/01/2012	11/05/12 19:42	D6
cis-1,2-Dichloroethene	ND	230	45	50	B2K0070	11/01/2012	11/05/12 19:42	D6
cis-1,3-Dichloropropene	ND	230	33	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Di-isopropyl ether	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Dibromochloromethane	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Dibromomethane	ND	230	43	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Dichlorodifluoromethane	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Ethyl Acetate	ND	2300	250	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Ethyl Ether	ND	2300	510	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Ethyl tert-butyl ether	ND	230	33	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>Ethylbenzene</b>	<b>250</b>	230	22	50	B2K0070	11/01/2012	11/05/12 19:42	
Freon-113	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Hexachlorobutadiene	ND	230	140	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Isopropylbenzene	ND	230	52	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>m,p-Xylene</b>	<b>1300</b>	460	54	50	B2K0070	11/01/2012	11/05/12 19:42	
Methylene chloride	ND	230	230	50	B2K0070	11/01/2012	11/05/12 19:42	D6
MTBE	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:42	D6
n-Butylbenzene	ND	230	67	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>n-Propylbenzene</b>	<b>130</b>	230	45	50	B2K0070	11/01/2012	11/05/12 19:42	D6, J
<b>Naphthalene</b>	<b>420</b>	230	150	50	B2K0070	11/01/2012	11/05/12 19:42	
<b>o-Xylene</b>	<b>560</b>	230	25	50	B2K0070	11/01/2012	11/05/12 19:42	
sec-Butylbenzene	ND	230	53	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Styrene	ND	230	29	50	B2K0070	11/01/2012	11/05/12 19:42	D6
tert-Amyl methyl ether	ND	230	34	50	B2K0070	11/01/2012	11/05/12 19:42	D6
tert-Butanol	ND	4600	1000	50	B2K0070	11/01/2012	11/05/12 19:42	D6
tert-Butylbenzene	ND	230	53	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Tetrachloroethene	ND	230	44	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<b>Toluene</b>	<b>280</b>	230	30	50	B2K0070	11/01/2012	11/05/12 19:42	
trans-1,2-Dichloroethene	ND	230	50	50	B2K0070	11/01/2012	11/05/12 19:42	D6
trans-1,3-Dichloropropene	ND	2300	46	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Trichloroethene	ND	230	44	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Trichlorofluoromethane	ND	230	36	50	B2K0070	11/01/2012	11/05/12 19:42	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-4-3

Lab ID: 1203850-03

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	2300	270	50	B2K0070	11/01/2012	11/05/12 19:42	D6
Vinyl chloride	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:42	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>104 %</i>		<i>65 - 135</i>		B2K0070	11/01/2012	<i>11/05/12 19:42</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>108 %</i>		<i>57 - 126</i>		B2K0070	11/01/2012	<i>11/05/12 19:42</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>98.5 %</i>		<i>72 - 121</i>		B2K0070	11/01/2012	<i>11/05/12 19:42</i>	
<i>Surrogate: Toluene-d8</i>	<i>96.3 %</i>		<i>80 - 107</i>		B2K0070	11/01/2012	<i>11/05/12 19:42</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-4-6

**Lab ID: 1203850-04**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>5.6</b>	0.83	NA	1	B2K0372	11/14/2012	11/14/12 15:29	
Surrogate: 4-Bromofluorobenzene	123 %		44 - 168		B2K0372	11/14/2012	11/14/12 15:29	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	220	60	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,1,1-Trichloroethane	ND	220	32	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,1,2,2-Tetrachloroethane	ND	220	140	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,1,2-Trichloroethane	ND	220	36	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,1-Dichloroethane	ND	220	43	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,1-Dichloroethene	ND	220	45	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,1-Dichloropropene	ND	220	50	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2,3-Trichloropropane	ND	220	120	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2,3-Trichlorobenzene	ND	220	160	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2,4-Trichlorobenzene	ND	220	130	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>1,2,4-Trimethylbenzene</b>	<b>1100</b>	220	36	50	B2K0070	11/01/2012	11/05/12 20:02	
1,2-Dibromo-3-chloropropane	ND	450	170	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2-Dibromoethane	ND	220	52	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2-Dichlorobenzene	ND	220	91	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2-Dichloroethane	ND	220	32	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,2-Dichloropropane	ND	220	140	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>1,3,5-Trimethylbenzene</b>	<b>330</b>	220	52	50	B2K0070	11/01/2012	11/05/12 20:02	
1,3-Dichlorobenzene	ND	220	69	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,3-Dichloropropane	ND	220	50	50	B2K0070	11/01/2012	11/05/12 20:02	D6
1,4-Dichlorobenzene	ND	220	66	50	B2K0070	11/01/2012	11/05/12 20:02	D6
2,2-Dichloropropane	ND	220	55	50	B2K0070	11/01/2012	11/05/12 20:02	D6
2-Chlorotoluene	ND	220	35	50	B2K0070	11/01/2012	11/05/12 20:02	D6
4-Chlorotoluene	ND	220	36	50	B2K0070	11/01/2012	11/05/12 20:02	D6
4-Isopropyltoluene	ND	220	45	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>Benzene</b>	<b>68</b>	220	31	50	B2K0070	11/01/2012	11/05/12 20:02	D6, J
Bromobenzene	ND	220	60	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Bromochloromethane	ND	220	68	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Bromodichloromethane	ND	220	38	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Bromoform	ND	220	83	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>Bromomethane</b>	<b>100</b>	220	41	50	B2K0070	11/01/2012	11/05/12 20:02	D6, J



## Certificate of Analysis

Ninno &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-4-6

**Lab ID: 1203850-04**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	220	39	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Carbon tetrachloride	ND	220	57	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Chlorobenzene	ND	220	27	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Chloroethane	ND	220	100	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Chloroform	ND	220	40	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Chloromethane	ND	220	32	50	B2K0070	11/01/2012	11/05/12 20:02	D6
cis-1,2-Dichloroethene	ND	220	44	50	B2K0070	11/01/2012	11/05/12 20:02	D6
cis-1,3-Dichloropropene	ND	220	32	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Di-isopropyl ether	ND	220	37	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Dibromochloromethane	ND	220	38	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Dibromomethane	ND	220	42	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Dichlorodifluoromethane	ND	220	38	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Ethyl Acetate	ND	2200	250	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Ethyl Ether	ND	2200	500	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Ethyl tert-butyl ether	ND	220	32	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>Ethylbenzene</b>	<b>260</b>	220	21	50	B2K0070	11/01/2012	11/05/12 20:02	
Freon-113	ND	220	38	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Hexachlorobutadiene	ND	220	130	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Isopropylbenzene	ND	220	51	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>m,p-Xylene</b>	<b>1500</b>	450	53	50	B2K0070	11/01/2012	11/05/12 20:02	
Methylene chloride	ND	220	220	50	B2K0070	11/01/2012	11/05/12 20:02	D6
MTBE	ND	220	38	50	B2K0070	11/01/2012	11/05/12 20:02	D6
n-Butylbenzene	ND	220	66	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>n-Propylbenzene</b>	<b>98</b>	220	44	50	B2K0070	11/01/2012	11/05/12 20:02	D6, J
<b>Naphthalene</b>	<b>340</b>	220	140	50	B2K0070	11/01/2012	11/05/12 20:02	
<b>o-Xylene</b>	<b>700</b>	220	24	50	B2K0070	11/01/2012	11/05/12 20:02	
sec-Butylbenzene	ND	220	52	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Styrene	ND	220	29	50	B2K0070	11/01/2012	11/05/12 20:02	D6
tert-Amyl methyl ether	ND	220	33	50	B2K0070	11/01/2012	11/05/12 20:02	D6
tert-Butanol	ND	4500	990	50	B2K0070	11/01/2012	11/05/12 20:02	D6
tert-Butylbenzene	ND	220	51	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Tetrachloroethene	ND	220	43	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<b>Toluene</b>	<b>760</b>	220	30	50	B2K0070	11/01/2012	11/05/12 20:02	
trans-1,2-Dichloroethene	ND	220	49	50	B2K0070	11/01/2012	11/05/12 20:02	D6
trans-1,3-Dichloropropene	ND	2200	45	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Trichloroethene	ND	220	43	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Trichlorofluoromethane	ND	220	35	50	B2K0070	11/01/2012	11/05/12 20:02	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-4-6

Lab ID: 1203850-04

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	2200	270	50	B2K0070	11/01/2012	11/05/12 20:02	D6
Vinyl chloride	ND	220	38	50	B2K0070	11/01/2012	11/05/12 20:02	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>101 %</i>		<i>65 - 135</i>		B2K0070	11/01/2012	<i>11/05/12 20:02</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>106 %</i>		<i>57 - 126</i>		B2K0070	11/01/2012	<i>11/05/12 20:02</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>90.3 %</i>		<i>72 - 121</i>		B2K0070	11/01/2012	<i>11/05/12 20:02</i>	
<i>Surrogate: Toluene-d8</i>	<i>98.0 %</i>		<i>80 - 107</i>		B2K0070	11/01/2012	<i>11/05/12 20:02</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-2-9

**Lab ID: 1203850-05**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>10000</b>	410	NA	500	B2K0372	11/14/2012	11/14/12 17:04	
Surrogate: 4-Bromofluorobenzene	322 %		44 - 168		B2K0372	11/14/2012	11/14/12 17:04	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	830	220	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,1,1-Trichloroethane	ND	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,1,2,2-Tetrachloroethane	ND	830	520	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,1,2-Trichloroethane	ND	830	130	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,1-Dichloroethane	ND	830	160	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,1-Dichloroethene	ND	830	170	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,1-Dichloropropene	ND	830	180	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2,3-Trichloropropane	ND	830	460	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2,3-Trichlorobenzene	ND	830	590	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2,4-Trichlorobenzene	ND	830	480	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>1,2,4-Trimethylbenzene</b>	<b>490000</b>	21000	2700	5000	B2K0119	11/01/2012	11/07/12 13:36	
1,2-Dibromo-3-chloropropane	ND	1700	610	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2-Dibromoethane	ND	830	190	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2-Dichlorobenzene	ND	830	330	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2-Dichloroethane	ND	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,2-Dichloropropane	ND	830	520	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>1,3,5-Trimethylbenzene</b>	<b>200000</b>	8300	1000	2000	B2K0101	11/01/2012	11/06/12 21:04	
1,3-Dichlorobenzene	ND	830	250	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,3-Dichloropropane	ND	830	180	200	B2K0070	11/01/2012	11/05/12 21:00	D6
1,4-Dichlorobenzene	ND	830	240	200	B2K0070	11/01/2012	11/05/12 21:00	D6
2,2-Dichloropropane	ND	830	200	200	B2K0070	11/01/2012	11/05/12 21:00	D6
2-Chlorotoluene	ND	830	130	200	B2K0070	11/01/2012	11/05/12 21:00	D6
4-Chlorotoluene	ND	830	130	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>4-Isopropyltoluene</b>	<b>6300</b>	830	170	200	B2K0070	11/01/2012	11/05/12 21:00	
<b>Benzene</b>	<b>15000</b>	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	
Bromobenzene	ND	830	220	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Bromochloromethane	ND	830	250	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Bromodichloromethane	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Bromoform	ND	830	310	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>Bromomethane</b>	<b>200</b>	830	150	200	B2K0070	11/01/2012	11/05/12 21:00	D6, J



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-2-9

**Lab ID: 1203850-05**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Carbon tetrachloride	ND	830	210	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Chlorobenzene	ND	830	98	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Chloroethane	ND	830	380	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Chloroform	ND	830	150	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Chloromethane	ND	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	D6
cis-1,2-Dichloroethene	ND	830	160	200	B2K0070	11/01/2012	11/05/12 21:00	D6
cis-1,3-Dichloropropene	ND	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Di-isopropyl ether	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Dibromochloromethane	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Dibromomethane	ND	830	150	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Dichlorodifluoromethane	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Ethyl Acetate	ND	8300	910	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Ethyl Ether	ND	8300	1800	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Ethyl tert-butyl ether	ND	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>Ethylbenzene</b>	<b>260000</b>	8300	1300	2000	B2K0101	11/01/2012	11/06/12 21:04	
Freon-113	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Hexachlorobutadiene	ND	830	490	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>Isopropylbenzene</b>	<b>20000</b>	830	190	200	B2K0070	11/01/2012	11/05/12 21:00	
<b>m,p-Xylene</b>	<b>810000</b>	41000	4900	5000	B2K0119	11/01/2012	11/07/12 13:36	
Methylene chloride	ND	830	830	200	B2K0070	11/01/2012	11/05/12 21:00	D6
MTBE	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>n-Butylbenzene</b>	<b>66000</b>	8300	990	2000	B2K0101	11/01/2012	11/06/12 21:04	
<b>n-Propylbenzene</b>	<b>110000</b>	8300	990	2000	B2K0101	11/01/2012	11/06/12 21:04	
<b>Naphthalene</b>	<b>85000</b>	8300	1900	2000	B2K0101	11/01/2012	11/06/12 21:04	
<b>o-Xylene</b>	<b>400000</b>	8300	1400	2000	B2K0101	11/01/2012	11/06/12 21:04	
<b>sec-Butylbenzene</b>	<b>10000</b>	830	190	200	B2K0070	11/01/2012	11/05/12 21:00	
Styrene	ND	830	100	200	B2K0070	11/01/2012	11/05/12 21:00	D6
tert-Amyl methyl ether	ND	830	120	200	B2K0070	11/01/2012	11/05/12 21:00	D6
tert-Butanol	ND	17000	3600	200	B2K0070	11/01/2012	11/05/12 21:00	D6
tert-Butylbenzene	ND	830	190	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Tetrachloroethene	ND	830	160	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<b>Toluene</b>	<b>400000</b>	8300	1300	2000	B2K0101	11/01/2012	11/06/12 21:04	
trans-1,2-Dichloroethene	ND	830	180	200	B2K0070	11/01/2012	11/05/12 21:00	D6
trans-1,3-Dichloropropene	ND	8300	170	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Trichloroethene	ND	830	160	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Trichlorofluoromethane	ND	830	130	200	B2K0070	11/01/2012	11/05/12 21:00	D6



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-2-9

Lab ID: 1203850-05

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	8300	990	200	B2K0070	11/01/2012	11/05/12 21:00	D6
Vinyl chloride	ND	830	140	200	B2K0070	11/01/2012	11/05/12 21:00	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97.5 %		<i>65 - 135</i>		B2K0119	11/01/2012	<i>11/07/12 13:36</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	112 %		<i>65 - 135</i>		B2K0101	11/01/2012	<i>11/06/12 21:04</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	134 %		<i>65 - 135</i>		B2K0070	11/01/2012	<i>11/05/12 21:00</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	94.7 %		<i>57 - 126</i>		B2K0119	11/01/2012	<i>11/07/12 13:36</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	116 %		<i>57 - 126</i>		B2K0101	11/01/2012	<i>11/06/12 21:04</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	132 %		<i>57 - 126</i>		B2K0070	11/01/2012	<i>11/05/12 21:00</i>	S7
<i>Surrogate: Dibromofluoromethane</i>	92.1 %		<i>72 - 121</i>		B2K0119	11/01/2012	<i>11/07/12 13:36</i>	
<i>Surrogate: Dibromofluoromethane</i>	107 %		<i>72 - 121</i>		B2K0101	11/01/2012	<i>11/06/12 21:04</i>	
<i>Surrogate: Dibromofluoromethane</i>	96.0 %		<i>72 - 121</i>		B2K0070	11/01/2012	<i>11/05/12 21:00</i>	
<i>Surrogate: Toluene-d8</i>	88.8 %		<i>80 - 107</i>		B2K0119	11/01/2012	<i>11/07/12 13:36</i>	
<i>Surrogate: Toluene-d8</i>	89.3 %		<i>80 - 107</i>		B2K0070	11/01/2012	<i>11/05/12 21:00</i>	
<i>Surrogate: Toluene-d8</i>	107 %		<i>80 - 107</i>		B2K0101	11/01/2012	<i>11/06/12 21:04</i>	S7



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-2-6

**Lab ID: 1203850-06**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.91	NA	1	B2K0372	11/14/2012	11/14/12 15:45	
Surrogate: 4-Bromofluorobenzene	103 %		44 - 168		B2K0372	11/14/2012	11/14/12 15:45	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	220	60	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,1,1-Trichloroethane	ND	220	32	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,1,2,2-Tetrachloroethane	ND	220	140	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,1,2-Trichloroethane	ND	220	36	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,1-Dichloroethane	ND	220	43	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,1-Dichloroethene	ND	220	45	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,1-Dichloropropene	ND	220	50	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2,3-Trichloropropane	ND	220	120	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2,3-Trichlorobenzene	ND	220	160	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2,4-Trichlorobenzene	ND	220	130	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>1,2,4-Trimethylbenzene</b>	<b>3400</b>	220	36	50	B2K0070	11/01/2012	11/05/12 18:44	
1,2-Dibromo-3-chloropropane	ND	450	170	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2-Dibromoethane	ND	220	52	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2-Dichlorobenzene	ND	220	90	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2-Dichloroethane	ND	220	32	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,2-Dichloropropane	ND	220	140	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>1,3,5-Trimethylbenzene</b>	<b>910</b>	220	52	50	B2K0070	11/01/2012	11/05/12 18:44	
1,3-Dichlorobenzene	ND	220	69	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,3-Dichloropropane	ND	220	50	50	B2K0070	11/01/2012	11/05/12 18:44	D6
1,4-Dichlorobenzene	ND	220	65	50	B2K0070	11/01/2012	11/05/12 18:44	D6
2,2-Dichloropropane	ND	220	54	50	B2K0070	11/01/2012	11/05/12 18:44	D6
2-Chlorotoluene	ND	220	35	50	B2K0070	11/01/2012	11/05/12 18:44	D6
4-Chlorotoluene	ND	220	36	50	B2K0070	11/01/2012	11/05/12 18:44	D6
4-Isopropyltoluene	ND	220	45	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>Benzene</b>	<b>49</b>	220	31	50	B2K0070	11/01/2012	11/05/12 18:44	D6, J
Bromobenzene	ND	220	60	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Bromochloromethane	ND	220	68	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Bromodichloromethane	ND	220	37	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Bromoform	ND	220	83	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>Bromomethane</b>	<b>96</b>	220	41	50	B2K0070	11/01/2012	11/05/12 18:44	D6, J



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-2-6

**Lab ID: 1203850-06**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	220	39	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Carbon tetrachloride	ND	220	57	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Chlorobenzene	ND	220	27	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Chloroethane	ND	220	100	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Chloroform	ND	220	40	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Chloromethane	ND	220	32	50	B2K0070	11/01/2012	11/05/12 18:44	D6
cis-1,2-Dichloroethene	ND	220	44	50	B2K0070	11/01/2012	11/05/12 18:44	D6
cis-1,3-Dichloropropene	ND	220	32	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Di-isopropyl ether	ND	220	37	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Dibromochloromethane	ND	220	38	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Dibromomethane	ND	220	42	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Dichlorodifluoromethane	ND	220	38	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Ethyl Acetate	ND	2200	250	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Ethyl Ether	ND	2200	500	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Ethyl tert-butyl ether	ND	220	32	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>Ethylbenzene</b>	<b>930</b>	220	21	50	B2K0070	11/01/2012	11/05/12 18:44	
Freon-113	ND	220	38	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Hexachlorobutadiene	ND	220	130	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>Isopropylbenzene</b>	<b>110</b>	220	51	50	B2K0070	11/01/2012	11/05/12 18:44	D6, J
<b>m,p-Xylene</b>	<b>4000</b>	450	53	50	B2K0070	11/01/2012	11/05/12 18:44	
Methylene chloride	ND	220	220	50	B2K0070	11/01/2012	11/05/12 18:44	D6
MTBE	ND	220	37	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>n-Butylbenzene</b>	<b>290</b>	220	65	50	B2K0070	11/01/2012	11/05/12 18:44	
<b>n-Propylbenzene</b>	<b>460</b>	220	44	50	B2K0070	11/01/2012	11/05/12 18:44	
<b>Naphthalene</b>	<b>1600</b>	220	140	50	B2K0070	11/01/2012	11/05/12 18:44	
<b>o-Xylene</b>	<b>1800</b>	220	24	50	B2K0070	11/01/2012	11/05/12 18:44	
<b>sec-Butylbenzene</b>	<b>66</b>	220	51	50	B2K0070	11/01/2012	11/05/12 18:44	D6, J
Styrene	ND	220	29	50	B2K0070	11/01/2012	11/05/12 18:44	D6
tert-Amyl methyl ether	ND	220	33	50	B2K0070	11/01/2012	11/05/12 18:44	D6
tert-Butanol	ND	4500	990	50	B2K0070	11/01/2012	11/05/12 18:44	D6
tert-Butylbenzene	ND	220	51	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Tetrachloroethene	ND	220	43	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<b>Toluene</b>	<b>1000</b>	220	30	50	B2K0070	11/01/2012	11/05/12 18:44	
trans-1,2-Dichloroethene	ND	220	49	50	B2K0070	11/01/2012	11/05/12 18:44	D6
trans-1,3-Dichloropropene	ND	2200	45	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Trichloroethene	ND	220	43	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Trichlorofluoromethane	ND	220	35	50	B2K0070	11/01/2012	11/05/12 18:44	D6



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-2-6

Lab ID: 1203850-06

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	2200	270	50	B2K0070	11/01/2012	11/05/12 18:44	D6
Vinyl chloride	ND	220	38	50	B2K0070	11/01/2012	11/05/12 18:44	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97.0 %		65 - 135		B2K0070	11/01/2012	11/05/12 18:44	
<i>Surrogate: 4-Bromofluorobenzene</i>	105 %		57 - 126		B2K0070	11/01/2012	11/05/12 18:44	
<i>Surrogate: Dibromofluoromethane</i>	88.1 %		72 - 121		B2K0070	11/01/2012	11/05/12 18:44	
<i>Surrogate: Toluene-d8</i>	96.6 %		80 - 107		B2K0070	11/01/2012	11/05/12 18:44	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-7-7

**Lab ID: 1203850-07**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>13000</b>	760	NA	1000	B2K0372	11/14/2012	11/14/12 18:06	
Surrogate: 4-Bromofluorobenzene	287 %		44 - 168		B2K0372	11/14/2012	11/14/12 18:06	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	760	200	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,1,1-Trichloroethane	ND	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,1,2,2-Tetrachloroethane	ND	760	480	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,1,2-Trichloroethane	ND	760	120	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,1-Dichloroethane	ND	760	150	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,1-Dichloroethene	ND	760	150	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,1-Dichloropropene	ND	760	170	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2,3-Trichloropropane	ND	760	420	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2,3-Trichlorobenzene	ND	760	550	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2,4-Trichlorobenzene	ND	760	440	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>1,2,4-Trimethylbenzene</b>	<b>540000</b>	19000	2400	5000	B2K0241	11/01/2012	11/10/12 01:42	
1,2-Dibromo-3-chloropropane	ND	1500	560	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2-Dibromoethane	ND	760	170	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2-Dichlorobenzene	ND	760	310	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2-Dichloroethane	ND	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,2-Dichloropropane	ND	760	480	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>1,3,5-Trimethylbenzene</b>	<b>180000</b>	7600	930	2000	B2K0101	11/01/2012	11/06/12 21:21	
1,3-Dichlorobenzene	ND	760	230	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,3-Dichloropropane	ND	760	170	200	B2K0070	11/01/2012	11/05/12 21:20	D6
1,4-Dichlorobenzene	ND	760	220	200	B2K0070	11/01/2012	11/05/12 21:20	D6
2,2-Dichloropropane	ND	760	180	200	B2K0070	11/01/2012	11/05/12 21:20	D6
2-Chlorotoluene	ND	760	120	200	B2K0070	11/01/2012	11/05/12 21:20	D6
4-Chlorotoluene	ND	760	120	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>4-Isopropyltoluene</b>	<b>6300</b>	760	150	200	B2K0070	11/01/2012	11/05/12 21:20	
<b>Benzene</b>	<b>12000</b>	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	
Bromobenzene	ND	760	200	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Bromochloromethane	ND	760	230	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Bromodichloromethane	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Bromoform	ND	760	280	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Bromomethane	ND	760	140	200	B2K0070	11/01/2012	11/05/12 21:20	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-7-7****Lab ID: 1203850-07****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Carbon tetrachloride	ND	760	190	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Chlorobenzene	ND	760	90	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Chloroethane	ND	760	350	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Chloroform	ND	760	140	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Chloromethane	ND	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	D6
cis-1,2-Dichloroethene	ND	760	150	200	B2K0070	11/01/2012	11/05/12 21:20	D6
cis-1,3-Dichloropropene	ND	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Di-isopropyl ether	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Dibromochloromethane	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Dibromomethane	ND	760	140	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Dichlorodifluoromethane	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Ethyl Acetate	ND	7600	840	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Ethyl Ether	ND	7600	1700	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Ethyl tert-butyl ether	ND	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>Ethylbenzene</b>	<b>210000</b>	7600	1200	2000	B2K0101	11/01/2012	11/06/12 21:21	
Freon-113	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Hexachlorobutadiene	ND	760	450	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>Isopropylbenzene</b>	<b>20000</b>	760	170	200	B2K0070	11/01/2012	11/05/12 21:20	
<b>m,p-Xylene</b>	<b>830000</b>	15000	1800	2000	B2K0101	11/01/2012	11/06/12 21:21	
Methylene chloride	ND	760	760	200	B2K0070	11/01/2012	11/05/12 21:20	D6
MTBE	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>n-Butylbenzene</b>	<b>61000</b>	7600	910	2000	B2K0101	11/01/2012	11/06/12 21:21	
<b>n-Propylbenzene</b>	<b>100000</b>	7600	910	2000	B2K0101	11/01/2012	11/06/12 21:21	
<b>Naphthalene</b>	<b>77000</b>	7600	1800	2000	B2K0101	11/01/2012	11/06/12 21:21	
<b>o-Xylene</b>	<b>350000</b>	7600	1300	2000	B2K0101	11/01/2012	11/06/12 21:21	
<b>sec-Butylbenzene</b>	<b>11000</b>	760	170	200	B2K0070	11/01/2012	11/05/12 21:20	
Styrene	ND	760	97	200	B2K0070	11/01/2012	11/05/12 21:20	D6
tert-Amyl methyl ether	ND	760	110	200	B2K0070	11/01/2012	11/05/12 21:20	D6
tert-Butanol	ND	15000	3300	200	B2K0070	11/01/2012	11/05/12 21:20	D6
tert-Butylbenzene	ND	760	170	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Tetrachloroethene	ND	760	140	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<b>Toluene</b>	<b>330000</b>	7600	1200	2000	B2K0101	11/01/2012	11/06/12 21:21	
trans-1,2-Dichloroethene	ND	760	160	200	B2K0070	11/01/2012	11/05/12 21:20	D6
trans-1,3-Dichloropropene	ND	7600	150	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Trichloroethene	ND	760	150	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Trichlorofluoromethane	ND	760	120	200	B2K0070	11/01/2012	11/05/12 21:20	D6



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-7-7

Lab ID: 1203850-07

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	7600	910	200	B2K0070	11/01/2012	11/05/12 21:20	D6
Vinyl chloride	ND	760	130	200	B2K0070	11/01/2012	11/05/12 21:20	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	91.1 %		65 - 135		B2K0241	11/01/2012	11/10/12 01:42	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	83.3 %		65 - 135		B2K0101	11/01/2012	11/06/12 21:21	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	118 %		65 - 135		B2K0070	11/01/2012	11/05/12 21:20	
<i>Surrogate: 4-Bromofluorobenzene</i>	94.4 %		57 - 126		B2K0241	11/01/2012	11/10/12 01:42	
<i>Surrogate: 4-Bromofluorobenzene</i>	89.2 %		57 - 126		B2K0101	11/01/2012	11/06/12 21:21	
<i>Surrogate: 4-Bromofluorobenzene</i>	133 %		57 - 126		B2K0070	11/01/2012	11/05/12 21:20	S7
<i>Surrogate: Dibromofluoromethane</i>	89.1 %		72 - 121		B2K0241	11/01/2012	11/10/12 01:42	
<i>Surrogate: Dibromofluoromethane</i>	92.6 %		72 - 121		B2K0070	11/01/2012	11/05/12 21:20	
<i>Surrogate: Dibromofluoromethane</i>	80.7 %		72 - 121		B2K0101	11/01/2012	11/06/12 21:21	
<i>Surrogate: Toluene-d8</i>	89.8 %		80 - 107		B2K0241	11/01/2012	11/10/12 01:42	
<i>Surrogate: Toluene-d8</i>	82.1 %		80 - 107		B2K0101	11/01/2012	11/06/12 21:21	
<i>Surrogate: Toluene-d8</i>	90.2 %		80 - 107		B2K0070	11/01/2012	11/05/12 21:20	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-7-5

**Lab ID: 1203850-08**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.90	NA	1	B2K0372	11/14/2012	11/14/12 16:00	
Surrogate: 4-Bromofluorobenzene	86.5 %		44 - 168		B2K0372	11/14/2012	11/14/12 16:00	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	230	61	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,1,1-Trichloroethane	ND	230	33	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,1,2,2-Tetrachloroethane	ND	230	140	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,1,2-Trichloroethane	ND	230	37	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,1-Dichloroethane	ND	230	44	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,1-Dichloroethene	ND	230	46	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,1-Dichloropropene	ND	230	51	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2,3-Trichloropropane	ND	230	130	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2,3-Trichlorobenzene	ND	230	160	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2,4-Trichlorobenzene	ND	230	130	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<b>1,2,4-Trimethylbenzene</b>	<b>2500</b>	230	37	50	B2K0070	11/01/2012	11/05/12 19:03	
1,2-Dibromo-3-chloropropane	ND	460	170	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2-Dibromoethane	ND	230	52	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2-Dichlorobenzene	ND	230	92	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2-Dichloroethane	ND	230	32	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,2-Dichloropropane	ND	230	140	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<b>1,3,5-Trimethylbenzene</b>	<b>690</b>	230	53	50	B2K0070	11/01/2012	11/05/12 19:03	
1,3-Dichlorobenzene	ND	230	70	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,3-Dichloropropane	ND	230	50	50	B2K0070	11/01/2012	11/05/12 19:03	D6
1,4-Dichlorobenzene	ND	230	67	50	B2K0070	11/01/2012	11/05/12 19:03	D6
2,2-Dichloropropane	ND	230	55	50	B2K0070	11/01/2012	11/05/12 19:03	D6
2-Chlorotoluene	ND	230	36	50	B2K0070	11/01/2012	11/05/12 19:03	D6
4-Chlorotoluene	ND	230	36	50	B2K0070	11/01/2012	11/05/12 19:03	D6
4-Isopropyltoluene	ND	230	46	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Benzene	ND	230	32	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Bromobenzene	ND	230	61	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Bromochloromethane	ND	230	69	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Bromodichloromethane	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Bromoform	ND	230	85	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Bromomethane	ND	230	41	50	B2K0070	11/01/2012	11/05/12 19:03	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-7-5

**Lab ID: 1203850-08**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	230	40	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Carbon tetrachloride	ND	230	58	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Chlorobenzene	ND	230	27	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Chloroethane	ND	230	100	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Chloroform	ND	230	41	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Chloromethane	ND	230	33	50	B2K0070	11/01/2012	11/05/12 19:03	D6
cis-1,2-Dichloroethene	ND	230	44	50	B2K0070	11/01/2012	11/05/12 19:03	D6
cis-1,3-Dichloropropene	ND	230	32	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Di-isopropyl ether	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Dibromochloromethane	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Dibromomethane	ND	230	43	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Dichlorodifluoromethane	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Ethyl Acetate	ND	2300	250	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Ethyl Ether	ND	2300	510	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Ethyl tert-butyl ether	ND	230	32	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<b>Ethylbenzene</b>	<b>590</b>	230	22	50	B2K0070	11/01/2012	11/05/12 19:03	
Freon-113	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Hexachlorobutadiene	ND	230	140	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<b>Isopropylbenzene</b>	<b>81</b>	230	52	50	B2K0070	11/01/2012	11/05/12 19:03	D6, J
<b>m,p-Xylene</b>	<b>3000</b>	460	54	50	B2K0070	11/01/2012	11/05/12 19:03	
Methylene chloride	ND	230	230	50	B2K0070	11/01/2012	11/05/12 19:03	D6
MTBE	ND	230	38	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<b>n-Butylbenzene</b>	<b>220</b>	230	66	50	B2K0070	11/01/2012	11/05/12 19:03	D6, J
<b>n-Propylbenzene</b>	<b>320</b>	230	44	50	B2K0070	11/01/2012	11/05/12 19:03	
<b>Naphthalene</b>	<b>990</b>	230	140	50	B2K0070	11/01/2012	11/05/12 19:03	
<b>o-Xylene</b>	<b>1300</b>	230	24	50	B2K0070	11/01/2012	11/05/12 19:03	
<b>sec-Butylbenzene</b>	<b>57</b>	230	52	50	B2K0070	11/01/2012	11/05/12 19:03	D6, J
Styrene	ND	230	29	50	B2K0070	11/01/2012	11/05/12 19:03	D6
tert-Amyl methyl ether	ND	230	34	50	B2K0070	11/01/2012	11/05/12 19:03	D6
tert-Butanol	ND	4600	1000	50	B2K0070	11/01/2012	11/05/12 19:03	D6
tert-Butylbenzene	ND	230	52	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Tetrachloroethene	ND	230	43	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<b>Toluene</b>	<b>650</b>	230	30	50	B2K0070	11/01/2012	11/05/12 19:03	
trans-1,2-Dichloroethene	ND	230	49	50	B2K0070	11/01/2012	11/05/12 19:03	D6
trans-1,3-Dichloropropene	ND	2300	46	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Trichloroethene	ND	230	44	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Trichlorofluoromethane	ND	230	35	50	B2K0070	11/01/2012	11/05/12 19:03	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-7-5

Lab ID: 1203850-08

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	2300	270	50	B2K0070	11/01/2012	11/05/12 19:03	D6
Vinyl chloride	ND	230	39	50	B2K0070	11/01/2012	11/05/12 19:03	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	95.3 %		<i>65 - 135</i>		B2K0070	11/01/2012	<i>11/05/12 19:03</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	110 %		<i>57 - 126</i>		B2K0070	11/01/2012	<i>11/05/12 19:03</i>	
<i>Surrogate: Dibromofluoromethane</i>	91.0 %		<i>72 - 121</i>		B2K0070	11/01/2012	<i>11/05/12 19:03</i>	
<i>Surrogate: Toluene-d8</i>	99.0 %		<i>80 - 107</i>		B2K0070	11/01/2012	<i>11/05/12 19:03</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-8-10

**Lab ID: 1203850-09**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>1900</b>	180	NA	200	B2K0372	11/14/2012	11/14/12 18:37	
Surrogate: 4-Bromofluorobenzene	201 %		44 - 168		B2K0372	11/14/2012	11/14/12 18:37	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	2300	360	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,1,1-Trichloroethane	ND	2300	1100	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,1,2,2-Tetrachloroethane	ND	2300	510	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,1,2-Trichloroethane	ND	2300	360	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,1-Dichloroethane	ND	2300	510	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,1-Dichloroethene	ND	2300	650	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,1-Dichloropropene	ND	2300	670	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2,3-Trichloropropane	ND	2300	730	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2,3-Trichlorobenzene	ND	2300	590	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2,4-Trichlorobenzene	ND	2300	550	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<b>1,2,4-Trimethylbenzene</b>	<b>85000</b>	2300	290	500	B2K0101	11/01/2012	11/06/12 22:12	
1,2-Dibromo-3-chloropropane	ND	4600	1100	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2-Dibromoethane	ND	2300	460	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2-Dichlorobenzene	ND	2300	650	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2-Dichloroethane	ND	2300	490	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,2-Dichloropropane	ND	2300	400	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<b>1,3,5-Trimethylbenzene</b>	<b>25000</b>	2300	280	500	B2K0101	11/01/2012	11/06/12 22:12	
1,3-Dichlorobenzene	ND	2300	320	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,3-Dichloropropane	ND	2300	500	500	B2K0101	11/01/2012	11/06/12 22:12	D6
1,4-Dichlorobenzene	ND	2300	360	500	B2K0101	11/01/2012	11/06/12 22:12	D6
2,2-Dichloropropane	ND	2300	630	500	B2K0101	11/01/2012	11/06/12 22:12	D6
2-Chlorotoluene	ND	2300	700	500	B2K0101	11/01/2012	11/06/12 22:12	D6
4-Chlorotoluene	ND	2300	280	500	B2K0101	11/01/2012	11/06/12 22:12	D6
4-Isopropyltoluene	ND	2300	910	500	B2K0101	11/01/2012	11/06/12 22:12	
<b>Benzene</b>	<b>4100</b>	2300	320	500	B2K0101	11/01/2012	11/06/12 22:12	
Bromobenzene	ND	2300	490	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Bromochloromethane	ND	2300	390	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Bromodichloromethane	ND	2300	440	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Bromoform	ND	2300	760	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Bromomethane	ND	2300	890	500	B2K0101	11/01/2012	11/06/12 22:12	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-8-10****Lab ID: 1203850-09****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	2300	2300	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Carbon tetrachloride	ND	2300	540	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Chlorobenzene	ND	2300	430	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Chloroethane	ND	2300	350	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Chloroform	ND	2300	610	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Chloromethane	ND	2300	450	500	B2K0101	11/01/2012	11/06/12 22:12	D6
cis-1,2-Dichloroethene	ND	2300	820	500	B2K0101	11/01/2012	11/06/12 22:12	D6
cis-1,3-Dichloropropene	ND	2300	380	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Di-isopropyl ether	ND	2300	400	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Dibromochloromethane	ND	2300	450	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Dibromomethane	ND	2300	680	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Dichlorodifluoromethane	ND	2300	370	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Ethyl Acetate	ND	23000	3000	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Ethyl Ether	ND	23000	3500	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Ethyl tert-butyl ether	ND	2300	290	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<b>Ethylbenzene</b>	<b>36000</b>	2300	360	500	B2K0101	11/01/2012	11/06/12 22:12	
Freon-113	ND	2300	450	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Hexachlorobutadiene	ND	2300	790	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<b>Isopropylbenzene</b>	<b>3400</b>	2300	330	500	B2K0101	11/01/2012	11/06/12 22:12	
<b>m,p-Xylene</b>	<b>160000</b>	4600	540	500	B2K0101	11/01/2012	11/06/12 22:12	
Methylene chloride	ND	2300	2300	500	B2K0101	11/01/2012	11/06/12 22:12	D6
MTBE	ND	2300	470	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<b>n-Butylbenzene</b>	<b>6700</b>	2300	270	500	B2K0101	11/01/2012	11/06/12 22:12	
<b>n-Propylbenzene</b>	<b>13000</b>	2300	270	500	B2K0101	11/01/2012	11/06/12 22:12	
<b>Naphthalene</b>	<b>10000</b>	2300	540	500	B2K0101	11/01/2012	11/06/12 22:12	
<b>o-Xylene</b>	<b>59000</b>	2300	380	500	B2K0101	11/01/2012	11/06/12 22:12	
<b>sec-Butylbenzene</b>	<b>1700</b>	2300	280	500	B2K0101	11/01/2012	11/06/12 22:12	D6, J
Styrene	ND	2300	270	500	B2K0101	11/01/2012	11/06/12 22:12	D6
tert-Amyl methyl ether	ND	2300	440	500	B2K0101	11/01/2012	11/06/12 22:12	D6
tert-Butanol	ND	46000	3700	500	B2K0101	11/01/2012	11/06/12 22:12	D6
tert-Butylbenzene	ND	2300	350	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Tetrachloroethene	ND	2300	530	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<b>Toluene</b>	<b>58000</b>	2300	370	500	B2K0101	11/01/2012	11/06/12 22:12	
trans-1,2-Dichloroethene	ND	2300	670	500	B2K0101	11/01/2012	11/06/12 22:12	D6
trans-1,3-Dichloropropene	ND	23000	660	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Trichloroethene	ND	2300	890	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Trichlorofluoromethane	ND	2300	470	500	B2K0101	11/01/2012	11/06/12 22:12	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-8-10

Lab ID: 1203850-09

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	23000	5300	500	B2K0101	11/01/2012	11/06/12 22:12	D6
Vinyl chloride	ND	2300	740	500	B2K0101	11/01/2012	11/06/12 22:12	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	86.2 %		65 - 135		B2K0101	11/01/2012	11/06/12 22:12	
<i>Surrogate: 4-Bromofluorobenzene</i>	92.3 %		57 - 126		B2K0101	11/01/2012	11/06/12 22:12	
<i>Surrogate: Dibromofluoromethane</i>	83.5 %		72 - 121		B2K0101	11/01/2012	11/06/12 22:12	
<i>Surrogate: Toluene-d8</i>	86.4 %		80 - 107		B2K0101	11/01/2012	11/06/12 22:12	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-8-8

**Lab ID: 1203850-10**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>2800</b>	190	NA	200	B2K0372	11/14/2012	11/14/12 19:39	
Surrogate: 4-Bromofluorobenzene	239 %		44 - 168		B2K0372	11/14/2012	11/14/12 19:39	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	2400	370	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,1,1-Trichloroethane	ND	2400	1100	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,1,2,2-Tetrachloroethane	ND	2400	520	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,1,2-Trichloroethane	ND	2400	380	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,1-Dichloroethane	ND	2400	530	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,1-Dichloroethene	ND	2400	670	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,1-Dichloropropene	ND	2400	700	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2,3-Trichloropropane	ND	2400	760	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2,3-Trichlorobenzene	ND	2400	620	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2,4-Trichlorobenzene	ND	2400	570	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>1,2,4-Trimethylbenzene</b>	<b>130000</b>	2400	310	500	B2K0119	11/01/2012	11/07/12 15:36	
1,2-Dibromo-3-chloropropane	ND	4800	1200	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2-Dibromoethane	ND	2400	480	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2-Dichlorobenzene	ND	2400	680	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2-Dichloroethane	ND	2400	510	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,2-Dichloropropane	ND	2400	420	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>1,3,5-Trimethylbenzene</b>	<b>41000</b>	2400	290	500	B2K0119	11/01/2012	11/07/12 15:36	
1,3-Dichlorobenzene	ND	2400	330	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,3-Dichloropropane	ND	2400	510	500	B2K0119	11/01/2012	11/07/12 15:36	D6
1,4-Dichlorobenzene	ND	2400	370	500	B2K0119	11/01/2012	11/07/12 15:36	D6
2,2-Dichloropropane	ND	2400	650	500	B2K0119	11/01/2012	11/07/12 15:36	D6
2-Chlorotoluene	ND	2400	730	500	B2K0119	11/01/2012	11/07/12 15:36	D6
4-Chlorotoluene	ND	2400	290	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>4-Isopropyltoluene</b>	<b>1200</b>	2400	950	500	B2K0119	11/01/2012	11/07/12 15:36	J
<b>Benzene</b>	<b>4900</b>	2400	330	500	B2K0119	11/01/2012	11/07/12 15:36	
Bromobenzene	ND	2400	510	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Bromochloromethane	ND	2400	410	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Bromodichloromethane	ND	2400	460	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Bromoform	ND	2400	780	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Bromomethane	ND	2400	920	500	B2K0119	11/01/2012	11/07/12 15:36	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-8-8****Lab ID: 1203850-10****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	2400	2400	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Carbon tetrachloride	ND	2400	560	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Chlorobenzene	ND	2400	440	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Chloroethane	ND	2400	360	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Chloroform	ND	2400	630	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Chloromethane	ND	2400	460	500	B2K0119	11/01/2012	11/07/12 15:36	D6
cis-1,2-Dichloroethene	ND	2400	850	500	B2K0119	11/01/2012	11/07/12 15:36	D6
cis-1,3-Dichloropropene	ND	2400	390	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Di-isopropyl ether	ND	2400	420	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Dibromochloromethane	ND	2400	460	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Dibromomethane	ND	2400	710	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Dichlorodifluoromethane	ND	2400	380	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Ethyl Acetate	ND	24000	3100	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Ethyl Ether	ND	24000	3600	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Ethyl tert-butyl ether	ND	2400	310	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>Ethylbenzene</b>	<b>54000</b>	2400	370	500	B2K0119	11/01/2012	11/07/12 15:36	
Freon-113	ND	2400	460	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Hexachlorobutadiene	ND	2400	820	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>Isopropylbenzene</b>	<b>5200</b>	2400	340	500	B2K0119	11/01/2012	11/07/12 15:36	
<b>m,p-Xylene</b>	<b>220000</b>	4800	560	500	B2K0119	11/01/2012	11/07/12 15:36	
Methylene chloride	ND	2400	2400	500	B2K0119	11/01/2012	11/07/12 15:36	D6
MTBE	ND	2400	490	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>n-Butylbenzene</b>	<b>11000</b>	2400	280	500	B2K0119	11/01/2012	11/07/12 15:36	
<b>n-Propylbenzene</b>	<b>20000</b>	2400	280	500	B2K0119	11/01/2012	11/07/12 15:36	
<b>Naphthalene</b>	<b>16000</b>	2400	560	500	B2K0119	11/01/2012	11/07/12 15:36	
<b>o-Xylene</b>	<b>78000</b>	2400	400	500	B2K0119	11/01/2012	11/07/12 15:36	
<b>sec-Butylbenzene</b>	<b>2800</b>	2400	290	500	B2K0119	11/01/2012	11/07/12 15:36	
Styrene	ND	2400	280	500	B2K0119	11/01/2012	11/07/12 15:36	D6
tert-Amyl methyl ether	ND	2400	460	500	B2K0119	11/01/2012	11/07/12 15:36	D6
tert-Butanol	ND	48000	3800	500	B2K0119	11/01/2012	11/07/12 15:36	D6
tert-Butylbenzene	ND	2400	360	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Tetrachloroethene	ND	2400	550	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<b>Toluene</b>	<b>72000</b>	2400	380	500	B2K0119	11/01/2012	11/07/12 15:36	
trans-1,2-Dichloroethene	ND	2400	700	500	B2K0119	11/01/2012	11/07/12 15:36	D6
trans-1,3-Dichloropropene	ND	24000	690	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Trichloroethene	ND	2400	930	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Trichlorofluoromethane	ND	2400	480	500	B2K0119	11/01/2012	11/07/12 15:36	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-8-8

Lab ID: 1203850-10

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	24000	5500	500	B2K0119	11/01/2012	11/07/12 15:36	D6
Vinyl chloride	ND	2400	770	500	B2K0119	11/01/2012	11/07/12 15:36	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	89.0 %		65 - 135		B2K0119	11/01/2012	11/07/12 15:36	
<i>Surrogate: 4-Bromofluorobenzene</i>	88.7 %		57 - 126		B2K0119	11/01/2012	11/07/12 15:36	
<i>Surrogate: Dibromofluoromethane</i>	83.2 %		72 - 121		B2K0119	11/01/2012	11/07/12 15:36	
<i>Surrogate: Toluene-d8</i>	81.4 %		80 - 107		B2K0119	11/01/2012	11/07/12 15:36	



## Certificate of Analysis

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Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-10-8

**Lab ID: 1203850-11**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>4800</b>	410	NA	500	B2K0372	11/14/2012	11/14/12 20:10	
Surrogate: 4-Bromofluorobenzene	243 %		44 - 168		B2K0372	11/14/2012	11/14/12 20:10	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	2100	320	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,1,1-Trichloroethane	ND	2100	950	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,1,2,2-Tetrachloroethane	ND	2100	450	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,1,2-Trichloroethane	ND	2100	330	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,1-Dichloroethane	ND	2100	460	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,1-Dichloroethene	ND	2100	580	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,1-Dichloropropene	ND	2100	600	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2,3-Trichloropropane	ND	2100	650	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2,3-Trichlorobenzene	ND	2100	530	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2,4-Trichlorobenzene	ND	2100	490	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>1,2,4-Trimethylbenzene</b>	<b>700000</b>	41000	5300	10000	B2K0119	11/01/2012	11/07/12 19:02	
1,2-Dibromo-3-chloropropane	ND	4100	1000	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2-Dibromoethane	ND	2100	410	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2-Dichlorobenzene	ND	2100	590	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2-Dichloroethane	ND	2100	440	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,2-Dichloropropane	ND	2100	360	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>1,3,5-Trimethylbenzene</b>	<b>200000</b>	41000	5000	10000	B2K0119	11/01/2012	11/07/12 19:02	
1,3-Dichlorobenzene	ND	2100	280	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,3-Dichloropropane	ND	2100	440	500	B2K0119	11/01/2012	11/07/12 15:53	D6
1,4-Dichlorobenzene	ND	2100	320	500	B2K0119	11/01/2012	11/07/12 15:53	D6
2,2-Dichloropropane	ND	2100	560	500	B2K0119	11/01/2012	11/07/12 15:53	D6
2-Chlorotoluene	ND	2100	630	500	B2K0119	11/01/2012	11/07/12 15:53	D6
4-Chlorotoluene	ND	2100	250	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>4-Isopropyltoluene</b>	<b>9000</b>	2100	820	500	B2K0119	11/01/2012	11/07/12 15:53	
<b>Benzene</b>	<b>21000</b>	2100	290	500	B2K0119	11/01/2012	11/07/12 15:53	
Bromobenzene	ND	2100	440	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Bromochloromethane	ND	2100	350	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Bromodichloromethane	ND	2100	400	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Bromoform	ND	2100	680	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Bromomethane	ND	2100	800	500	B2K0119	11/01/2012	11/07/12 15:53	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-10-8

**Lab ID: 1203850-11**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	2100	2100	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Carbon tetrachloride	ND	2100	480	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Chlorobenzene	ND	2100	380	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Chloroethane	ND	2100	310	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Chloroform	ND	2100	540	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Chloromethane	ND	2100	400	500	B2K0119	11/01/2012	11/07/12 15:53	D6
cis-1,2-Dichloroethene	ND	2100	730	500	B2K0119	11/01/2012	11/07/12 15:53	D6
cis-1,3-Dichloropropene	ND	2100	340	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Di-isopropyl ether	ND	2100	360	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Dibromochloromethane	ND	2100	400	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Dibromomethane	ND	2100	610	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Dichlorodifluoromethane	ND	2100	330	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Ethyl Acetate	ND	21000	2700	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Ethyl Ether	ND	21000	3100	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Ethyl tert-butyl ether	ND	2100	260	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>Ethylbenzene</b>	<b>300000</b>	41000	6400	10000	B2K0119	11/01/2012	11/07/12 19:02	
Freon-113	ND	2100	400	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Hexachlorobutadiene	ND	2100	710	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>Isopropylbenzene</b>	<b>30000</b>	2100	290	500	B2K0119	11/01/2012	11/07/12 15:53	
<b>m,p-Xylene</b>	<b>1300000</b>	82000	9700	10000	B2K0119	11/01/2012	11/07/12 19:02	
Methylene chloride	ND	2100	2100	500	B2K0119	11/01/2012	11/07/12 15:53	D6
MTBE	ND	2100	420	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>n-Butylbenzene</b>	<b>70000</b>	2100	250	500	B2K0119	11/01/2012	11/07/12 15:53	
<b>n-Propylbenzene</b>	<b>100000</b>	2100	240	500	B2K0119	11/01/2012	11/07/12 15:53	
<b>Naphthalene</b>	<b>79000</b>	2100	480	500	B2K0119	11/01/2012	11/07/12 15:53	
<b>o-Xylene</b>	<b>460000</b>	41000	6900	10000	B2K0119	11/01/2012	11/07/12 19:02	
<b>sec-Butylbenzene</b>	<b>17000</b>	2100	250	500	B2K0119	11/01/2012	11/07/12 15:53	
Styrene	ND	2100	240	500	B2K0119	11/01/2012	11/07/12 15:53	D6
tert-Amyl methyl ether	ND	2100	390	500	B2K0119	11/01/2012	11/07/12 15:53	D6
tert-Butanol	ND	41000	3300	500	B2K0119	11/01/2012	11/07/12 15:53	D6
tert-Butylbenzene	ND	2100	310	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Tetrachloroethene	ND	2100	480	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<b>Toluene</b>	<b>500000</b>	41000	6600	10000	B2K0119	11/01/2012	11/07/12 19:02	
trans-1,2-Dichloroethene	ND	2100	600	500	B2K0119	11/01/2012	11/07/12 15:53	D6
trans-1,3-Dichloropropene	ND	21000	590	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Trichloroethene	ND	2100	800	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Trichlorofluoromethane	ND	2100	420	500	B2K0119	11/01/2012	11/07/12 15:53	D6



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-10-8

Lab ID: 1203850-11

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	21000	4700	500	B2K0119	11/01/2012	11/07/12 15:53	D6
Vinyl chloride	ND	2100	660	500	B2K0119	11/01/2012	11/07/12 15:53	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	92.2 %		<i>65 - 135</i>		B2K0119	11/01/2012	<i>11/07/12 19:02</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	93.6 %		<i>65 - 135</i>		B2K0119	11/01/2012	<i>11/07/12 15:53</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	94.4 %		<i>57 - 126</i>		B2K0119	11/01/2012	<i>11/07/12 19:02</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	103 %		<i>57 - 126</i>		B2K0119	11/01/2012	<i>11/07/12 15:53</i>	
<i>Surrogate: Dibromofluoromethane</i>	83.0 %		<i>72 - 121</i>		B2K0119	11/01/2012	<i>11/07/12 15:53</i>	
<i>Surrogate: Dibromofluoromethane</i>	92.3 %		<i>72 - 121</i>		B2K0119	11/01/2012	<i>11/07/12 19:02</i>	
<i>Surrogate: Toluene-d8</i>	78.3 %		<i>80 - 107</i>		B2K0119	11/01/2012	<i>11/07/12 15:53</i>	S7
<i>Surrogate: Toluene-d8</i>	91.9 %		<i>80 - 107</i>		B2K0119	11/01/2012	<i>11/07/12 19:02</i>	



## Certificate of Analysis

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1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-10-5

**Lab ID: 1203850-12**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.85	NA	1	B2K0372	11/14/2012	11/14/12 16:16	
Surrogate: 4-Bromofluorobenzene	107 %		44 - 168		B2K0372	11/14/2012	11/14/12 16:16	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	210	56	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,1,1-Trichloroethane	ND	210	30	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,1,2,2-Tetrachloroethane	ND	210	130	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,1,2-Trichloroethane	ND	210	34	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,1-Dichloroethane	ND	210	40	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,1-Dichloroethene	ND	210	43	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,1-Dichloropropene	ND	210	47	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2,3-Trichloropropane	ND	210	120	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2,3-Trichlorobenzene	ND	210	150	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2,4-Trichlorobenzene	ND	210	120	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>1,2,4-Trimethylbenzene</b>	<b>1400</b>	210	34	50	B2K0070	11/01/2012	11/05/12 19:23	
1,2-Dibromo-3-chloropropane	ND	420	160	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2-Dibromoethane	ND	210	49	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2-Dichlorobenzene	ND	210	85	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2-Dichloroethane	ND	210	30	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,2-Dichloropropane	ND	210	130	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>1,3,5-Trimethylbenzene</b>	<b>390</b>	210	49	50	B2K0070	11/01/2012	11/05/12 19:23	
1,3-Dichlorobenzene	ND	210	65	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,3-Dichloropropane	ND	210	47	50	B2K0070	11/01/2012	11/05/12 19:23	D6
1,4-Dichlorobenzene	ND	210	62	50	B2K0070	11/01/2012	11/05/12 19:23	D6
2,2-Dichloropropane	ND	210	51	50	B2K0070	11/01/2012	11/05/12 19:23	D6
2-Chlorotoluene	ND	210	33	50	B2K0070	11/01/2012	11/05/12 19:23	D6
4-Chlorotoluene	ND	210	34	50	B2K0070	11/01/2012	11/05/12 19:23	D6
4-Isopropyltoluene	ND	210	42	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Benzene	ND	210	29	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Bromobenzene	ND	210	56	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Bromochloromethane	ND	210	64	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Bromodichloromethane	ND	210	35	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Bromoform	ND	210	78	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>Bromomethane</b>	<b>86</b>	210	38	50	B2K0070	11/01/2012	11/05/12 19:23	D6, J



## Certificate of Analysis

Ninno &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-10-5

**Lab ID: 1203850-12**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	210	37	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Carbon tetrachloride	ND	210	53	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Chlorobenzene	ND	210	25	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Chloroethane	ND	210	97	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Chloroform	ND	210	38	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Chloromethane	ND	210	30	50	B2K0070	11/01/2012	11/05/12 19:23	D6
cis-1,2-Dichloroethene	ND	210	41	50	B2K0070	11/01/2012	11/05/12 19:23	D6
cis-1,3-Dichloropropene	ND	210	30	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Di-isopropyl ether	ND	210	35	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Dibromochloromethane	ND	210	36	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Dibromomethane	ND	210	39	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Dichlorodifluoromethane	ND	210	35	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Ethyl Acetate	ND	2100	230	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Ethyl Ether	ND	2100	470	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Ethyl tert-butyl ether	ND	210	30	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>Ethylbenzene</b>	<b>320</b>	210	20	50	B2K0070	11/01/2012	11/05/12 19:23	
Freon-113	ND	210	36	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Hexachlorobutadiene	ND	210	130	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Isopropylbenzene	ND	210	48	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>m,p-Xylene</b>	<b>1700</b>	420	50	50	B2K0070	11/01/2012	11/05/12 19:23	
Methylene chloride	ND	210	210	50	B2K0070	11/01/2012	11/05/12 19:23	D6
MTBE	ND	210	35	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>n-Butylbenzene</b>	<b>65</b>	210	62	50	B2K0070	11/01/2012	11/05/12 19:23	D6, J
<b>n-Propylbenzene</b>	<b>180</b>	210	41	50	B2K0070	11/01/2012	11/05/12 19:23	D6, J
<b>Naphthalene</b>	<b>540</b>	210	130	50	B2K0070	11/01/2012	11/05/12 19:23	
<b>o-Xylene</b>	<b>740</b>	210	23	50	B2K0070	11/01/2012	11/05/12 19:23	
sec-Butylbenzene	ND	210	48	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Styrene	ND	210	27	50	B2K0070	11/01/2012	11/05/12 19:23	D6
tert-Amyl methyl ether	ND	210	31	50	B2K0070	11/01/2012	11/05/12 19:23	D6
tert-Butanol	ND	4200	930	50	B2K0070	11/01/2012	11/05/12 19:23	D6
tert-Butylbenzene	ND	210	48	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Tetrachloroethene	ND	210	40	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<b>Toluene</b>	<b>390</b>	210	28	50	B2K0070	11/01/2012	11/05/12 19:23	
trans-1,2-Dichloroethene	ND	210	46	50	B2K0070	11/01/2012	11/05/12 19:23	D6
trans-1,3-Dichloropropene	ND	2100	43	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Trichloroethene	ND	210	41	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Trichlorofluoromethane	ND	210	33	50	B2K0070	11/01/2012	11/05/12 19:23	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-10-5

Lab ID: 1203850-12

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	2100	250	50	B2K0070	11/01/2012	11/05/12 19:23	D6
Vinyl chloride	ND	210	36	50	B2K0070	11/01/2012	11/05/12 19:23	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97.7 %		<i>65 - 135</i>		B2K0070	11/01/2012	<i>11/05/12 19:23</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	103 %		<i>57 - 126</i>		B2K0070	11/01/2012	<i>11/05/12 19:23</i>	
<i>Surrogate: Dibromofluoromethane</i>	91.5 %		<i>72 - 121</i>		B2K0070	11/01/2012	<i>11/05/12 19:23</i>	
<i>Surrogate: Toluene-d8</i>	98.0 %		<i>80 - 107</i>		B2K0070	11/01/2012	<i>11/05/12 19:23</i>	



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### QUALITY CONTROL SECTION

#### Gasoline Range Organics by EPA 8015B (5035) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0372 - GCVOAS

##### Blank (B2K0372-BLK1)

Prepared: 11/14/2012 Analyzed: 11/14/2012

Gasoline Range Organics	ND	1.0		NR					
Surrogate: 4-Bromofluorobenzene	0.09565		0.100000		95.7	44 - 168			

##### LCS (B2K0372-BS1)

Prepared: 11/14/2012 Analyzed: 11/14/2012

Gasoline Range Organics	4.72800		5.00000		94.6	70 - 130			
Surrogate: 4-Bromofluorobenzene	0.09066		0.100000		90.7	44 - 168			

##### LCS Dup (B2K0372-BSD1)

Prepared: 11/14/2012 Analyzed: 11/14/2012

Gasoline Range Organics	4.92400		5.00000		98.5	70 - 130	4.06	20	
Surrogate: 4-Bromofluorobenzene	0.1057		0.100000		106	44 - 168			



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0037 - MSVOAS

##### Blank (B2K0037-BLK1)

Prepared: 11/2/2012 Analyzed: 11/2/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	ND	5.0			NR				
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				



## Certificate of Analysis

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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0037 - MSVOAS (continued)**
**Blank (B2K0037-BLK1) - Continued**

Prepared: 11/2/2012 Analyzed: 11/2/2012

Dichlorodifluoromethane	ND	5.0		NR
Ethyl Acetate	ND	50		NR
Ethyl Ether	ND	50		NR
Ethyl tert-butyl ether	ND	5.0		NR
Ethylbenzene	ND	5.0		NR
Freon-113	ND	5.0		NR
Hexachlorobutadiene	ND	5.0		NR
Isopropylbenzene	ND	5.0		NR
m,p-Xylene	ND	10		NR
Methylene chloride	ND	5.0		NR
MTBE	ND	5.0		NR
n-Butylbenzene	ND	5.0		NR
n-Propylbenzene	ND	5.0		NR
Naphthalene	ND	5.0		NR
o-Xylene	ND	5.0		NR
sec-Butylbenzene	ND	5.0		NR
Styrene	ND	5.0		NR
tert-Amyl methyl ether	ND	5.0		NR
tert-Butanol	ND	100		NR
tert-Butylbenzene	ND	5.0		NR
Tetrachloroethene	ND	5.0		NR
Toluene	ND	5.0		NR
trans-1,2-Dichloroethene	ND	5.0		NR
trans-1,3-Dichloropropene	ND	50		NR
Trichloroethene	ND	5.0		NR
Trichlorofluoromethane	ND	5.0		NR
Vinyl acetate	ND	50		NR
Vinyl chloride	ND	5.0		NR

Surrogate: 1,2-Dichloroethane-d4	49.09	50.0000	98.2	65 - 135
Surrogate: 4-Bromofluorobenzene	47.15	50.0000	94.3	57 - 126
Surrogate: Dibromofluoromethane	43.23	50.0000	86.5	72 - 121
Surrogate: Toluene-d8	47.06	50.0000	94.1	80 - 107

**LCS (B2K0037-BS1)** Prepared: 11/2/2012 Analyzed: 11/2/2012

1,1-Dichloroethene	53.2800	5.0	50.0000	107	70 - 130
Benzene	103.540	5.0	100.000	104	70 - 130
Chlorobenzene	50.9700	5.0	50.0000	102	70 - 130
MTBE	61.9800	5.0	50.0000	124	70 - 130
Toluene	102.780	5.0	100.000	103	70 - 130
Trichloroethene	50.0200	5.0	50.0000	100	70 - 130

Surrogate: 1,2-Dichloroethane-d4	46.13	50.0000	92.3	65 - 135
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## Certificate of Analysis

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Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0037 - MSVOAS (continued)**
**LCS (B2K0037-BS1) - Continued**

Prepared: 11/2/2012 Analyzed: 11/2/2012

Surrogate: 4-Bromofluorobenzene	51.56	50.0000	103	57 - 126
Surrogate: Dibromofluoromethane	42.62	50.0000	85.2	72 - 121
Surrogate: Toluene-d8	48.77	50.0000	97.5	80 - 107

**LCS Dup (B2K0037-BSD1)**

Prepared: 11/2/2012 Analyzed: 11/2/2012

1,1-Dichloroethene	54.1100	5.0	50.0000	108	70 - 130	1.55	20
Benzene	104.240	5.0	100.000	104	70 - 130	0.674	20
Chlorobenzene	53.3300	5.0	50.0000	107	70 - 130	4.53	20
MTBE	63.2900	5.0	50.0000	127	70 - 130	2.09	20
Toluene	102.960	5.0	100.000	103	70 - 130	0.175	20
Trichloroethene	49.5300	5.0	50.0000	99.1	70 - 130	0.984	20

Surrogate: 1,2-Dichloroethane-d4

48.51 50.0000 97.0 65 - 135

Surrogate: 4-Bromofluorobenzene

50.96 50.0000 102 57 - 126

Surrogate: Dibromofluoromethane

41.66 50.0000 83.3 72 - 121

Surrogate: Toluene-d8

48.33 50.0000 96.7 80 - 107

**Matrix Spike (B2K0037-MS1)**

Source: 1203804-01 Prepared: 11/2/2012 Analyzed: 11/2/2012

1,1-Dichloroethene	48.6000	5.0	50.0000	ND	97.2	70 - 130	
Benzene	94.3500	5.0	100.000	ND	94.4	70 - 130	
Chlorobenzene	46.0600	5.0	50.0000	ND	92.1	70 - 130	
MTBE	57.0800	5.0	50.0000	ND	114	70 - 130	
Toluene	162.580	5.0	100.000	ND	163	70 - 130	M1
Trichloroethene	48.3800	5.0	50.0000	ND	96.8	70 - 130	

Surrogate: 1,2-Dichloroethane-d4

49.53 50.0000 99.1 65 - 135

Surrogate: 4-Bromofluorobenzene

50.04 50.0000 100 57 - 126

Surrogate: Dibromofluoromethane

42.52 50.0000 85.0 72 - 121

Surrogate: Toluene-d8

46.80 50.0000 93.6 80 - 107

**Matrix Spike Dup (B2K0037-MSD1)**

Source: 1203804-01 Prepared: 11/2/2012 Analyzed: 11/2/2012

1,1-Dichloroethene	47.6500	5.0	50.0000	ND	95.3	70 - 130	1.97	20
Benzene	93.9800	5.0	100.000	ND	94.0	70 - 130	0.393	20
Chlorobenzene	47.7800	5.0	50.0000	ND	95.6	70 - 130	3.67	20
MTBE	56.9100	5.0	50.0000	ND	114	70 - 130	0.298	20
Toluene	124.180	5.0	100.000	ND	124	70 - 130	26.8	20 R2
Trichloroethene	45.6200	5.0	50.0000	ND	91.2	70 - 130	5.87	20

Surrogate: 1,2-Dichloroethane-d4

49.59 50.0000 99.2 65 - 135

Surrogate: 4-Bromofluorobenzene

52.40 50.0000 105 57 - 126

Surrogate: Dibromofluoromethane

43.97 50.0000 87.9 72 - 121

Surrogate: Toluene-d8

49.41 50.0000 98.8 80 - 107

**Batch B2K0070 - MSVOAS**



## Certificate of Analysis

Ninyo &amp; Moore

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Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0070 - MSVOAS (continued)

##### Blank (B2K0070-BLK1)

Prepared: 11/5/2012 Analyzed: 11/5/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	0.870000	5.0			NR				J
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				



## Certificate of Analysis

Ninyo &amp; Moore

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Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0070 - MSVOAS (continued)**
**Blank (B2K0070-BLK1) - Continued**

Prepared: 11/5/2012 Analyzed: 11/5/2012

Ethyl Acetate	ND	50			NR				
Ethyl Ether	ND	50			NR				
Ethyl tert-butyl ether	ND	5.0			NR				
Ethylbenzene	ND	5.0			NR				
Freon-113	ND	5.0			NR				
Hexachlorobutadiene	ND	5.0			NR				
Isopropylbenzene	ND	5.0			NR				
m,p-Xylene	ND	10			NR				
Methylene chloride	ND	5.0			NR				
MTBE	ND	5.0			NR				
n-Butylbenzene	ND	5.0			NR				
n-Propylbenzene	ND	5.0			NR				
Naphthalene	ND	5.0			NR				
o-Xylene	ND	5.0			NR				
sec-Butylbenzene	ND	5.0			NR				
Styrene	ND	5.0			NR				
tert-Amyl methyl ether	ND	5.0			NR				
tert-Butanol	ND	100			NR				
tert-Butylbenzene	ND	5.0			NR				
Tetrachloroethene	ND	5.0			NR				
Toluene	ND	5.0			NR				
trans-1,2-Dichloroethene	ND	5.0			NR				
trans-1,3-Dichloropropene	ND	50			NR				
Trichloroethene	ND	5.0			NR				
Trichlorofluoromethane	ND	5.0			NR				
Vinyl acetate	ND	50			NR				
Vinyl chloride	ND	5.0			NR				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	55.73	50.0000			111	65 - 135			
<i>Surrogate: 4-Bromofluorobenzene</i>	51.73	50.0000			103	57 - 126			
<i>Surrogate: Dibromofluoromethane</i>	47.91	50.0000			95.8	72 - 121			
<i>Surrogate: Toluene-d8</i>	50.87	50.0000			102	80 - 107			

**LCS (B2K0070-BS1)**

Prepared: 11/5/2012 Analyzed: 11/5/2012

1,1-Dichloroethene	47.5600	5.0	50.0000	95.1	70 - 130
Benzene	94.3300	5.0	100.000	94.3	70 - 130
Chlorobenzene	44.4600	5.0	50.0000	88.9	70 - 130
MTBE	60.3100	5.0	50.0000	121	70 - 130
Toluene	93.9500	5.0	100.000	94.0	70 - 130
Trichloroethene	42.9500	5.0	50.0000	85.9	70 - 130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.59	50.0000		101	65 - 135
<i>Surrogate: 4-Bromofluorobenzene</i>	52.35	50.0000		105	57 - 126



## Certificate of Analysis

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Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0070 - MSVOAS (continued)**
**LCS (B2K0070-BS1) - Continued**

Prepared: 11/5/2012 Analyzed: 11/5/2012

Surrogate: Dibromofluoromethane	45.67	50.0000	91.3	72 - 121
Surrogate: Toluene-d8	51.01	50.0000	102	80 - 107

**LCS Dup (B2K0070-BSD1)**

Prepared: 11/5/2012 Analyzed: 11/5/2012

1,1-Dichloroethene	48.7700	5.0	50.0000	97.5	70 - 130	2.51	20
Benzene	100.240	5.0	100.000	100	70 - 130	6.07	20
Chlorobenzene	46.9900	5.0	50.0000	94.0	70 - 130	5.53	20
MTBE	60.0100	5.0	50.0000	120	70 - 130	0.499	20
Toluene	97.9300	5.0	100.000	97.9	70 - 130	4.15	20
Trichloroethene	47.5800	5.0	50.0000	95.2	70 - 130	10.2	20

Surrogate: 1,2-Dichloroethane-d4

50.40 50.0000 101 65 - 135

Surrogate: 4-Bromofluorobenzene

52.07 50.0000 104 57 - 126

Surrogate: Dibromofluoromethane

46.94 50.0000 93.9 72 - 121

Surrogate: Toluene-d8

52.47 50.0000 105 80 - 107

**Matrix Spike (B2K0070-MS1)**

Source: 1203851-02 Prepared: 11/5/2012 Analyzed: 11/5/2012

1,1-Dichloroethene	49.7100	5.0	50.0000	ND	99.4	70 - 130
Benzene	88.8800	5.0	100.000	ND	88.9	70 - 130
Chlorobenzene	41.3800	5.0	50.0000	ND	82.8	70 - 130
MTBE	60.3500	5.0	50.0000	ND	121	70 - 130
Toluene	86.9800	5.0	100.000	ND	87.0	70 - 130
Trichloroethene	41.9200	5.0	50.0000	ND	83.8	70 - 130

Surrogate: 1,2-Dichloroethane-d4

54.02 50.0000 108 65 - 135

Surrogate: 4-Bromofluorobenzene

51.21 50.0000 102 57 - 126

Surrogate: Dibromofluoromethane

46.90 50.0000 93.8 72 - 121

Surrogate: Toluene-d8

51.01 50.0000 102 80 - 107

**Matrix Spike Dup (B2K0070-MSD1)**

Source: 1203851-02 Prepared: 11/5/2012 Analyzed: 11/5/2012

1,1-Dichloroethene	46.5100	5.0	50.0000	ND	93.0	70 - 130	6.65	20
Benzene	88.7900	5.0	100.000	ND	88.8	70 - 130	0.101	20
Chlorobenzene	39.5000	5.0	50.0000	ND	79.0	70 - 130	4.65	20
MTBE	61.4000	5.0	50.0000	ND	123	70 - 130	1.72	20
Toluene	86.6600	5.0	100.000	ND	86.7	70 - 130	0.369	20
Trichloroethene	40.8500	5.0	50.0000	ND	81.7	70 - 130	2.59	20

Surrogate: 1,2-Dichloroethane-d4

54.75 50.0000 110 65 - 135

Surrogate: 4-Bromofluorobenzene

52.11 50.0000 104 57 - 126

Surrogate: Dibromofluoromethane

47.15 50.0000 94.3 72 - 121

Surrogate: Toluene-d8

50.11 50.0000 100 80 - 107

**Batch B2K0101 - MSVOAS**



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0101 - MSVOAS (continued)

##### Blank (B2K0101-BLK1)

Prepared: 11/6/2012 Analyzed: 11/6/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	ND	5.0			NR				
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims

Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0101 - MSVOAS (continued)**
**Blank (B2K0101-BLK1) - Continued**

Prepared: 11/6/2012 Analyzed: 11/6/2012

Ethyl Acetate	ND	50		NR
Ethyl Ether	ND	50		NR
Ethyl tert-butyl ether	ND	5.0		NR
Ethylbenzene	ND	5.0		NR
Freon-113	ND	5.0		NR
Hexachlorobutadiene	ND	5.0		NR
Isopropylbenzene	ND	5.0		NR
m,p-Xylene	ND	10		NR
Methylene chloride	ND	5.0		NR
MTBE	ND	5.0		NR
n-Butylbenzene	ND	5.0		NR
n-Propylbenzene	ND	5.0		NR
Naphthalene	ND	5.0		NR
o-Xylene	ND	5.0		NR
sec-Butylbenzene	ND	5.0		NR
Styrene	ND	5.0		NR
tert-Amyl methyl ether	ND	5.0		NR
tert-Butanol	ND	100		NR
tert-Butylbenzene	ND	5.0		NR
Tetrachloroethene	ND	5.0		NR
Toluene	ND	5.0		NR
trans-1,2-Dichloroethene	ND	5.0		NR
trans-1,3-Dichloropropene	ND	50		NR
Trichloroethene	ND	5.0		NR
Trichlorofluoromethane	ND	5.0		NR
Vinyl acetate	ND	50		NR
Vinyl chloride	ND	5.0		NR
<i>Surrogate: 1,2-Dichloroethane-d4</i>	46.07	50.0000	92.1	65 - 135
<i>Surrogate: 4-Bromofluorobenzene</i>	45.12	50.0000	90.2	57 - 126
<i>Surrogate: Dibromofluoromethane</i>	44.57	50.0000	89.1	72 - 121
<i>Surrogate: Toluene-d8</i>	43.79	50.0000	87.6	80 - 107

**LCS (B2K0101-BS1)**

Prepared: 11/6/2012 Analyzed: 11/6/2012

1,1-Dichloroethene	42.7300	5.0	50.0000	85.5	70 - 130
Benzene	89.2900	5.0	100.000	89.3	70 - 130
Chlorobenzene	45.3100	5.0	50.0000	90.6	70 - 130
MTBE	50.8100	5.0	50.0000	102	70 - 130
Toluene	93.8200	5.0	100.000	93.8	70 - 130
Trichloroethene	47.3800	5.0	50.0000	94.8	70 - 130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.75	50.0000	97.5	65 - 135	
<i>Surrogate: 4-Bromofluorobenzene</i>	48.69	50.0000	97.4	57 - 126	



## Certificate of Analysis

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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0101 - MSVOAS (continued)**
**LCS (B2K0101-BS1) - Continued**

Prepared: 11/6/2012 Analyzed: 11/6/2012

Surrogate: Dibromofluoromethane 48.05 50.0000 96.1 72 - 121  
Surrogate: Toluene-d8 46.90 50.0000 93.8 80 - 107

**LCS Dup (B2K0101-BSD1)**

Prepared: 11/6/2012 Analyzed: 11/6/2012

1,1-Dichloroethene	47.9800	5.0	50.0000	96.0	70 - 130	11.6	20
Benzene	99.3600	5.0	100.000	99.4	70 - 130	10.7	20
Chlorobenzene	49.2900	5.0	50.0000	98.6	70 - 130	8.41	20
MTBE	59.9700	5.0	50.0000	120	70 - 130	16.5	20
Toluene	104.480	5.0	100.000	104	70 - 130	10.8	20
Trichloroethene	52.4100	5.0	50.0000	105	70 - 130	10.1	20

Surrogate: 1,2-Dichloroethane-d4 47.40 50.0000 94.8 65 - 135  
Surrogate: 4-Bromofluorobenzene 46.74 50.0000 93.5 57 - 126  
Surrogate: Dibromofluoromethane 47.45 50.0000 94.9 72 - 121  
Surrogate: Toluene-d8 45.83 50.0000 91.7 80 - 107

**Matrix Spike (B2K0101-MS1)**

Source: 1203876-01 Prepared: 11/6/2012 Analyzed: 11/6/2012

1,1-Dichloroethene	43.9400	5.0	50.0000	ND	87.9	70 - 130	E4
Benzene	112.300	5.0	100.000	ND	112	70 - 130	E4
Chlorobenzene	58.2600	5.0	50.0000	ND	117	70 - 130	E4
MTBE	41.1500	5.0	50.0000	ND	82.3	70 - 130	E4
Toluene	120.340	5.0	100.000	1.62000	119	70 - 130	E4
Trichloroethene	62.2100	5.0	50.0000	ND	124	70 - 130	E4

Surrogate: 1,2-Dichloroethane-d4 46.89 50.0000 93.8 65 - 135  
Surrogate: 4-Bromofluorobenzene 51.83 50.0000 104 57 - 126  
Surrogate: Dibromofluoromethane 47.95 50.0000 95.9 72 - 121  
Surrogate: Toluene-d8 56.19 50.0000 112 80 - 107 M2

**Matrix Spike Dup (B2K0101-MSD1)**

Source: 1203876-01 Prepared: 11/6/2012 Analyzed: 11/6/2012

1,1-Dichloroethene	32.3200	5.0	50.0000	ND	64.6	70 - 130	30.5	20	M2, R
Benzene	87.6200	5.0	100.000	ND	87.6	70 - 130	24.7	20	R
Chlorobenzene	42.2300	5.0	50.0000	ND	84.5	70 - 130	31.9	20	R
MTBE	49.4600	5.0	50.0000	ND	98.9	70 - 130	18.3	20	
Toluene	91.8400	5.0	100.000	1.62000	90.2	70 - 130	26.9	20	R
Trichloroethene	46.1400	5.0	50.0000	ND	92.3	70 - 130	29.7	20	R

Surrogate: 1,2-Dichloroethane-d4 36.01 50.0000 72.0 65 - 135  
Surrogate: 4-Bromofluorobenzene 35.72 50.0000 71.4 57 - 126  
Surrogate: Dibromofluoromethane 36.31 50.0000 72.6 72 - 121  
Surrogate: Toluene-d8 35.42 50.0000 70.8 80 - 107 M2

**Batch B2K0119 - MSVOAS**



## Certificate of Analysis

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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0119 - MSVOAS (continued)****Blank (B2K0119-BLK1)**

Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	ND	5.0			NR				
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				



## Certificate of Analysis

Ninyo &amp; Moore

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Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0119 - MSVOAS (continued)**
**Blank (B2K0119-BLK1) - Continued**

Prepared: 11/7/2012 Analyzed: 11/7/2012

Ethyl Acetate	ND	50		NR					
Ethyl Ether	ND	50		NR					
Ethyl tert-butyl ether	ND	5.0		NR					
Ethylbenzene	ND	5.0		NR					
Freon-113	ND	5.0		NR					
Hexachlorobutadiene	ND	5.0		NR					
Isopropylbenzene	ND	5.0		NR					
m,p-Xylene	1.27000	10		NR					J
Methylene chloride	ND	5.0		NR					
MTBE	ND	5.0		NR					
n-Butylbenzene	ND	5.0		NR					
n-Propylbenzene	ND	5.0		NR					
Naphthalene	ND	5.0		NR					
o-Xylene	ND	5.0		NR					
sec-Butylbenzene	ND	5.0		NR					
Styrene	ND	5.0		NR					
tert-Amyl methyl ether	ND	5.0		NR					
tert-Butanol	ND	100		NR					
tert-Butylbenzene	ND	5.0		NR					
Tetrachloroethene	ND	5.0		NR					
Toluene	ND	5.0		NR					
trans-1,2-Dichloroethene	ND	5.0		NR					
trans-1,3-Dichloropropene	ND	50		NR					
Trichloroethene	ND	5.0		NR					
Trichlorofluoromethane	ND	5.0		NR					
Vinyl acetate	ND	50		NR					
Vinyl chloride	ND	5.0		NR					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	44.75	50.0000		89.5	65 - 135				
<i>Surrogate: 4-Bromofluorobenzene</i>	47.20	50.0000		94.4	57 - 126				
<i>Surrogate: Dibromofluoromethane</i>	45.48	50.0000		91.0	72 - 121				
<i>Surrogate: Toluene-d8</i>	45.84	50.0000		91.7	80 - 107				

**LCS (B2K0119-BS1)**

Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1-Dichloroethene	44.3600	5.0	50.0000	88.7	70 - 130
Benzene	97.1300	5.0	100.000	97.1	70 - 130
Chlorobenzene	47.1000	5.0	50.0000	94.2	70 - 130
MTBE	51.8200	5.0	50.0000	104	70 - 130
Toluene	98.2800	5.0	100.000	98.3	70 - 130
Trichloroethene	52.9500	5.0	50.0000	106	70 - 130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	46.68	50.0000		93.4	65 - 135
<i>Surrogate: 4-Bromofluorobenzene</i>	47.53	50.0000		95.1	57 - 126



## Certificate of Analysis

Ninyo &amp; Moore

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Project Number : Chun/Alameda, 401896004

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Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B2K0119 - MSVOAS (continued)</b>									
<b>LCS (B2K0119-BS1) - Continued</b>									
Prepared: 11/7/2012 Analyzed: 11/7/2012									
Surrogate: Dibromofluoromethane	48.67	50.0000		97.3	72 - 121				
Surrogate: Toluene-d8	47.50	50.0000		95.0	80 - 107				
<b>LCS Dup (B2K0119-BSD1)</b>									
Prepared: 11/7/2012 Analyzed: 11/7/2012									
1,1-Dichloroethene	40.8400	5.0	50.0000	81.7	70 - 130	8.26	20		
Benzene	92.1500	5.0	100.000	92.2	70 - 130	5.26	20		
Chlorobenzene	45.0300	5.0	50.0000	90.1	70 - 130	4.49	20		
MTBE	44.1200	5.0	50.0000	88.2	70 - 130	16.1	20		
Toluene	93.8000	5.0	100.000	93.8	70 - 130	4.66	20		
Trichloroethene	50.4000	5.0	50.0000	101	70 - 130	4.93	20		
Surrogate: 1,2-Dichloroethane-d4	44.09	50.0000		88.2	65 - 135				
Surrogate: 4-Bromofluorobenzene	46.43	50.0000		92.9	57 - 126				
Surrogate: Dibromofluoromethane	45.47	50.0000		90.9	72 - 121				
Surrogate: Toluene-d8	45.55	50.0000		91.1	80 - 107				
<b>Matrix Spike (B2K0119-MS1)</b>									
Source: 1203884-01 Prepared: 11/7/2012 Analyzed: 11/7/2012									
1,1-Dichloroethene	38.0000	5.0	50.0000	ND	76.0	70 - 130			
Benzene	82.1500	5.0	100.000	ND	82.2	70 - 130			
Chlorobenzene	33.5100	5.0	50.0000	ND	67.0	70 - 130			M2
MTBE	50.6800	5.0	50.0000	ND	101	70 - 130			
Toluene	77.3300	5.0	100.000	ND	77.3	70 - 130			
Trichloroethene	41.1400	5.0	50.0000	ND	82.3	70 - 130			
Surrogate: 1,2-Dichloroethane-d4	48.53	50.0000		97.1	65 - 135				
Surrogate: 4-Bromofluorobenzene	45.47	50.0000		90.9	57 - 126				
Surrogate: Dibromofluoromethane	49.95	50.0000		99.9	72 - 121				
Surrogate: Toluene-d8	46.65	50.0000		93.3	80 - 107				
<b>Matrix Spike Dup (B2K0119-MSD1)</b>									
Source: 1203884-01 Prepared: 11/7/2012 Analyzed: 11/7/2012									
1,1-Dichloroethene	37.2500	5.0	50.0000	ND	74.5	70 - 130	1.99	20	
Benzene	79.8400	5.0	100.000	ND	79.8	70 - 130	2.85	20	
Chlorobenzene	29.7500	5.0	50.0000	ND	59.5	70 - 130	11.9	20	M2
MTBE	50.8700	5.0	50.0000	ND	102	70 - 130	0.374	20	
Toluene	73.6500	5.0	100.000	ND	73.6	70 - 130	4.87	20	
Trichloroethene	40.1400	5.0	50.0000	ND	80.3	70 - 130	2.46	20	
Surrogate: 1,2-Dichloroethane-d4	44.93	50.0000		89.9	65 - 135				
Surrogate: 4-Bromofluorobenzene	39.59	50.0000		79.2	57 - 126				
Surrogate: Dibromofluoromethane	43.66	50.0000		87.3	72 - 121				
Surrogate: Toluene-d8	41.82	50.0000		83.6	80 - 107				

### Batch B2K0241 - MSVOAS



## Certificate of Analysis

Ninyo & Moore

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Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0241 - MSVOAS (continued)

##### Blank (B2K0241-BLK1)

Prepared: 11/9/2012 Analyzed: 11/9/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	2.13000	5.0			NR				J
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	0.660000	5.0			NR				J
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				



## Certificate of Analysis

Ninyo &amp; Moore

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Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0241 - MSVOAS (continued)**
**Blank (B2K0241-BLK1) - Continued**

Prepared: 11/9/2012 Analyzed: 11/9/2012

Ethyl Acetate	ND	50		NR					
Ethyl Ether	ND	50		NR					
Ethyl tert-butyl ether	ND	5.0		NR					
Ethylbenzene	ND	5.0		NR					
Freon-113	ND	5.0		NR					
Hexachlorobutadiene	ND	5.0		NR					
Isopropylbenzene	ND	5.0		NR					
m,p-Xylene	2.77000	10		NR					J
Methylene chloride	ND	5.0		NR					
MTBE	ND	5.0		NR					
n-Butylbenzene	ND	5.0		NR					
n-Propylbenzene	ND	5.0		NR					
Naphthalene	ND	5.0		NR					
o-Xylene	1.64000	5.0		NR					J
sec-Butylbenzene	ND	5.0		NR					
Styrene	ND	5.0		NR					
tert-Amyl methyl ether	ND	5.0		NR					
tert-Butanol	ND	100		NR					
tert-Butylbenzene	ND	5.0		NR					
Tetrachloroethene	ND	5.0		NR					
Toluene	ND	5.0		NR					
trans-1,2-Dichloroethene	ND	5.0		NR					
trans-1,3-Dichloropropene	ND	50		NR					
Trichloroethene	ND	5.0		NR					
Trichlorofluoromethane	ND	5.0		NR					
Vinyl acetate	ND	50		NR					
Vinyl chloride	ND	5.0		NR					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	46.12	50.0000		92.2	65 - 135				
<i>Surrogate: 4-Bromofluorobenzene</i>	45.63	50.0000		91.3	57 - 126				
<i>Surrogate: Dibromofluoromethane</i>	46.21	50.0000		92.4	72 - 121				
<i>Surrogate: Toluene-d8</i>	45.72	50.0000		91.4	80 - 107				

**LCS (B2K0241-BS1)**

Prepared: 11/9/2012 Analyzed: 11/9/2012

1,1-Dichloroethene	41.3200	5.0	50.0000	82.6	70 - 130
Benzene	98.0200	5.0	100.000	98.0	70 - 130
Chlorobenzene	47.4100	5.0	50.0000	94.8	70 - 130
MTBE	57.2500	5.0	50.0000	114	70 - 130
Toluene	101.850	5.0	100.000	102	70 - 130
Trichloroethene	52.5800	5.0	50.0000	105	70 - 130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	41.86	50.0000		83.7	65 - 135
<i>Surrogate: 4-Bromofluorobenzene</i>	39.96	50.0000		79.9	57 - 126



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B2K0241 - MSVOAS (continued)</b>									
<b>LCS (B2K0241-BS1) - Continued</b>									
Prepared: 11/9/2012 Analyzed: 11/9/2012									
Surrogate: Dibromofluoromethane	41.82	50.0000			83.6	72 - 121			
Surrogate: Toluene-d8	40.16	50.0000			80.3	80 - 107			
<b>LCS Dup (B2K0241-BSD1)</b>									
Prepared: 11/9/2012 Analyzed: 11/9/2012									
1,1-Dichloroethene	38.0000	5.0	50.0000		76.0	70 - 130	8.37	20	
Benzene	95.7700	5.0	100.000		95.8	70 - 130	2.32	20	
Chlorobenzene	45.8500	5.0	50.0000		91.7	70 - 130	3.35	20	
MTBE	55.2000	5.0	50.0000		110	70 - 130	3.65	20	
Toluene	99.3500	5.0	100.000		99.4	70 - 130	2.49	20	
Trichloroethene	51.2000	5.0	50.0000		102	70 - 130	2.66	20	
Surrogate: 1,2-Dichloroethane-d4	47.80	50.0000			95.6	65 - 135			
Surrogate: 4-Bromofluorobenzene	48.07	50.0000			96.1	57 - 126			
Surrogate: Dibromofluoromethane	49.60	50.0000			99.2	72 - 121			
Surrogate: Toluene-d8	46.13	50.0000			92.3	80 - 107			



## Certificate of Analysis

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1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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#### Batch B2K0241 - MSVOAS (continued)

Matrix Spike (B2K0241-MS1)	Source: 1203903-18		Prepared: 11/9/2012 Analyzed: 11/9/2012			
1,1-Dichloroethene	42.9000	5.0	50.0000	ND	85.8	70 - 130
Benzene	106.120	5.0	100.000	ND	106	70 - 130
Chlorobenzene	48.4300	5.0	50.0000	ND	96.9	70 - 130
MTBE	60.8300	5.0	50.0000	ND	122	70 - 130
Toluene	109.140	5.0	100.000	ND	109	70 - 130
Trichloroethene	55.8700	5.0	50.0000	ND	112	70 - 130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	54.82		50.0000		110	65 - 135
<i>Surrogate: 4-Bromofluorobenzene</i>	49.90		50.0000		99.8	57 - 126
<i>Surrogate: Dibromofluoromethane</i>	52.12		50.0000		104	72 - 121
<i>Surrogate: Toluene-d8</i>	49.59		50.0000		99.2	80 - 107



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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#### Batch B2K0241 - MSVOAS (continued)

Matrix Spike Dup (B2K0241-MSD1)	Source: 1203903-18		Prepared: 11/9/2012 Analyzed: 11/9/2012						
1,1-Dichloroethene	33.4800	5.0	50.0000	ND	67.0	70 - 130	24.7	20	M2, R
Benzene	93.3500	5.0	100.000	ND	93.4	70 - 130	12.8	20	
Chlorobenzene	44.7100	5.0	50.0000	ND	89.4	70 - 130	7.99	20	
MTBE	55.3800	5.0	50.0000	ND	111	70 - 130	9.38	20	
Toluene	96.6400	5.0	100.000	ND	96.6	70 - 130	12.1	20	
Trichloroethene	48.8500	5.0	50.0000	ND	97.7	70 - 130	13.4	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.84		50.0000		97.7	65 - 135			
<i>Surrogate: 4-Bromofluorobenzene</i>	46.02		50.0000		92.0	57 - 126			
<i>Surrogate: Dibromofluoromethane</i>	48.02		50.0000		96.0	72 - 121			
<i>Surrogate: Toluene-d8</i>	45.27		50.0000		90.5	80 - 107			



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896004

Report To : Peter Sims  
Reported : 11/20/2012

### Notes and Definitions

S7	Surrogate recovery was above laboratory acceptance limit. Chromatogram shows high concentration of heavy hydrocarbons.
R2	RPD value outside acceptance criteria due to possible matrix interference. See Corrective Action Report for details.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
E4	Result value is estimated.
D6	Sample required dilution due to high concentration of target analyte.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:

(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.

# CHAIN OF CUSTODY RECORD

 Pg 1 of 2

 <b>ADVANCED TECHNOLOGY LABORATORIES</b> 3275 Walnut Ave., Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040		P.O.#: _____ Quote #: _____ <p>As the authorized agent of the below named company, I hereby purchase testing services from ATL as dictated below and guarantee payment in full.</p>		<b>FOR LABORATORY USE ONLY:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Method of Transport</td> <td colspan="3" style="width: 70%;">Sample Condition Upon Receipt</td> </tr> <tr> <td><input type="checkbox"/> Client</td> <td><input type="checkbox"/> ATL</td> <td colspan="3">1. CHILLED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> FedEx</td> <td><input type="checkbox"/> OnTrac</td> <td colspan="3">2. HEADSPACE (VOA) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/> GSO</td> <td></td> <td colspan="3">3. CONTAINER INTACT <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Other: _____</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Method of Transport	Sample Condition Upon Receipt			<input type="checkbox"/> Client	<input type="checkbox"/> ATL	1. CHILLED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>			<input type="checkbox"/> FedEx	<input type="checkbox"/> OnTrac	2. HEADSPACE (VOA) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>			<input checked="" type="checkbox"/> GSO		3. CONTAINER INTACT <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>			<input type="checkbox"/> Other: _____				
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<input type="checkbox"/> Other: _____																															
Submitter - Please complete all SHADeD areas and include QUOTE # above to ensure proper invoicing. <b>Client:</b> <u>Ninyo &amp; Moore</u> <b>Address:</b> <u>1956 Webster Street, Ste 400</u> <b>Attn:</b> <u>Peter Sims</u> <b>City:</b> <u>Oakland</u> <b>State:</b> <u>CA</u> <b>Zip Code:</b> <u>94612</u> <b>TEL:</b> <u>510-343-3000</u> <b>Project Name:</b> <u>Chun/Alameda</u> <b>Project #:</b> <u>401896004</u> <b>Sampler:</b> <u>(Printed Name)</u> <u>Peter Sims</u> <b>(Signature)</b> <u>Peter Sims</u> <b>Relinquished by:</b> <u>Peter Sims</u> <b>Date:</b> <u>11-1-12</u> <b>Time:</b> <u>1350</u> <b>Received by:</b> <u>Caren Atack</u> <u>In the</u> <b>Date:</b> <u>11/1/12</u> <b>Time:</b> <u>1350</u> <b>Relinquished by:</b> <u>Caren Atack</u> <u>In the</u> <b>Date:</b> <u>11/1/12</u> <b>Time:</b> <u>1620</u> <b>Received by:</b> <u>Jeff Siegrist</u> <u>GSO</u> <b>Date:</b> <u>11/1/12</u> <b>Time:</b> <u>1720</u> <b>Relinquished by:</b> <u>Jeff Siegrist</u> <u>GSO</u> <b>Date:</b> <u>11/1/12</u> <b>Time:</b> <u>1750</u> <b>Received by:</b> <u>Jeff Siegrist</u> <u>GSO</u> <b>Date:</b> <u>11/1/12</u> <b>Time:</b> <u>1850</u>																															
<b>Bill To:</b> <b>Attn:</b> <u>Peter Sims</u> <b>E-mail:</b> <u>psims@ninyoandmoore.com</u> <b>Company:</b> <u>Ninyo and Moore</u> <b>Address:</b> <u>1956 Webster, Ste 400</u> <b>City:</b> <u>Oakland</u> <b>State:</b> <u>CA</u> <b>Zip:</b> <u>94612</u>		<b>Send Report To:</b> <b>Attn:</b> <u></u> <b>E-mail:</b> <u></u> <b>Company:</b> <u>SAME</u> <b>Address:</b> <u></u> <b>City:</b> <u></u>		<b>Special Instructions/Comments:</b> <u>W/3/12 9:00</u>																											
<b>Sample/Records - Archival &amp; Disposal</b> Unless otherwise requested by client, all Samples and Hardcopy will be disposed Forty-five(45) days after generation of report - electronic copies retained for five(5) years.						<b>CIRCLE APPROPRIATE MATRIX</b>		<b>QA/QC</b>																							
<b>Storage Fees (applies when storage is requested):</b> ■ Sample : Forty-five(45) Days Complimentary - \$2.00 / sample / mo thereafter. <b>Hardcopy Reports \$17.50 per report.</b>						CIRCLE or Write IN Analyses Needed 8260-524 (Volatile) <input checked="" type="checkbox"/> 8015B (GRO) <input checked="" type="checkbox"/> TO-15 / TO-14 <input checked="" type="checkbox"/> 8270B-625(BNA) <input checked="" type="checkbox"/> 8015B(DRO) <input checked="" type="checkbox"/> 8081 O9Cl <input checked="" type="checkbox"/> 8082 PCBS <input checked="" type="checkbox"/> 6010B-200-7 CAM Metals <input checked="" type="checkbox"/> 6020B-200-8 1640 Metals <input checked="" type="checkbox"/> 7199-218-6 (Hex. Chromium) <input checked="" type="checkbox"/> 300(Anions) / 314 (Pchlorate) <input checked="" type="checkbox"/>  SOIL/SEDIMENT/LUDGE <input checked="" type="checkbox"/> SOLIDS/WIPES/FILTERS <input checked="" type="checkbox"/> WATER-DRINKING/WATER-STORM/GROUND <input checked="" type="checkbox"/> AQUEOUS/LAYERED-OIL <input checked="" type="checkbox"/>		RTNE <input type="checkbox"/> CT <input type="checkbox"/> Legal <input type="checkbox"/>  SWRCB <input type="checkbox"/> Logcode _____  OTHER _____																							
						<b>PRESERVATION</b>		<b>REMARKS</b>																							
<b>I T E M</b>	<b>BUSINESS HOURS</b> 8:30 am to 5:30 pm		<b>Sample Description</b>				<b>Container(s)</b>																								
	<b>Lab No.</b>	<b>Sample I.D. / Location</b>		<b>Date</b>	<b>Time</b>		<b>TAT</b>	<b>#</b>	<b>Type</b>																						
1		<u>NMB-5-5</u>		<u>11/12</u>	<u>0828</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
2		<u>NMB-5-8</u>			<u>0832</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
3		<u>NMB-4-3</u>			<u>0902</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
4		<u>NMB-4-6</u>			<u>0911</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
5		<u>NMB-2-9</u>			<u>0945</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
6		<u>NMB-2-6</u>			<u>0952</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
7		<u>NMB-7-7</u>			<u>1012</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
8		<u>NMB-7-5</u>			<u>1017</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
9		<u>NMB-8-10</u>			<u>1039</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
10		<u>NMB-10-8-8-8</u>			<u>1035</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																					
■ Samples Submitted AFTER 3:30 PM, are considered received the following business day at 8:30 AM. Weekend, Holiday, Off Hours Work ASK for QUOTE						Container Types: 1=Tube 2=VOA 3=Liter 4=Pint 5=Jar 6=Tedlar 7=Canister		Material: 1=Glass 2=Plastic 3=Metal		Preservatives: 1=HCl 2=HNO3 3=H2SO4 4=4°C 5=Zn(Ac)2 6=NaOH 7=Na2S2O4																					
TAT 0 300% SURCHARGE SAME BUSINESS DAY IF RCV'D BY 9:00 AM		TAT 1 100% SURCHARGE NEXT BUSINESS DAY 5:30 PM		TAT 2 50% SURCHARGE 2ND BUSINESS DAY 5:30 PM		TAT 3 30% SURCHARGE 3RD BUSINESS DAY 5:30 PM		TAT 4 20% SURCHARGE 4TH BUSINESS DAY 5:30 PM		TAT 5 NO SURCHARGE 5-7 BUSINESS DAYS 5:30 PM		TAT 10 10% DISCOUNT 10th BUSINESS DAY 5:30 PM																			
												For RUSH TCLP/STLC, add 2 days to respective TAT. Subcon. TAT is 10-15 business days, Dioxin and Furans 21 business days.																			

# CHAIN OF CUSTODY RECORD

 Pg 2 of 2

 <b>ADVANCED TECHNOLOGY LABORATORIES</b> 3275 Walnut Ave., Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040		P.O.#: _____ Quote #: _____  Logged By: _____ Date: _____  NOTE: Please include your Quote No. to ensure proper pricing of your project.		<b>FOR LABORATORY USE ONLY:</b>			
				Method of Transport <input type="checkbox"/> Client <input type="checkbox"/> ATL <input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac <input type="checkbox"/> GSO <input type="checkbox"/> Other: _____		Sample Condition Upon Receipt 1. CHILLED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N    4. SEALED <input type="checkbox"/> Y <input type="checkbox"/> N 2. HEADSPACE (VOA) <input type="checkbox"/> Y <input type="checkbox"/> N    5. #OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N 3. CONTAINER INTACT <input type="checkbox"/> Y <input type="checkbox"/> N    6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N	
Client: <u>Ninjo &amp; Moore</u> Attn: <u>Peter Sims</u>		Address: <u>1956 Webster Street, ste 400</u> City <u>Oakland</u> State <u>CA</u> Zip Code <u>94612</u>				TEL: <u>510-343-3000</u> FAX: <u>510-343-3001</u>	
Project Name: <u>Chun/Alameda</u> Relinquished by: <u>Peter Sims</u>		Project #: <u>401896004</u> Date: <u>11-1-12</u> Time: <u>1350</u>		Sampler: <u>(Printed Name) Peter Sims</u> Received by: <u>Jeanne Alameda Lott</u>		(Signature) <u>Peter Sims</u> Date: <u>11/1/12</u> Time: <u>1350</u>	
Relinquished by: <u>Jeanne Alameda Lott</u>		Date: <u>11/1/12</u> Time: <u>1620</u>		Received by: <u>Jeff Siegfried</u>		Date: <u>11/1/12</u> Time: <u>1620</u>	
Relinquished by: <u>Jeff Siegfried</u>		Date: <u>11/1/12</u> Time: <u>1456</u>		Received by: <u>Jeff Siegfried</u>		Date: <u>11/1/12</u> Time: <u>1456</u>	
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Peter Sims</u> <u>11-1-12</u> Print Name Date <u>Peter Sims</u> Signature		Send Report To: Attn: <u>Peter Sims</u> Co: <u>Ninjo &amp; Moore</u> Addr: <u>1956 Webster St</u> City: <u>Oakland</u> State <u>CA</u> Zip <u>94612</u>		Bill To: Attn: <u>SAME</u> Co: Addr: City: _____ State: _____ Zip: _____		Special Instructions/Comments: <u>11/2/12 9AM</u>	
<b>Sample/Records - Archival &amp; Disposal</b> Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.				Circle or Add Analysis(es) Requested <u>8061A (Pesticides)</u> <u>8062 (PCB)</u> <u>8260B (Volatiles) + oxygenated</u> <u>8270C (BNA)</u> <u>6010B (Total Metal)</u> <u>8015B (GRO) 1800+150%</u> <u>8015B (DRO)</u> <u>TITLE 22/CAM 17 (6010/7000)</u> <u>SEDIMENT</u> <u>SOLID</u> <u>SOIL</u> <u>DRINKING WATER</u> <u>GROUND WATER</u> <u>WASTEWATER</u> <u>STORMWATER</u> <u>AQUEOUS</u>			
				<b>SPECIFY APPROPRIATE MATRIX</b>			
<b>I T E M</b>	<b>LAB USE ONLY:</b> Batch #:		<b>Sample Description</b>				<b>PRESERVATION</b>
	<b>Lab No.</b>		<b>Sample I.D. / Location</b>		Date	Time	
	<u>NMB-10-8</u>		<u>11/1/12 1100</u>		X	X	
	<u>NMB-10-5</u>		<u>11/1/12 1109</u>		X	X	
							<b>Container(s)</b> TAT # Type
							<u>10</u> <u>6</u> <u>6</u> <u>V</u> <u>5035/C</u>
							<u>10</u> <u>6</u> <u>6</u> <u>V</u> <u>5035/C</u>
• TAT starts 8 a.m. following day if samples received after 5 p.m.		<b>TAT:</b> <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays				<b>Preservatives:</b> H=HCl N=NHO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	
		<b>Container Types:</b> T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal					

## Rachelle Arada

---

**From:** Peter Sims [psims@ninyoandmoore.com]  
**Sent:** Tuesday, November 20, 2012 3:14 PM  
**To:** Rachelle Arada  
**Subject:** RE: Results - Chun/Alameda, 401896001 (ATL# 1203860)

Hi Rachelle,

Please J-flag the VOC results for both reports for this job (ATL #s 1203860 and 1203850).

Thanks,

Peter D. Sims, LEED AP  
Project Environmental Geologist  
**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants  
1956 Webster Street, Suite 400  
Oakland, California 94612  
(510) 343-3000 x5216 (Office)  
(510) 327-9335 (Cell Phone)  
(510) 343-3001 (Fax)  
[psims@ninyoandmoore.com](mailto:psims@ninyoandmoore.com)

**New San Jose office**  
**2149 O'Toole Avenue, Suite 10**  
**San Jose, CA 95131**  
**(408) 435-9000**  
**(408) 435-9006 (Fax)**

*Experience · Quality · Commitment*

### **"Celebrating 25 Years"**

-----Original Message-----

**From:** Rachelle Arada [<mailto:Rachelle@atlglobal.com>]  
**Sent:** Monday, November 19, 2012 4:45 PM  
**To:** Peter Sims  
**Subject:** Results - Chun/Alameda, 401896001 (ATL# 1203860)

Hi Peter,

Attached are the results for the above project. Geotracker EDD to follow.

**Rachelle Arada**  
Project Manager



**Advanced Technology Laboratories**  
[www.atlglobal.com](http://www.atlglobal.com)  
Tel: (562) 989-4045 ext. 237  
Fax: (562) 989-4040

Advanced Technology Laboratories is a full-service environmental lab providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. ATL is accredited by the State of California, NELAP and State of Oregon (Air) and holds various SBE, DBE and MBE certificates and a USDA soil permit. ATL takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates. *Advanced Technology Labs - Your Partner for Quality Environmental Testing*

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November 20, 2012



Peter Sims  
Ninyo & Moore  
1956 Webster Street, Suite 400  
Oakland, CA 94612  
Tel: (510) 633-5640  
Fax:(510) 633-5646

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No.: T104704502

Re: ATL Work Order Number : 1203860

Client Reference : Chun/Alameda, 401896001

Enclosed are the results for sample(s) received on November 03, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eddie Rodriguez'.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NMB-3-7	1203860-01	Soil	11/02/12 7:57	11/03/12 10:40
NMB-3-10	1203860-02	Soil	11/02/12 8:02	11/03/12 10:40
NMB-12-8	1203860-03	Soil	11/02/12 8:27	11/03/12 10:40
NMB-12-10	1203860-04	Soil	11/02/12 8:33	11/03/12 10:40
NMB-9-10	1203860-05	Soil	11/02/12 8:55	11/03/12 10:40
NMB-9-8	1203860-06	Soil	11/02/12 9:00	11/03/12 10:40
NMB-6-10	1203860-07	Soil	11/02/12 9:18	11/03/12 10:40
NMB-6-5	1203860-08	Soil	11/02/12 9:23	11/03/12 10:40
NMB-1-10	1203860-09	Soil	11/02/12 10:09	11/03/12 10:40
NMB-1-5	1203860-10	Soil	11/02/12 10:12	11/03/12 10:40
NMB-11-8	1203860-11	Soil	11/02/12 10:45	11/03/12 10:40
NMB-11-10	1203860-12	Soil	11/02/12 10:51	11/03/12 10:40

### CASE NARRATIVE

All volatile analyses were performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.

EPA 8260 results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-3-7

**Lab ID: 1203860-01**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>2400</b>	200	NA	250	B2K0386	11/16/2012	11/16/12 21:50	
Surrogate: 4-Bromofluorobenzene	185 %		44 - 168		B2K0386	11/16/2012	11/16/12 21:50	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,1,1-Trichloroethane	ND	8100	3700	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,1,2,2-Tetrachloroethane	ND	8100	1800	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,1,2-Trichloroethane	ND	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,1-Dichloroethane	ND	8100	1800	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,1-Dichloroethene	ND	8100	2300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,1-Dichloropropene	ND	8100	2400	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2,3-Trichloropropane	ND	8100	2600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2,3-Trichlorobenzene	ND	8100	2100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2,4-Trichlorobenzene	ND	8100	1900	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>1,2,4-Trimethylbenzene</b>	<b>160000</b>	8100	1000	2000	B2K0119	11/02/2012	11/07/12 14:45	
1,2-Dibromo-3-chloropropane	ND	16000	4000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2-Dibromoethane	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2-Dichlorobenzene	ND	8100	2300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2-Dichloroethane	ND	8100	1700	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,2-Dichloropropane	ND	8100	1400	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>1,3,5-Trimethylbenzene</b>	<b>47000</b>	8100	980	2000	B2K0119	11/02/2012	11/07/12 14:45	
1,3-Dichlorobenzene	ND	8100	1100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,3-Dichloropropane	ND	8100	1700	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
1,4-Dichlorobenzene	ND	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
2,2-Dichloropropane	ND	8100	2200	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
2-Chlorotoluene	ND	8100	2500	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
4-Chlorotoluene	ND	8100	980	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
4-Isopropyltoluene	ND	8100	3200	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>Benzene</b>	<b>11000</b>	8100	1100	2000	B2K0119	11/02/2012	11/07/12 14:45	
Bromobenzene	ND	8100	1700	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Bromochloromethane	ND	8100	1400	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Bromodichloromethane	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Bromoform	ND	8100	2700	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Bromomethane	ND	8100	3100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-3-7

**Lab ID: 1203860-01**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	8100	8100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Carbon tetrachloride	ND	8100	1900	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Chlorobenzene	ND	8100	1500	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Chloroethane	ND	8100	1200	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Chloroform	ND	8100	2100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Chloromethane	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
cis-1,2-Dichloroethene	ND	8100	2900	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
cis-1,3-Dichloropropene	ND	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Di-isopropyl ether	ND	8100	1400	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Dibromochloromethane	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Dibromomethane	ND	8100	2400	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Dichlorodifluoromethane	ND	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Ethyl Acetate	ND	81000	11000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Ethyl Ether	ND	81000	12000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Ethyl tert-butyl ether	ND	8100	1000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>Ethylbenzene</b>	<b>73000</b>	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	
Freon-113	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Hexachlorobutadiene	ND	8100	2800	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>Isopropylbenzene</b>	<b>6000</b>	8100	1100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6, J
<b>m,p-Xylene</b>	<b>350000</b>	16000	1900	2000	B2K0119	11/02/2012	11/07/12 14:45	
Methylene chloride	ND	8100	8100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
MTBE	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>n-Butylbenzene</b>	<b>12000</b>	8100	960	2000	B2K0119	11/02/2012	11/07/12 14:45	
<b>n-Propylbenzene</b>	<b>25000</b>	8100	960	2000	B2K0119	11/02/2012	11/07/12 14:45	
<b>Naphthalene</b>	<b>18000</b>	8100	1900	2000	B2K0119	11/02/2012	11/07/12 14:45	
<b>o-Xylene</b>	<b>110000</b>	8100	1400	2000	B2K0119	11/02/2012	11/07/12 14:45	
<b>sec-Butylbenzene</b>	<b>3400</b>	8100	1000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6, J
Styrene	ND	8100	960	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
tert-Amyl methyl ether	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
tert-Butanol	ND	160000	13000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
tert-Butylbenzene	ND	8100	1200	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Tetrachloroethene	ND	8100	1900	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<b>Toluene</b>	<b>180000</b>	8100	1300	2000	B2K0119	11/02/2012	11/07/12 14:45	
trans-1,2-Dichloroethene	ND	8100	2400	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
trans-1,3-Dichloropropene	ND	81000	2300	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Trichloroethene	ND	8100	3100	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Trichlorofluoromethane	ND	8100	1600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-3-7

Lab ID: 1203860-01

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	81000	19000	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
Vinyl chloride	ND	8100	2600	2000	B2K0119	11/02/2012	11/07/12 14:45	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>133 %</i>		<i>65 - 135</i>		B2K0119	11/02/2012	<i>11/07/12 14:45</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>141 %</i>		<i>57 - 126</i>		B2K0119	11/02/2012	<i>11/07/12 14:45</i>	S7
<i>Surrogate: Dibromofluoromethane</i>	<i>134 %</i>		<i>72 - 121</i>		B2K0119	11/02/2012	<i>11/07/12 14:45</i>	S7
<i>Surrogate: Toluene-d8</i>	<i>134 %</i>		<i>80 - 107</i>		B2K0119	11/02/2012	<i>11/07/12 14:45</i>	S7



## Certificate of Analysis

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Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-3-10

**Lab ID: 1203860-02**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>2000</b>	90	NA	100	B2K0386	11/16/2012	11/16/12 22:06	
Surrogate: 4-Bromofluorobenzene	207 %		44 - 168		B2K0386	11/16/2012	11/16/12 22:06	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	2300	600	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,1,1-Trichloroethane	ND	2300	320	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,1,2,2-Tetrachloroethane	ND	2300	1400	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,1,2-Trichloroethane	ND	2300	360	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,1-Dichloroethane	ND	2300	430	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,1-Dichloroethene	ND	2300	450	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,1-Dichloropropene	ND	2300	500	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2,3-Trichloropropane	ND	2300	1200	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2,3-Trichlorobenzene	ND	2300	1600	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2,4-Trichlorobenzene	ND	2300	1300	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>1,2,4-Trimethylbenzene</b>	<b>82000</b>	2300	360	500	B2K0272	11/02/2012	11/12/12 16:24	
1,2-Dibromo-3-chloropropane	ND	4500	1700	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2-Dibromoethane	ND	2300	520	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2-Dichlorobenzene	ND	2300	910	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2-Dichloroethane	ND	2300	320	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,2-Dichloropropane	ND	2300	1400	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>1,3,5-Trimethylbenzene</b>	<b>27000</b>	2300	520	500	B2K0272	11/02/2012	11/12/12 16:24	
1,3-Dichlorobenzene	ND	2300	690	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,3-Dichloropropane	ND	2300	500	500	B2K0272	11/02/2012	11/12/12 16:24	D6
1,4-Dichlorobenzene	ND	2300	660	500	B2K0272	11/02/2012	11/12/12 16:24	D6
2,2-Dichloropropane	ND	2300	550	500	B2K0272	11/02/2012	11/12/12 16:24	D6
2-Chlorotoluene	ND	2300	350	500	B2K0272	11/02/2012	11/12/12 16:24	D6
4-Chlorotoluene	ND	2300	360	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>4-Isopropyltoluene</b>	<b>2400</b>	2300	450	500	B2K0272	11/02/2012	11/12/12 16:24	
<b>Benzene</b>	<b>16000</b>	2300	310	500	B2K0272	11/02/2012	11/12/12 16:24	
Bromobenzene	ND	2300	600	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Bromochloromethane	ND	2300	690	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Bromodichloromethane	ND	2300	380	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Bromoform	ND	2300	840	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Bromomethane	ND	2300	410	500	B2K0272	11/02/2012	11/12/12 16:24	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-3-10

**Lab ID: 1203860-02**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	2300	390	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Carbon tetrachloride	ND	2300	570	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Chlorobenzene	ND	2300	270	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Chloroethane	ND	2300	1000	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Chloroform	ND	2300	400	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Chloromethane	ND	2300	320	500	B2K0272	11/02/2012	11/12/12 16:24	D6
cis-1,2-Dichloroethene	ND	2300	440	500	B2K0272	11/02/2012	11/12/12 16:24	D6
cis-1,3-Dichloropropene	ND	2300	320	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Di-isopropyl ether	ND	2300	370	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Dibromochloromethane	ND	2300	380	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Dibromomethane	ND	2300	420	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Dichlorodifluoromethane	ND	2300	380	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Ethyl Acetate	ND	23000	2500	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Ethyl Ether	ND	23000	5000	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Ethyl tert-butyl ether	ND	2300	320	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>Ethylbenzene</b>	<b>55000</b>	2300	220	500	B2K0272	11/02/2012	11/12/12 16:24	
Freon-113	ND	2300	380	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Hexachlorobutadiene	ND	2300	1300	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>Isopropylbenzene</b>	<b>3900</b>	2300	510	500	B2K0272	11/02/2012	11/12/12 16:24	
<b>m,p-Xylene</b>	<b>190000</b>	4500	530	500	B2K0272	11/02/2012	11/12/12 16:24	
Methylene chloride	ND	2300	2300	500	B2K0272	11/02/2012	11/12/12 16:24	D6
MTBE	ND	2300	380	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>n-Butylbenzene</b>	<b>7000</b>	2300	660	500	B2K0272	11/02/2012	11/12/12 16:24	
<b>n-Propylbenzene</b>	<b>16000</b>	2300	440	500	B2K0272	11/02/2012	11/12/12 16:24	
<b>Naphthalene</b>	<b>10000</b>	2300	1400	500	B2K0272	11/02/2012	11/12/12 16:24	
<b>o-Xylene</b>	<b>61000</b>	2300	240	500	B2K0272	11/02/2012	11/12/12 16:24	
<b>sec-Butylbenzene</b>	<b>1800</b>	2300	520	500	B2K0272	11/02/2012	11/12/12 16:24	D6, J
Styrene	ND	2300	290	500	B2K0272	11/02/2012	11/12/12 16:24	D6
tert-Amyl methyl ether	ND	2300	330	500	B2K0272	11/02/2012	11/12/12 16:24	D6
tert-Butanol	ND	45000	9900	500	B2K0272	11/02/2012	11/12/12 16:24	D6
tert-Butylbenzene	ND	2300	520	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Tetrachloroethene	ND	2300	430	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<b>Toluene</b>	<b>130000</b>	2300	300	500	B2K0272	11/02/2012	11/12/12 16:24	
trans-1,2-Dichloroethene	ND	2300	490	500	B2K0272	11/02/2012	11/12/12 16:24	D6
trans-1,3-Dichloropropene	ND	23000	460	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Trichloroethene	ND	2300	440	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Trichlorofluoromethane	ND	2300	350	500	B2K0272	11/02/2012	11/12/12 16:24	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-3-10

Lab ID: 1203860-02

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	23000	2700	500	B2K0272	11/02/2012	11/12/12 16:24	D6
Vinyl chloride	ND	2300	380	500	B2K0272	11/02/2012	11/12/12 16:24	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	89.8 %		65 - 135		B2K0272	11/02/2012	11/12/12 16:24	
<i>Surrogate: 4-Bromofluorobenzene</i>	104 %		57 - 126		B2K0272	11/02/2012	11/12/12 16:24	
<i>Surrogate: Dibromofluoromethane</i>	93.3 %		72 - 121		B2K0272	11/02/2012	11/12/12 16:24	
<i>Surrogate: Toluene-d8</i>	105 %		80 - 107		B2K0272	11/02/2012	11/12/12 16:24	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-12-8

**Lab ID: 1203860-03**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.73	NA	1	B2K0386	11/16/2012	11/16/12 20:01	
Surrogate: 4-Bromofluorobenzene	102 %		44 - 168		B2K0386	11/16/2012	11/16/12 20:01	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	0.72	1	B2K0169	11/02/2012	11/08/12 13:15	
1,1,1-Trichloroethane	ND	4.6	2.1	1	B2K0169	11/02/2012	11/08/12 13:15	
1,1,2,2-Tetrachloroethane	ND	4.6	1.0	1	B2K0169	11/02/2012	11/08/12 13:15	
1,1,2-Trichloroethane	ND	4.6	0.73	1	B2K0169	11/02/2012	11/08/12 13:15	
1,1-Dichloroethane	ND	4.6	1.0	1	B2K0169	11/02/2012	11/08/12 13:15	
1,1-Dichloroethene	ND	4.6	1.3	1	B2K0169	11/02/2012	11/08/12 13:15	
1,1-Dichloropropene	ND	4.6	1.3	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2,3-Trichloropropane	ND	4.6	1.4	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2,3-Trichlorobenzene	ND	4.6	1.2	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2,4-Trichlorobenzene	ND	4.6	1.1	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2,4-Trimethylbenzene	ND	4.6	0.59	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2-Dibromo-3-chloropropane	ND	9.1	2.3	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2-Dibromoethane	ND	4.6	0.91	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2-Dichlorobenzene	ND	4.6	1.3	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2-Dichloroethane	ND	4.6	0.98	1	B2K0169	11/02/2012	11/08/12 13:15	
1,2-Dichloropropane	ND	4.6	0.80	1	B2K0169	11/02/2012	11/08/12 13:15	
1,3,5-Trimethylbenzene	ND	4.6	0.55	1	B2K0169	11/02/2012	11/08/12 13:15	
1,3-Dichlorobenzene	ND	4.6	0.63	1	B2K0169	11/02/2012	11/08/12 13:15	
1,3-Dichloropropane	ND	4.6	0.99	1	B2K0169	11/02/2012	11/08/12 13:15	
1,4-Dichlorobenzene	ND	4.6	0.71	1	B2K0169	11/02/2012	11/08/12 13:15	
2,2-Dichloropropane	ND	4.6	1.2	1	B2K0169	11/02/2012	11/08/12 13:15	
2-Chlorotoluene	ND	4.6	1.4	1	B2K0169	11/02/2012	11/08/12 13:15	
4-Chlorotoluene	ND	4.6	0.55	1	B2K0169	11/02/2012	11/08/12 13:15	
4-Isopropyltoluene	ND	4.6	1.8	1	B2K0169	11/02/2012	11/08/12 13:15	
Benzene	ND	4.6	0.64	1	B2K0169	11/02/2012	11/08/12 13:15	
Bromobenzene	ND	4.6	0.98	1	B2K0169	11/02/2012	11/08/12 13:15	
Bromochloromethane	ND	4.6	0.78	1	B2K0169	11/02/2012	11/08/12 13:15	
Bromodichloromethane	ND	4.6	0.88	1	B2K0169	11/02/2012	11/08/12 13:15	
Bromoform	ND	4.6	1.5	1	B2K0169	11/02/2012	11/08/12 13:15	
Bromomethane	ND	4.6	1.8	1	B2K0169	11/02/2012	11/08/12 13:15	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-12-8****Lab ID: 1203860-03****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Carbon disulfide</b>	<b>14</b>	4.6	4.6	1	B2K0169	11/02/2012	11/08/12 13:15	
Carbon tetrachloride	ND	4.6	1.1	1	B2K0169	11/02/2012	11/08/12 13:15	
Chlorobenzene	ND	4.6	0.85	1	B2K0169	11/02/2012	11/08/12 13:15	
Chloroethane	ND	4.6	0.69	1	B2K0169	11/02/2012	11/08/12 13:15	
Chloroform	ND	4.6	1.2	1	B2K0169	11/02/2012	11/08/12 13:15	
Chloromethane	ND	4.6	0.89	1	B2K0169	11/02/2012	11/08/12 13:15	
cis-1,2-Dichloroethene	ND	4.6	1.6	1	B2K0169	11/02/2012	11/08/12 13:15	
cis-1,3-Dichloropropene	ND	4.6	0.75	1	B2K0169	11/02/2012	11/08/12 13:15	
Di-isopropyl ether	ND	4.6	0.80	1	B2K0169	11/02/2012	11/08/12 13:15	
Dibromochloromethane	ND	4.6	0.89	1	B2K0169	11/02/2012	11/08/12 13:15	
Dibromomethane	ND	4.6	1.4	1	B2K0169	11/02/2012	11/08/12 13:15	
Dichlorodifluoromethane	ND	4.6	0.73	1	B2K0169	11/02/2012	11/08/12 13:15	
Ethyl Acetate	ND	46	6.0	1	B2K0169	11/02/2012	11/08/12 13:15	
Ethyl Ether	ND	46	6.9	1	B2K0169	11/02/2012	11/08/12 13:15	
Ethyl tert-butyl ether	ND	4.6	0.58	1	B2K0169	11/02/2012	11/08/12 13:15	
Ethylbenzene	ND	4.6	0.71	1	B2K0169	11/02/2012	11/08/12 13:15	
Freon-113	ND	4.6	0.89	1	B2K0169	11/02/2012	11/08/12 13:15	
Hexachlorobutadiene	ND	4.6	1.6	1	B2K0169	11/02/2012	11/08/12 13:15	
Isopropylbenzene	ND	4.6	0.65	1	B2K0169	11/02/2012	11/08/12 13:15	
m,p-Xylene	ND	9.1	1.1	1	B2K0169	11/02/2012	11/08/12 13:15	
Methylene chloride	ND	4.6	4.6	1	B2K0169	11/02/2012	11/08/12 13:15	
MTBE	ND	4.6	0.93	1	B2K0169	11/02/2012	11/08/12 13:15	
n-Butylbenzene	ND	4.6	0.54	1	B2K0169	11/02/2012	11/08/12 13:15	
n-Propylbenzene	ND	4.6	0.54	1	B2K0169	11/02/2012	11/08/12 13:15	
Naphthalene	ND	4.6	1.1	1	B2K0169	11/02/2012	11/08/12 13:15	
o-Xylene	ND	4.6	0.77	1	B2K0169	11/02/2012	11/08/12 13:15	
sec-Butylbenzene	ND	4.6	0.56	1	B2K0169	11/02/2012	11/08/12 13:15	
Styrene	ND	4.6	0.54	1	B2K0169	11/02/2012	11/08/12 13:15	
tert-Amyl methyl ether	ND	4.6	0.88	1	B2K0169	11/02/2012	11/08/12 13:15	
tert-Butanol	ND	91	7.3	1	B2K0169	11/02/2012	11/08/12 13:15	
tert-Butylbenzene	ND	4.6	0.70	1	B2K0169	11/02/2012	11/08/12 13:15	
Tetrachloroethene	ND	4.6	1.1	1	B2K0169	11/02/2012	11/08/12 13:15	
Toluene	ND	4.6	0.73	1	B2K0169	11/02/2012	11/08/12 13:15	
trans-1,2-Dichloroethene	ND	4.6	1.3	1	B2K0169	11/02/2012	11/08/12 13:15	
trans-1,3-Dichloropropene	ND	46	1.3	1	B2K0169	11/02/2012	11/08/12 13:15	
Trichloroethene	ND	4.6	1.8	1	B2K0169	11/02/2012	11/08/12 13:15	
Trichlorofluoromethane	ND	4.6	0.93	1	B2K0169	11/02/2012	11/08/12 13:15	



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-12-8

Lab ID: 1203860-03

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	46	10	1	B2K0169	11/02/2012	11/08/12 13:15	
Vinyl chloride	ND	4.6	1.5	1	B2K0169	11/02/2012	11/08/12 13:15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>116 %</i>		<i>65 - 135</i>		B2K0169	11/02/2012	<i>11/08/12 13:15</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>110 %</i>		<i>57 - 126</i>		B2K0169	11/02/2012	<i>11/08/12 13:15</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>109 %</i>		<i>72 - 121</i>		B2K0169	11/02/2012	<i>11/08/12 13:15</i>	
<i>Surrogate: Toluene-d8</i>	<i>112 %</i>		<i>80 - 107</i>		B2K0169	11/02/2012	<i>11/08/12 13:15</i>	S7



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-12-10

**Lab ID: 1203860-04**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>520</b>	45	NA	50	B2K0386	11/16/2012	11/16/12 22:22	
Surrogate: 4-Bromofluorobenzene	886 %		44 - 168		B2K0386	11/16/2012	11/16/12 22:22	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.2	1.1	1	B2K0419	11/02/2012	11/16/12 20:32	
1,1,1-Trichloroethane	ND	4.2	0.60	1	B2K0419	11/02/2012	11/16/12 20:32	
1,1,2,2-Tetrachloroethane	ND	4.2	2.6	1	B2K0419	11/02/2012	11/16/12 20:32	
1,1,2-Trichloroethane	ND	4.2	0.68	1	B2K0419	11/02/2012	11/16/12 20:32	
1,1-Dichloroethane	ND	4.2	0.80	1	B2K0419	11/02/2012	11/16/12 20:32	
1,1-Dichloroethene	ND	4.2	0.85	1	B2K0419	11/02/2012	11/16/12 20:32	
1,1-Dichloropropene	ND	4.2	0.94	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2,3-Trichloropropane	ND	4.2	2.3	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2,3-Trichlorobenzene	ND	4.2	3.0	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2,4-Trichlorobenzene	ND	4.2	2.5	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2,4-Trimethylbenzene	ND	4.2	0.67	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2-Dibromo-3-chloropropane	ND	8.4	3.1	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2-Dibromoethane	ND	4.2	0.97	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2-Dichlorobenzene	ND	4.2	1.7	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2-Dichloroethane	ND	4.2	0.59	1	B2K0419	11/02/2012	11/16/12 20:32	
1,2-Dichloropropane	ND	4.2	2.6	1	B2K0419	11/02/2012	11/16/12 20:32	
1,3,5-Trimethylbenzene	ND	4.2	0.97	1	B2K0419	11/02/2012	11/16/12 20:32	
1,3-Dichlorobenzene	ND	4.2	1.3	1	B2K0419	11/02/2012	11/16/12 20:32	
1,3-Dichloropropane	ND	4.2	0.93	1	B2K0419	11/02/2012	11/16/12 20:32	
1,4-Dichlorobenzene	ND	4.2	1.2	1	B2K0419	11/02/2012	11/16/12 20:32	
2,2-Dichloropropane	ND	4.2	1.0	1	B2K0419	11/02/2012	11/16/12 20:32	
2-Chlorotoluene	ND	4.2	0.66	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>4-Chlorotoluene</b>	<b>3.4</b>	4.2	0.67	1	B2K0419	11/02/2012	11/16/12 20:32	J
4-Isopropyltoluene	ND	4.2	0.84	1	B2K0419	11/02/2012	11/16/12 20:32	
Benzene	ND	4.2	0.59	1	B2K0419	11/02/2012	11/16/12 20:32	
Bromobenzene	ND	4.2	1.1	1	B2K0419	11/02/2012	11/16/12 20:32	
Bromochloromethane	ND	4.2	1.3	1	B2K0419	11/02/2012	11/16/12 20:32	
Bromodichloromethane	ND	4.2	0.70	1	B2K0419	11/02/2012	11/16/12 20:32	
Bromoform	ND	4.2	1.6	1	B2K0419	11/02/2012	11/16/12 20:32	
Bromomethane	ND	4.2	0.76	1	B2K0419	11/02/2012	11/16/12 20:32	



## Certificate of Analysis

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1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-12-10

**Lab ID: 1203860-04**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Carbon disulfide</b>	<b>18</b>	4.2	0.73	1	B2K0419	11/02/2012	11/16/12 20:32	
Carbon tetrachloride	ND	4.2	1.1	1	B2K0419	11/02/2012	11/16/12 20:32	
Chlorobenzene	ND	4.2	0.50	1	B2K0419	11/02/2012	11/16/12 20:32	
Chloroethane	ND	4.2	1.9	1	B2K0419	11/02/2012	11/16/12 20:32	
Chloroform	ND	4.2	0.75	1	B2K0419	11/02/2012	11/16/12 20:32	
Chloromethane	ND	4.2	0.61	1	B2K0419	11/02/2012	11/16/12 20:32	
cis-1,2-Dichloroethene	ND	4.2	0.82	1	B2K0419	11/02/2012	11/16/12 20:32	
cis-1,3-Dichloropropene	ND	4.2	0.60	1	B2K0419	11/02/2012	11/16/12 20:32	
Di-isopropyl ether	ND	4.2	0.70	1	B2K0419	11/02/2012	11/16/12 20:32	
Dibromochloromethane	ND	4.2	0.71	1	B2K0419	11/02/2012	11/16/12 20:32	
Dibromomethane	ND	4.2	0.78	1	B2K0419	11/02/2012	11/16/12 20:32	
Dichlorodifluoromethane	ND	4.2	0.70	1	B2K0419	11/02/2012	11/16/12 20:32	
Ethyl Acetate	ND	42	4.6	1	B2K0419	11/02/2012	11/16/12 20:32	
Ethyl Ether	ND	42	9.4	1	B2K0419	11/02/2012	11/16/12 20:32	
Ethyl tert-butyl ether	ND	4.2	0.60	1	B2K0419	11/02/2012	11/16/12 20:32	
Ethylbenzene	ND	4.2	0.40	1	B2K0419	11/02/2012	11/16/12 20:32	
Freon-113	ND	4.2	0.72	1	B2K0419	11/02/2012	11/16/12 20:32	
Hexachlorobutadiene	ND	4.2	2.5	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>Isopropylbenzene</b>	<b>170</b>	4.2	0.95	1	B2K0419	11/02/2012	11/16/12 20:32	
m,p-Xylene	ND	8.4	0.99	1	B2K0419	11/02/2012	11/16/12 20:32	
Methylene chloride	ND	4.2	4.2	1	B2K0419	11/02/2012	11/16/12 20:32	
MTBE	ND	4.2	0.70	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>n-Butylbenzene</b>	<b>26</b>	4.2	1.2	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>n-Propylbenzene</b>	<b>180</b>	4.2	0.82	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>Naphthalene</b>	<b>25</b>	4.2	2.7	1	B2K0419	11/02/2012	11/16/12 20:32	
o-Xylene	ND	4.2	0.45	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>sec-Butylbenzene</b>	<b>88</b>	4.2	0.96	1	B2K0419	11/02/2012	11/16/12 20:32	
Styrene	ND	4.2	0.53	1	B2K0419	11/02/2012	11/16/12 20:32	
tert-Amyl methyl ether	ND	4.2	0.62	1	B2K0419	11/02/2012	11/16/12 20:32	
tert-Butanol	ND	84	18	1	B2K0419	11/02/2012	11/16/12 20:32	
<b>tert-Butylbenzene</b>	<b>4.8</b>	4.2	0.96	1	B2K0419	11/02/2012	11/16/12 20:32	
Tetrachloroethene	ND	4.2	0.80	1	B2K0419	11/02/2012	11/16/12 20:32	
Toluene	ND	4.2	0.55	1	B2K0419	11/02/2012	11/16/12 20:32	
trans-1,2-Dichloroethene	ND	4.2	0.91	1	B2K0419	11/02/2012	11/16/12 20:32	
trans-1,3-Dichloropropene	ND	42	0.85	1	B2K0419	11/02/2012	11/16/12 20:32	
Trichloroethene	ND	4.2	0.81	1	B2K0419	11/02/2012	11/16/12 20:32	
Trichlorofluoromethane	ND	4.2	0.65	1	B2K0419	11/02/2012	11/16/12 20:32	



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-12-10

Lab ID: 1203860-04

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	42	5.0	1	B2K0419	11/02/2012	11/16/12 20:32	
Vinyl chloride	ND	4.2	0.72	1	B2K0419	11/02/2012	11/16/12 20:32	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	95.4 %		65 - 135		B2K0419	11/02/2012	11/16/12 20:32	
<i>Surrogate: 4-Bromofluorobenzene</i>	572 %		57 - 126		B2K0419	11/02/2012	11/16/12 20:32	S7
<i>Surrogate: Dibromofluoromethane</i>	94.1 %		72 - 121		B2K0419	11/02/2012	11/16/12 20:32	
<i>Surrogate: Toluene-d8</i>	148 %		80 - 107		B2K0419	11/02/2012	11/16/12 20:32	S7



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-9-10

**Lab ID: 1203860-05**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>8400</b>	390	NA	500	B2K0386	11/16/2012	11/16/12 22:37	
Surrogate: 4-Bromofluorobenzene	305 %		44 - 168		B2K0386	11/16/2012	11/16/12 22:37	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	1900	300	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,1,1-Trichloroethane	ND	1900	890	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,1,2,2-Tetrachloroethane	ND	1900	430	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,1,2-Trichloroethane	ND	1900	310	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,1-Dichloroethane	ND	1900	430	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,1-Dichloroethene	ND	1900	550	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,1-Dichloropropene	ND	1900	570	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2,3-Trichloropropane	ND	1900	620	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2,3-Trichlorobenzene	ND	1900	500	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2,4-Trichlorobenzene	ND	1900	460	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>1,2,4-Trimethylbenzene</b>	<b>580000</b>	19000	2500	5000	B2K0169	11/02/2012	11/08/12 14:24	
1,2-Dibromo-3-chloropropane	ND	3900	970	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2-Dibromoethane	ND	1900	390	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2-Dichlorobenzene	ND	1900	550	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2-Dichloroethane	ND	1900	420	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,2-Dichloropropane	ND	1900	340	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>1,3,5-Trimethylbenzene</b>	<b>160000</b>	19000	2400	5000	B2K0169	11/02/2012	11/08/12 14:24	
1,3-Dichlorobenzene	ND	1900	270	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,3-Dichloropropane	ND	1900	420	500	B2K0119	11/02/2012	11/07/12 17:02	D6
1,4-Dichlorobenzene	ND	1900	300	500	B2K0119	11/02/2012	11/07/12 17:02	D6
2,2-Dichloropropane	ND	1900	530	500	B2K0119	11/02/2012	11/07/12 17:02	D6
2-Chlorotoluene	ND	1900	590	500	B2K0119	11/02/2012	11/07/12 17:02	D6
4-Chlorotoluene	ND	1900	240	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>4-Isopropyltoluene</b>	<b>5400</b>	1900	770	500	B2K0119	11/02/2012	11/07/12 17:02	
Benzene	ND	1900	270	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Bromobenzene	ND	1900	420	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Bromochloromethane	ND	1900	330	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Bromodichloromethane	ND	1900	370	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Bromoform	ND	1900	640	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Bromomethane	ND	1900	750	500	B2K0119	11/02/2012	11/07/12 17:02	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-9-10****Lab ID: 1203860-05****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	1900	1900	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Carbon tetrachloride	ND	1900	460	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Chlorobenzene	ND	1900	360	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Chloroethane	ND	1900	290	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Chloroform	ND	1900	510	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Chloromethane	ND	1900	380	500	B2K0119	11/02/2012	11/07/12 17:02	D6
cis-1,2-Dichloroethene	ND	1900	690	500	B2K0119	11/02/2012	11/07/12 17:02	D6
cis-1,3-Dichloropropene	ND	1900	320	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Di-isopropyl ether	ND	1900	340	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Dibromochloromethane	ND	1900	380	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Dibromomethane	ND	1900	580	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Dichlorodifluoromethane	ND	1900	310	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Ethyl Acetate	ND	19000	2500	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Ethyl Ether	ND	19000	2900	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Ethyl tert-butyl ether	ND	1900	250	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>Ethylbenzene</b>	<b>230000</b>	19000	3000	5000	B2K0169	11/02/2012	11/08/12 14:24	
Freon-113	ND	1900	380	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Hexachlorobutadiene	ND	1900	670	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>Isopropylbenzene</b>	<b>21000</b>	1900	280	500	B2K0119	11/02/2012	11/07/12 17:02	
<b>m,p-Xylene</b>	<b>1100000</b>	39000	4600	5000	B2K0169	11/02/2012	11/08/12 14:24	
Methylene chloride	ND	1900	1900	500	B2K0119	11/02/2012	11/07/12 17:02	D6
MTBE	ND	1900	400	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>n-Butylbenzene</b>	<b>46000</b>	1900	230	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>n-Propylbenzene</b>	<b>77000</b>	1900	230	500	B2K0119	11/02/2012	11/07/12 17:02	
<b>Naphthalene</b>	<b>61000</b>	1900	460	500	B2K0119	11/02/2012	11/07/12 17:02	
<b>o-Xylene</b>	<b>270000</b>	19000	3300	5000	B2K0169	11/02/2012	11/08/12 14:24	
<b>sec-Butylbenzene</b>	<b>11000</b>	1900	240	500	B2K0119	11/02/2012	11/07/12 17:02	
Styrene	ND	1900	230	500	B2K0119	11/02/2012	11/07/12 17:02	D6
tert-Amyl methyl ether	ND	1900	370	500	B2K0119	11/02/2012	11/07/12 17:02	D6
tert-Butanol	ND	39000	3100	500	B2K0119	11/02/2012	11/07/12 17:02	D6
tert-Butylbenzene	ND	1900	300	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Tetrachloroethene	ND	1900	450	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<b>Toluene</b>	<b>21000</b>	1900	310	500	B2K0119	11/02/2012	11/07/12 17:02	
trans-1,2-Dichloroethene	ND	1900	570	500	B2K0119	11/02/2012	11/07/12 17:02	D6
trans-1,3-Dichloropropene	ND	19000	560	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Trichloroethene	ND	1900	760	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Trichlorofluoromethane	ND	1900	400	500	B2K0119	11/02/2012	11/07/12 17:02	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-9-10

Lab ID: 1203860-05

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	19000	4500	500	B2K0119	11/02/2012	11/07/12 17:02	D6
Vinyl chloride	ND	1900	630	500	B2K0119	11/02/2012	11/07/12 17:02	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	88.8 %		<i>65 - 135</i>		B2K0169	11/02/2012	<i>11/08/12 14:24</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	112 %		<i>65 - 135</i>		B2K0119	11/02/2012	<i>11/07/12 17:02</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	90.1 %		<i>57 - 126</i>		B2K0169	11/02/2012	<i>11/08/12 14:24</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	112 %		<i>57 - 126</i>		B2K0119	11/02/2012	<i>11/07/12 17:02</i>	
<i>Surrogate: Dibromofluoromethane</i>	92.4 %		<i>72 - 121</i>		B2K0119	11/02/2012	<i>11/07/12 17:02</i>	
<i>Surrogate: Dibromofluoromethane</i>	84.4 %		<i>72 - 121</i>		B2K0169	11/02/2012	<i>11/08/12 14:24</i>	
<i>Surrogate: Toluene-d8</i>	83.2 %		<i>80 - 107</i>		B2K0169	11/02/2012	<i>11/08/12 14:24</i>	
<i>Surrogate: Toluene-d8</i>	86.1 %		<i>80 - 107</i>		B2K0119	11/02/2012	<i>11/07/12 17:02</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-9-8

**Lab ID: 1203860-06**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.85	NA	1	B2K0386	11/16/2012	11/16/12 20:17	
Surrogate: 4-Bromofluorobenzene	96.5 %		44 - 168		B2K0386	11/16/2012	11/16/12 20:17	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.2	0.66	1	B2K0169	11/02/2012	11/08/12 20:29	
1,1,1-Trichloroethane	ND	4.2	1.9	1	B2K0169	11/02/2012	11/08/12 20:29	
1,1,2,2-Tetrachloroethane	ND	4.2	0.93	1	B2K0169	11/02/2012	11/08/12 20:29	
1,1,2-Trichloroethane	ND	4.2	0.67	1	B2K0169	11/02/2012	11/08/12 20:29	
1,1-Dichloroethane	ND	4.2	0.93	1	B2K0169	11/02/2012	11/08/12 20:29	
1,1-Dichloroethene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 20:29	
1,1-Dichloropropene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2,3-Trichloropropane	ND	4.2	1.3	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2,3-Trichlorobenzene	ND	4.2	1.1	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2,4-Trichlorobenzene	ND	4.2	1.0	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>1,2,4-Trimethylbenzene</b>	<b>51</b>	4.2	0.54	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2-Dibromo-3-chloropropane	ND	8.4	2.1	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2-Dibromoethane	ND	4.2	0.84	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2-Dichlorobenzene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2-Dichloroethane	ND	4.2	0.90	1	B2K0169	11/02/2012	11/08/12 20:29	
1,2-Dichloropropane	ND	4.2	0.74	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>1,3,5-Trimethylbenzene</b>	<b>14</b>	4.2	0.51	1	B2K0169	11/02/2012	11/08/12 20:29	
1,3-Dichlorobenzene	ND	4.2	0.58	1	B2K0169	11/02/2012	11/08/12 20:29	
1,3-Dichloropropane	ND	4.2	0.91	1	B2K0169	11/02/2012	11/08/12 20:29	
1,4-Dichlorobenzene	ND	4.2	0.66	1	B2K0169	11/02/2012	11/08/12 20:29	
2,2-Dichloropropane	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 20:29	
2-Chlorotoluene	ND	4.2	1.3	1	B2K0169	11/02/2012	11/08/12 20:29	
4-Chlorotoluene	ND	4.2	0.51	1	B2K0169	11/02/2012	11/08/12 20:29	
4-Isopropyltoluene	ND	4.2	1.7	1	B2K0169	11/02/2012	11/08/12 20:29	
Benzene	ND	4.2	0.59	1	B2K0169	11/02/2012	11/08/12 20:29	
Bromobenzene	ND	4.2	0.90	1	B2K0169	11/02/2012	11/08/12 20:29	
Bromochloromethane	ND	4.2	0.72	1	B2K0169	11/02/2012	11/08/12 20:29	
Bromodichloromethane	ND	4.2	0.81	1	B2K0169	11/02/2012	11/08/12 20:29	
Bromoform	ND	4.2	1.4	1	B2K0169	11/02/2012	11/08/12 20:29	
Bromomethane	ND	4.2	1.6	1	B2K0169	11/02/2012	11/08/12 20:29	



## Certificate of Analysis

Ninno &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-9-8

**Lab ID: 1203860-06**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	4.2	4.2	1	B2K0169	11/02/2012	11/08/12 20:29	
Carbon tetrachloride	ND	4.2	0.99	1	B2K0169	11/02/2012	11/08/12 20:29	
Chlorobenzene	ND	4.2	0.79	1	B2K0169	11/02/2012	11/08/12 20:29	
Chloroethane	ND	4.2	0.64	1	B2K0169	11/02/2012	11/08/12 20:29	
Chloroform	ND	4.2	1.1	1	B2K0169	11/02/2012	11/08/12 20:29	
Chloromethane	ND	4.2	0.82	1	B2K0169	11/02/2012	11/08/12 20:29	
cis-1,2-Dichloroethene	ND	4.2	1.5	1	B2K0169	11/02/2012	11/08/12 20:29	
cis-1,3-Dichloropropene	ND	4.2	0.69	1	B2K0169	11/02/2012	11/08/12 20:29	
Di-isopropyl ether	ND	4.2	0.74	1	B2K0169	11/02/2012	11/08/12 20:29	
Dibromochloromethane	ND	4.2	0.82	1	B2K0169	11/02/2012	11/08/12 20:29	
Dibromomethane	ND	4.2	1.3	1	B2K0169	11/02/2012	11/08/12 20:29	
Dichlorodifluoromethane	ND	4.2	0.67	1	B2K0169	11/02/2012	11/08/12 20:29	
Ethyl Acetate	ND	42	5.5	1	B2K0169	11/02/2012	11/08/12 20:29	
Ethyl Ether	ND	42	6.4	1	B2K0169	11/02/2012	11/08/12 20:29	
Ethyl tert-butyl ether	ND	4.2	0.54	1	B2K0169	11/02/2012	11/08/12 20:29	
Ethylbenzene	ND	4.2	0.66	1	B2K0169	11/02/2012	11/08/12 20:29	
Freon-113	ND	4.2	0.82	1	B2K0169	11/02/2012	11/08/12 20:29	
Hexachlorobutadiene	ND	4.2	1.5	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>Isopropylbenzene</b>	<b>0.93</b>	4.2	0.60	1	B2K0169	11/02/2012	11/08/12 20:29	J
<b>m,p-Xylene</b>	<b>24</b>	8.4	1.0	1	B2K0169	11/02/2012	11/08/12 20:29	
Methylene chloride	ND	4.2	4.2	1	B2K0169	11/02/2012	11/08/12 20:29	
MTBE	ND	4.2	0.86	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>n-Butylbenzene</b>	<b>3.4</b>	4.2	0.50	1	B2K0169	11/02/2012	11/08/12 20:29	J
<b>n-Propylbenzene</b>	<b>3.9</b>	4.2	0.50	1	B2K0169	11/02/2012	11/08/12 20:29	J
<b>Naphthalene</b>	<b>17</b>	4.2	0.99	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>o-Xylene</b>	<b>13</b>	4.2	0.71	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>sec-Butylbenzene</b>	<b>1.2</b>	4.2	0.52	1	B2K0169	11/02/2012	11/08/12 20:29	J
Styrene	ND	4.2	0.50	1	B2K0169	11/02/2012	11/08/12 20:29	
tert-Amyl methyl ether	ND	4.2	0.81	1	B2K0169	11/02/2012	11/08/12 20:29	
tert-Butanol	ND	84	6.8	1	B2K0169	11/02/2012	11/08/12 20:29	
tert-Butylbenzene	ND	4.2	0.64	1	B2K0169	11/02/2012	11/08/12 20:29	
Tetrachloroethene	ND	4.2	0.98	1	B2K0169	11/02/2012	11/08/12 20:29	
<b>Toluene</b>	<b>0.77</b>	4.2	0.68	1	B2K0169	11/02/2012	11/08/12 20:29	J
trans-1,2-Dichloroethene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 20:29	
trans-1,3-Dichloropropene	ND	42	1.2	1	B2K0169	11/02/2012	11/08/12 20:29	
Trichloroethene	ND	4.2	1.6	1	B2K0169	11/02/2012	11/08/12 20:29	
Trichlorofluoromethane	ND	4.2	0.86	1	B2K0169	11/02/2012	11/08/12 20:29	



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-9-8

Lab ID: 1203860-06

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	42	9.7	1	B2K0169	11/02/2012	11/08/12 20:29	
Vinyl chloride	ND	4.2	1.4	1	B2K0169	11/02/2012	11/08/12 20:29	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97.6 %		<i>65 - 135</i>		B2K0169	11/02/2012	<i>11/08/12 20:29</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	94.5 %		<i>57 - 126</i>		B2K0169	11/02/2012	<i>11/08/12 20:29</i>	
<i>Surrogate: Dibromofluoromethane</i>	92.1 %		<i>72 - 121</i>		B2K0169	11/02/2012	<i>11/08/12 20:29</i>	
<i>Surrogate: Toluene-d8</i>	95.0 %		<i>80 - 107</i>		B2K0169	11/02/2012	<i>11/08/12 20:29</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-6-10

**Lab ID: 1203860-07**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<b>Gasoline Range Organics</b>	<b>1200</b>	79	NA	100	B2K0386	11/16/2012	11/16/12 22:53	
Surrogate: 4-Bromofluorobenzene	249 %		44 - 168		B2K0386	11/16/2012	11/16/12 22:53	S7

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	2000	310	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,1,1-Trichloroethane	ND	2000	910	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,1,2,2-Tetrachloroethane	ND	2000	440	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,1,2-Trichloroethane	ND	2000	320	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,1-Dichloroethane	ND	2000	440	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,1-Dichloroethene	ND	2000	560	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,1-Dichloropropene	ND	2000	580	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2,3-Trichloropropane	ND	2000	630	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2,3-Trichlorobenzene	ND	2000	510	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2,4-Trichlorobenzene	ND	2000	470	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>1,2,4-Trimethylbenzene</b>	<b>63000</b>	2000	250	500	B2K0119	11/02/2012	11/07/12 17:19	
1,2-Dibromo-3-chloropropane	ND	4000	990	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2-Dibromoethane	ND	2000	400	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2-Dichlorobenzene	ND	2000	570	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2-Dichloroethane	ND	2000	430	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,2-Dichloropropane	ND	2000	350	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>1,3,5-Trimethylbenzene</b>	<b>21000</b>	2000	240	500	B2K0119	11/02/2012	11/07/12 17:19	
1,3-Dichlorobenzene	ND	2000	270	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,3-Dichloropropane	ND	2000	430	500	B2K0119	11/02/2012	11/07/12 17:19	D6
1,4-Dichlorobenzene	ND	2000	310	500	B2K0119	11/02/2012	11/07/12 17:19	D6
2,2-Dichloropropane	ND	2000	540	500	B2K0119	11/02/2012	11/07/12 17:19	D6
2-Chlorotoluene	ND	2000	610	500	B2K0119	11/02/2012	11/07/12 17:19	D6
4-Chlorotoluene	ND	2000	240	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>4-Isopropyltoluene</b>	<b>1500</b>	2000	790	500	B2K0119	11/02/2012	11/07/12 17:19	J
Benzene	ND	2000	280	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Bromobenzene	ND	2000	430	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Bromochloromethane	ND	2000	340	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Bromodichloromethane	ND	2000	380	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Bromoform	ND	2000	650	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Bromomethane	ND	2000	770	500	B2K0119	11/02/2012	11/07/12 17:19	D6



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-6-10****Lab ID: 1203860-07****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	2000	2000	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Carbon tetrachloride	ND	2000	470	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Chlorobenzene	ND	2000	370	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Chloroethane	ND	2000	300	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Chloroform	ND	2000	520	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Chloromethane	ND	2000	390	500	B2K0119	11/02/2012	11/07/12 17:19	D6
cis-1,2-Dichloroethene	ND	2000	710	500	B2K0119	11/02/2012	11/07/12 17:19	D6
cis-1,3-Dichloropropene	ND	2000	320	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Di-isopropyl ether	ND	2000	350	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Dibromochloromethane	ND	2000	390	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Dibromomethane	ND	2000	590	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Dichlorodifluoromethane	ND	2000	320	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Ethyl Acetate	ND	20000	2600	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Ethyl Ether	ND	20000	3000	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Ethyl tert-butyl ether	ND	2000	250	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>Ethylbenzene</b>	<b>11000</b>	2000	310	500	B2K0119	11/02/2012	11/07/12 17:19	
Freon-113	ND	2000	390	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Hexachlorobutadiene	ND	2000	680	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>Isopropylbenzene</b>	<b>2900</b>	2000	280	500	B2K0119	11/02/2012	11/07/12 17:19	
<b>m,p-Xylene</b>	<b>53000</b>	4000	470	500	B2K0119	11/02/2012	11/07/12 17:19	
Methylene chloride	ND	2000	2000	500	B2K0119	11/02/2012	11/07/12 17:19	D6
MTBE	ND	2000	400	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>n-Butylbenzene</b>	<b>11000</b>	2000	240	500	B2K0119	11/02/2012	11/07/12 17:19	
<b>n-Propylbenzene</b>	<b>13000</b>	2000	240	500	B2K0119	11/02/2012	11/07/12 17:19	
<b>Naphthalene</b>	<b>3700</b>	2000	470	500	B2K0119	11/02/2012	11/07/12 17:19	
<b>o-Xylene</b>	<b>14000</b>	2000	330	500	B2K0119	11/02/2012	11/07/12 17:19	
<b>sec-Butylbenzene</b>	<b>2700</b>	2000	240	500	B2K0119	11/02/2012	11/07/12 17:19	
Styrene	ND	2000	240	500	B2K0119	11/02/2012	11/07/12 17:19	D6
tert-Amyl methyl ether	ND	2000	380	500	B2K0119	11/02/2012	11/07/12 17:19	D6
tert-Butanol	ND	40000	3200	500	B2K0119	11/02/2012	11/07/12 17:19	D6
tert-Butylbenzene	ND	2000	300	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Tetrachloroethene	ND	2000	460	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<b>Toluene</b>	<b>7700</b>	2000	320	500	B2K0119	11/02/2012	11/07/12 17:19	
trans-1,2-Dichloroethene	ND	2000	580	500	B2K0119	11/02/2012	11/07/12 17:19	D6
trans-1,3-Dichloropropene	ND	20000	570	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Trichloroethene	ND	2000	770	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Trichlorofluoromethane	ND	2000	400	500	B2K0119	11/02/2012	11/07/12 17:19	D6



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-6-10

Lab ID: 1203860-07

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	20000	4600	500	B2K0119	11/02/2012	11/07/12 17:19	D6
Vinyl chloride	ND	2000	640	500	B2K0119	11/02/2012	11/07/12 17:19	D6
<i>Surrogate: 1,2-Dichloroethane-d4</i>	87.3 %		65 - 135		B2K0119	11/02/2012	11/07/12 17:19	
<i>Surrogate: 4-Bromofluorobenzene</i>	89.5 %		57 - 126		B2K0119	11/02/2012	11/07/12 17:19	
<i>Surrogate: Dibromofluoromethane</i>	84.2 %		72 - 121		B2K0119	11/02/2012	11/07/12 17:19	
<i>Surrogate: Toluene-d8</i>	83.6 %		80 - 107		B2K0119	11/02/2012	11/07/12 17:19	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-6-5

**Lab ID: 1203860-08**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.90	NA	1	B2K0386	11/16/2012	11/16/12 20:32	
Surrogate: 4-Bromofluorobenzene	92.5 %		44 - 168		B2K0386	11/16/2012	11/16/12 20:32	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	0.70	1	B2K0119	11/02/2012	11/07/12 18:10	
1,1,1-Trichloroethane	ND	4.4	2.1	1	B2K0119	11/02/2012	11/07/12 18:10	
1,1,2,2-Tetrachloroethane	ND	4.4	0.98	1	B2K0119	11/02/2012	11/07/12 18:10	
1,1,2-Trichloroethane	ND	4.4	0.71	1	B2K0119	11/02/2012	11/07/12 18:10	
1,1-Dichloroethane	ND	4.4	0.99	1	B2K0119	11/02/2012	11/07/12 18:10	
1,1-Dichloroethene	ND	4.4	1.3	1	B2K0119	11/02/2012	11/07/12 18:10	
1,1-Dichloropropene	ND	4.4	1.3	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2,3-Trichloropropane	ND	4.4	1.4	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2,3-Trichlorobenzene	ND	4.4	1.2	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2,4-Trichlorobenzene	ND	4.4	1.1	1	B2K0119	11/02/2012	11/07/12 18:10	
<b>1,2,4-Trimethylbenzene</b>	<b>1.5</b>	4.4	0.57	1	B2K0119	11/02/2012	11/07/12 18:10	J
1,2-Dibromo-3-chloropropane	ND	8.9	2.2	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2-Dibromoethane	ND	4.4	0.89	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2-Dichlorobenzene	ND	4.4	1.3	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2-Dichloroethane	ND	4.4	0.96	1	B2K0119	11/02/2012	11/07/12 18:10	
1,2-Dichloropropane	ND	4.4	0.78	1	B2K0119	11/02/2012	11/07/12 18:10	
1,3,5-Trimethylbenzene	ND	4.4	0.54	1	B2K0119	11/02/2012	11/07/12 18:10	
1,3-Dichlorobenzene	ND	4.4	0.61	1	B2K0119	11/02/2012	11/07/12 18:10	
1,3-Dichloropropane	ND	4.4	0.96	1	B2K0119	11/02/2012	11/07/12 18:10	
1,4-Dichlorobenzene	ND	4.4	0.70	1	B2K0119	11/02/2012	11/07/12 18:10	
2,2-Dichloropropane	ND	4.4	1.2	1	B2K0119	11/02/2012	11/07/12 18:10	
2-Chlorotoluene	ND	4.4	1.4	1	B2K0119	11/02/2012	11/07/12 18:10	
4-Chlorotoluene	ND	4.4	0.54	1	B2K0119	11/02/2012	11/07/12 18:10	
4-Isopropyltoluene	ND	4.4	1.8	1	B2K0119	11/02/2012	11/07/12 18:10	
Benzene	ND	4.4	0.63	1	B2K0119	11/02/2012	11/07/12 18:10	
Bromobenzene	ND	4.4	0.95	1	B2K0119	11/02/2012	11/07/12 18:10	
Bromochloromethane	ND	4.4	0.76	1	B2K0119	11/02/2012	11/07/12 18:10	
Bromodichloromethane	ND	4.4	0.86	1	B2K0119	11/02/2012	11/07/12 18:10	
Bromoform	ND	4.4	1.5	1	B2K0119	11/02/2012	11/07/12 18:10	
Bromomethane	ND	4.4	1.7	1	B2K0119	11/02/2012	11/07/12 18:10	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-6-5****Lab ID: 1203860-08****Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	4.4	4.4	1	B2K0119	11/02/2012	11/07/12 18:10	
Carbon tetrachloride	ND	4.4	1.0	1	B2K0119	11/02/2012	11/07/12 18:10	
Chlorobenzene	ND	4.4	0.83	1	B2K0119	11/02/2012	11/07/12 18:10	
Chloroethane	ND	4.4	0.67	1	B2K0119	11/02/2012	11/07/12 18:10	
Chloroform	ND	4.4	1.2	1	B2K0119	11/02/2012	11/07/12 18:10	
Chloromethane	ND	4.4	0.87	1	B2K0119	11/02/2012	11/07/12 18:10	
cis-1,2-Dichloroethene	ND	4.4	1.6	1	B2K0119	11/02/2012	11/07/12 18:10	
cis-1,3-Dichloropropene	ND	4.4	0.73	1	B2K0119	11/02/2012	11/07/12 18:10	
Di-isopropyl ether	ND	4.4	0.78	1	B2K0119	11/02/2012	11/07/12 18:10	
Dibromochloromethane	ND	4.4	0.87	1	B2K0119	11/02/2012	11/07/12 18:10	
Dibromomethane	ND	4.4	1.3	1	B2K0119	11/02/2012	11/07/12 18:10	
Dichlorodifluoromethane	ND	4.4	0.71	1	B2K0119	11/02/2012	11/07/12 18:10	
Ethyl Acetate	ND	44	5.8	1	B2K0119	11/02/2012	11/07/12 18:10	
Ethyl Ether	ND	44	6.7	1	B2K0119	11/02/2012	11/07/12 18:10	
Ethyl tert-butyl ether	ND	4.4	0.57	1	B2K0119	11/02/2012	11/07/12 18:10	
Ethylbenzene	ND	4.4	0.69	1	B2K0119	11/02/2012	11/07/12 18:10	
Freon-113	ND	4.4	0.87	1	B2K0119	11/02/2012	11/07/12 18:10	
Hexachlorobutadiene	ND	4.4	1.5	1	B2K0119	11/02/2012	11/07/12 18:10	
Isopropylbenzene	ND	4.4	0.63	1	B2K0119	11/02/2012	11/07/12 18:10	
<b>m,p-Xylene</b>	<b>2.1</b>	8.9	1.1	1	B2K0119	11/02/2012	11/07/12 18:10	J
Methylene chloride	ND	4.4	4.4	1	B2K0119	11/02/2012	11/07/12 18:10	
MTBE	ND	4.4	0.91	1	B2K0119	11/02/2012	11/07/12 18:10	
n-Butylbenzene	ND	4.4	0.53	1	B2K0119	11/02/2012	11/07/12 18:10	
n-Propylbenzene	ND	4.4	0.53	1	B2K0119	11/02/2012	11/07/12 18:10	
Naphthalene	ND	4.4	1.0	1	B2K0119	11/02/2012	11/07/12 18:10	
o-Xylene	ND	4.4	0.75	1	B2K0119	11/02/2012	11/07/12 18:10	
sec-Butylbenzene	ND	4.4	0.55	1	B2K0119	11/02/2012	11/07/12 18:10	
Styrene	ND	4.4	0.53	1	B2K0119	11/02/2012	11/07/12 18:10	
tert-Amyl methyl ether	ND	4.4	0.86	1	B2K0119	11/02/2012	11/07/12 18:10	
tert-Butanol	ND	89	7.2	1	B2K0119	11/02/2012	11/07/12 18:10	
tert-Butylbenzene	ND	4.4	0.68	1	B2K0119	11/02/2012	11/07/12 18:10	
Tetrachloroethene	ND	4.4	1.0	1	B2K0119	11/02/2012	11/07/12 18:10	
Toluene	ND	4.4	0.72	1	B2K0119	11/02/2012	11/07/12 18:10	
trans-1,2-Dichloroethene	ND	4.4	1.3	1	B2K0119	11/02/2012	11/07/12 18:10	
trans-1,3-Dichloropropene	ND	44	1.3	1	B2K0119	11/02/2012	11/07/12 18:10	
Trichloroethene	ND	4.4	1.7	1	B2K0119	11/02/2012	11/07/12 18:10	
Trichlorofluoromethane	ND	4.4	0.91	1	B2K0119	11/02/2012	11/07/12 18:10	



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-6-5

Lab ID: 1203860-08

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	44	10	1	B2K0119	11/02/2012	11/07/12 18:10	
Vinyl chloride	ND	4.4	1.4	1	B2K0119	11/02/2012	11/07/12 18:10	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	95.3 %		65 - 135		B2K0119	11/02/2012	11/07/12 18:10	
<i>Surrogate: 4-Bromofluorobenzene</i>	91.3 %		57 - 126		B2K0119	11/02/2012	11/07/12 18:10	
<i>Surrogate: Dibromofluoromethane</i>	87.9 %		72 - 121		B2K0119	11/02/2012	11/07/12 18:10	
<i>Surrogate: Toluene-d8</i>	92.1 %		80 - 107		B2K0119	11/02/2012	11/07/12 18:10	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-1-10****Lab ID: 1203860-09****Gasoline Range Organics by EPA 8015B (5035)****Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.77	NA	1	B2K0386	11/16/2012	11/16/12 20:48	
Surrogate: 4-Bromofluorobenzene	93.2 %		44 - 168		B2K0386	11/16/2012	11/16/12 20:48	

**Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.0	0.63	1	B2K0119	11/02/2012	11/07/12 18:27	
1,1,1-Trichloroethane	ND	4.0	1.8	1	B2K0119	11/02/2012	11/07/12 18:27	
1,1,2,2-Tetrachloroethane	ND	4.0	0.88	1	B2K0119	11/02/2012	11/07/12 18:27	
1,1,2-Trichloroethane	ND	4.0	0.64	1	B2K0119	11/02/2012	11/07/12 18:27	
1,1-Dichloroethane	ND	4.0	0.89	1	B2K0119	11/02/2012	11/07/12 18:27	
1,1-Dichloroethene	ND	4.0	1.1	1	B2K0119	11/02/2012	11/07/12 18:27	
1,1-Dichloropropene	ND	4.0	1.2	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2,3-Trichloropropane	ND	4.0	1.3	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2,3-Trichlorobenzene	ND	4.0	1.0	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2,4-Trichlorobenzene	ND	4.0	0.95	1	B2K0119	11/02/2012	11/07/12 18:27	
<b>1,2,4-Trimethylbenzene</b>	<b>0.76</b>	4.0	0.51	1	B2K0119	11/02/2012	11/07/12 18:27	J
1,2-Dibromo-3-chloropropane	ND	8.0	2.0	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2-Dibromoethane	ND	4.0	0.80	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2-Dichlorobenzene	ND	4.0	1.1	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2-Dichloroethane	ND	4.0	0.86	1	B2K0119	11/02/2012	11/07/12 18:27	
1,2-Dichloropropane	ND	4.0	0.70	1	B2K0119	11/02/2012	11/07/12 18:27	
1,3,5-Trimethylbenzene	ND	4.0	0.49	1	B2K0119	11/02/2012	11/07/12 18:27	
1,3-Dichlorobenzene	ND	4.0	0.55	1	B2K0119	11/02/2012	11/07/12 18:27	
1,3-Dichloropropane	ND	4.0	0.86	1	B2K0119	11/02/2012	11/07/12 18:27	
1,4-Dichlorobenzene	ND	4.0	0.63	1	B2K0119	11/02/2012	11/07/12 18:27	
2,2-Dichloropropane	ND	4.0	1.1	1	B2K0119	11/02/2012	11/07/12 18:27	
2-Chlorotoluene	ND	4.0	1.2	1	B2K0119	11/02/2012	11/07/12 18:27	
4-Chlorotoluene	ND	4.0	0.48	1	B2K0119	11/02/2012	11/07/12 18:27	
4-Isopropyltoluene	ND	4.0	1.6	1	B2K0119	11/02/2012	11/07/12 18:27	
Benzene	ND	4.0	0.56	1	B2K0119	11/02/2012	11/07/12 18:27	
Bromobenzene	ND	4.0	0.86	1	B2K0119	11/02/2012	11/07/12 18:27	
Bromochloromethane	ND	4.0	0.69	1	B2K0119	11/02/2012	11/07/12 18:27	
Bromodichloromethane	ND	4.0	0.77	1	B2K0119	11/02/2012	11/07/12 18:27	
Bromoform	ND	4.0	1.3	1	B2K0119	11/02/2012	11/07/12 18:27	
Bromomethane	ND	4.0	1.6	1	B2K0119	11/02/2012	11/07/12 18:27	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims

Reported : 11/20/2012

### Client Sample ID NMB-1-10

**Lab ID: 1203860-09**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	4.0	4.0	1	B2K0119	11/02/2012	11/07/12 18:27	
Carbon tetrachloride	ND	4.0	0.94	1	B2K0119	11/02/2012	11/07/12 18:27	
Chlorobenzene	ND	4.0	0.75	1	B2K0119	11/02/2012	11/07/12 18:27	
Chloroethane	ND	4.0	0.60	1	B2K0119	11/02/2012	11/07/12 18:27	
Chloroform	ND	4.0	1.1	1	B2K0119	11/02/2012	11/07/12 18:27	
Chloromethane	ND	4.0	0.78	1	B2K0119	11/02/2012	11/07/12 18:27	
cis-1,2-Dichloroethene	ND	4.0	1.4	1	B2K0119	11/02/2012	11/07/12 18:27	
cis-1,3-Dichloropropene	ND	4.0	0.65	1	B2K0119	11/02/2012	11/07/12 18:27	
Di-isopropyl ether	ND	4.0	0.70	1	B2K0119	11/02/2012	11/07/12 18:27	
Dibromochloromethane	ND	4.0	0.78	1	B2K0119	11/02/2012	11/07/12 18:27	
Dibromomethane	ND	4.0	1.2	1	B2K0119	11/02/2012	11/07/12 18:27	
Dichlorodifluoromethane	ND	4.0	0.64	1	B2K0119	11/02/2012	11/07/12 18:27	
Ethyl Acetate	ND	40	5.2	1	B2K0119	11/02/2012	11/07/12 18:27	
Ethyl Ether	ND	40	6.0	1	B2K0119	11/02/2012	11/07/12 18:27	
Ethyl tert-butyl ether	ND	4.0	0.51	1	B2K0119	11/02/2012	11/07/12 18:27	
Ethylbenzene	ND	4.0	0.62	1	B2K0119	11/02/2012	11/07/12 18:27	
Freon-113	ND	4.0	0.78	1	B2K0119	11/02/2012	11/07/12 18:27	
Hexachlorobutadiene	ND	4.0	1.4	1	B2K0119	11/02/2012	11/07/12 18:27	
Isopropylbenzene	ND	4.0	0.57	1	B2K0119	11/02/2012	11/07/12 18:27	
<b>m,p-Xylene</b>	<b>0.99</b>	8.0	0.95	1	B2K0119	11/02/2012	11/07/12 18:27	J
Methylene chloride	ND	4.0	4.0	1	B2K0119	11/02/2012	11/07/12 18:27	
MTBE	ND	4.0	0.82	1	B2K0119	11/02/2012	11/07/12 18:27	
n-Butylbenzene	ND	4.0	0.48	1	B2K0119	11/02/2012	11/07/12 18:27	
n-Propylbenzene	ND	4.0	0.48	1	B2K0119	11/02/2012	11/07/12 18:27	
Naphthalene	ND	4.0	0.94	1	B2K0119	11/02/2012	11/07/12 18:27	
o-Xylene	ND	4.0	0.67	1	B2K0119	11/02/2012	11/07/12 18:27	
sec-Butylbenzene	ND	4.0	0.49	1	B2K0119	11/02/2012	11/07/12 18:27	
Styrene	ND	4.0	0.48	1	B2K0119	11/02/2012	11/07/12 18:27	
tert-Amyl methyl ether	ND	4.0	0.77	1	B2K0119	11/02/2012	11/07/12 18:27	
tert-Butanol	ND	80	6.4	1	B2K0119	11/02/2012	11/07/12 18:27	
tert-Butylbenzene	ND	4.0	0.61	1	B2K0119	11/02/2012	11/07/12 18:27	
Tetrachloroethene	ND	4.0	0.93	1	B2K0119	11/02/2012	11/07/12 18:27	
Toluene	ND	4.0	0.64	1	B2K0119	11/02/2012	11/07/12 18:27	
trans-1,2-Dichloroethene	ND	4.0	1.2	1	B2K0119	11/02/2012	11/07/12 18:27	
trans-1,3-Dichloropropene	ND	40	1.2	1	B2K0119	11/02/2012	11/07/12 18:27	
Trichloroethene	ND	4.0	1.6	1	B2K0119	11/02/2012	11/07/12 18:27	
Trichlorofluoromethane	ND	4.0	0.81	1	B2K0119	11/02/2012	11/07/12 18:27	



## Certificate of Analysis

Ninno & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-1-10

Lab ID: 1203860-09

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	40	9.2	1	B2K0119	11/02/2012	11/07/12 18:27	
Vinyl chloride	ND	4.0	1.3	1	B2K0119	11/02/2012	11/07/12 18:27	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	93.5 %		65 - 135		B2K0119	11/02/2012	11/07/12 18:27	
<i>Surrogate: 4-Bromofluorobenzene</i>	87.6 %		57 - 126		B2K0119	11/02/2012	11/07/12 18:27	
<i>Surrogate: Dibromofluoromethane</i>	85.7 %		72 - 121		B2K0119	11/02/2012	11/07/12 18:27	
<i>Surrogate: Toluene-d8</i>	87.4 %		80 - 107		B2K0119	11/02/2012	11/07/12 18:27	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-1-5****Lab ID: 1203860-10****Gasoline Range Organics by EPA 8015B (5035)****Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.93	NA	1	B2K0386	11/16/2012	11/16/12 21:03	
Surrogate: 4-Bromofluorobenzene	90.9 %		44 - 168		B2K0386	11/16/2012	11/16/12 21:03	

**Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	0.74	1	B2K0169	11/02/2012	11/08/12 13:32	
1,1,1-Trichloroethane	ND	4.7	2.2	1	B2K0169	11/02/2012	11/08/12 13:32	
1,1,2,2-Tetrachloroethane	ND	4.7	1.0	1	B2K0169	11/02/2012	11/08/12 13:32	
1,1,2-Trichloroethane	ND	4.7	0.75	1	B2K0169	11/02/2012	11/08/12 13:32	
1,1-Dichloroethane	ND	4.7	1.1	1	B2K0169	11/02/2012	11/08/12 13:32	
1,1-Dichloroethene	ND	4.7	1.3	1	B2K0169	11/02/2012	11/08/12 13:32	
1,1-Dichloropropene	ND	4.7	1.4	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2,3-Trichloropropane	ND	4.7	1.5	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2,3-Trichlorobenzene	ND	4.7	1.2	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2,4-Trichlorobenzene	ND	4.7	1.1	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2,4-Trimethylbenzene	ND	4.7	0.61	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2-Dibromo-3-chloropropane	ND	9.5	2.4	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2-Dibromoethane	ND	4.7	0.95	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2-Dichlorobenzene	ND	4.7	1.4	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2-Dichloroethane	ND	4.7	1.0	1	B2K0169	11/02/2012	11/08/12 13:32	
1,2-Dichloropropane	ND	4.7	0.83	1	B2K0169	11/02/2012	11/08/12 13:32	
1,3,5-Trimethylbenzene	ND	4.7	0.58	1	B2K0169	11/02/2012	11/08/12 13:32	
1,3-Dichlorobenzene	ND	4.7	0.65	1	B2K0169	11/02/2012	11/08/12 13:32	
1,3-Dichloropropane	ND	4.7	1.0	1	B2K0169	11/02/2012	11/08/12 13:32	
1,4-Dichlorobenzene	ND	4.7	0.74	1	B2K0169	11/02/2012	11/08/12 13:32	
2,2-Dichloropropane	ND	4.7	1.3	1	B2K0169	11/02/2012	11/08/12 13:32	
2-Chlorotoluene	ND	4.7	1.5	1	B2K0169	11/02/2012	11/08/12 13:32	
4-Chlorotoluene	ND	4.7	0.57	1	B2K0169	11/02/2012	11/08/12 13:32	
4-Isopropyltoluene	ND	4.7	1.9	1	B2K0169	11/02/2012	11/08/12 13:32	
Benzene	ND	4.7	0.67	1	B2K0169	11/02/2012	11/08/12 13:32	
Bromobenzene	ND	4.7	1.0	1	B2K0169	11/02/2012	11/08/12 13:32	
Bromochloromethane	ND	4.7	0.81	1	B2K0169	11/02/2012	11/08/12 13:32	
Bromodichloromethane	ND	4.7	0.91	1	B2K0169	11/02/2012	11/08/12 13:32	
Bromoform	ND	4.7	1.6	1	B2K0169	11/02/2012	11/08/12 13:32	
Bromomethane	ND	4.7	1.8	1	B2K0169	11/02/2012	11/08/12 13:32	



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-1-5

Lab ID: 1203860-10

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	4.7	4.7	1	B2K0169	11/02/2012	11/08/12 13:32	
Carbon tetrachloride	ND	4.7	1.1	1	B2K0169	11/02/2012	11/08/12 13:32	
Chlorobenzene	ND	4.7	0.89	1	B2K0169	11/02/2012	11/08/12 13:32	
Chloroethane	ND	4.7	0.72	1	B2K0169	11/02/2012	11/08/12 13:32	
Chloroform	ND	4.7	1.3	1	B2K0169	11/02/2012	11/08/12 13:32	
Chloromethane	ND	4.7	0.93	1	B2K0169	11/02/2012	11/08/12 13:32	
cis-1,2-Dichloroethene	ND	4.7	1.7	1	B2K0169	11/02/2012	11/08/12 13:32	
cis-1,3-Dichloropropene	ND	4.7	0.78	1	B2K0169	11/02/2012	11/08/12 13:32	
Di-isopropyl ether	ND	4.7	0.83	1	B2K0169	11/02/2012	11/08/12 13:32	
Dibromochloromethane	ND	4.7	0.92	1	B2K0169	11/02/2012	11/08/12 13:32	
Dibromomethane	ND	4.7	1.4	1	B2K0169	11/02/2012	11/08/12 13:32	
Dichlorodifluoromethane	ND	4.7	0.76	1	B2K0169	11/02/2012	11/08/12 13:32	
Ethyl Acetate	ND	47	6.2	1	B2K0169	11/02/2012	11/08/12 13:32	
Ethyl Ether	ND	47	7.2	1	B2K0169	11/02/2012	11/08/12 13:32	
Ethyl tert-butyl ether	ND	4.7	0.61	1	B2K0169	11/02/2012	11/08/12 13:32	
Ethylbenzene	ND	4.7	0.74	1	B2K0169	11/02/2012	11/08/12 13:32	
Freon-113	ND	4.7	0.92	1	B2K0169	11/02/2012	11/08/12 13:32	
Hexachlorobutadiene	ND	4.7	1.6	1	B2K0169	11/02/2012	11/08/12 13:32	
Isopropylbenzene	ND	4.7	0.67	1	B2K0169	11/02/2012	11/08/12 13:32	
m,p-Xylene	ND	9.5	1.1	1	B2K0169	11/02/2012	11/08/12 13:32	
Methylene chloride	ND	4.7	4.7	1	B2K0169	11/02/2012	11/08/12 13:32	
MTBE	ND	4.7	0.97	1	B2K0169	11/02/2012	11/08/12 13:32	
n-Butylbenzene	ND	4.7	0.57	1	B2K0169	11/02/2012	11/08/12 13:32	
n-Propylbenzene	ND	4.7	0.56	1	B2K0169	11/02/2012	11/08/12 13:32	
Naphthalene	ND	4.7	1.1	1	B2K0169	11/02/2012	11/08/12 13:32	
o-Xylene	ND	4.7	0.80	1	B2K0169	11/02/2012	11/08/12 13:32	
sec-Butylbenzene	ND	4.7	0.58	1	B2K0169	11/02/2012	11/08/12 13:32	
Styrene	ND	4.7	0.56	1	B2K0169	11/02/2012	11/08/12 13:32	
tert-Amyl methyl ether	ND	4.7	0.91	1	B2K0169	11/02/2012	11/08/12 13:32	
tert-Butanol	ND	95	7.6	1	B2K0169	11/02/2012	11/08/12 13:32	
tert-Butylbenzene	ND	4.7	0.72	1	B2K0169	11/02/2012	11/08/12 13:32	
Tetrachloroethene	ND	4.7	1.1	1	B2K0169	11/02/2012	11/08/12 13:32	
Toluene	ND	4.7	0.76	1	B2K0169	11/02/2012	11/08/12 13:32	
trans-1,2-Dichloroethene	ND	4.7	1.4	1	B2K0169	11/02/2012	11/08/12 13:32	
trans-1,3-Dichloropropene	ND	47	1.4	1	B2K0169	11/02/2012	11/08/12 13:32	
Trichloroethene	ND	4.7	1.8	1	B2K0169	11/02/2012	11/08/12 13:32	
Trichlorofluoromethane	ND	4.7	0.97	1	B2K0169	11/02/2012	11/08/12 13:32	



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-1-5

Lab ID: 1203860-10

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	47	11	1	B2K0169	11/02/2012	11/08/12 13:32	
Vinyl chloride	ND	4.7	1.5	1	B2K0169	11/02/2012	11/08/12 13:32	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>101 %</i>		<i>65 - 135</i>		B2K0169	11/02/2012	<i>11/08/12 13:32</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.5 %</i>		<i>57 - 126</i>		B2K0169	11/02/2012	<i>11/08/12 13:32</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>93.8 %</i>		<i>72 - 121</i>		B2K0169	11/02/2012	<i>11/08/12 13:32</i>	
<i>Surrogate: Toluene-d8</i>	<i>98.6 %</i>		<i>80 - 107</i>		B2K0169	11/02/2012	<i>11/08/12 13:32</i>	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012**Client Sample ID NMB-11-8****Lab ID: 1203860-11****Gasoline Range Organics by EPA 8015B (5035)****Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.88	NA	1	B2K0386	11/16/2012	11/16/12 21:19	
Surrogate: 4-Bromofluorobenzene	92.3 %		44 - 168		B2K0386	11/16/2012	11/16/12 21:19	

**Volatile Organic Compounds by EPA 5035/EPA 8260****Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.3	0.68	1	B2K0169	11/02/2012	11/08/12 13:49	
1,1,1-Trichloroethane	ND	4.3	2.0	1	B2K0169	11/02/2012	11/08/12 13:49	
1,1,2,2-Tetrachloroethane	ND	4.3	0.96	1	B2K0169	11/02/2012	11/08/12 13:49	
1,1,2-Trichloroethane	ND	4.3	0.69	1	B2K0169	11/02/2012	11/08/12 13:49	
1,1-Dichloroethane	ND	4.3	0.96	1	B2K0169	11/02/2012	11/08/12 13:49	
1,1-Dichloroethene	ND	4.3	1.2	1	B2K0169	11/02/2012	11/08/12 13:49	
1,1-Dichloropropene	ND	4.3	1.3	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2,3-Trichloropropane	ND	4.3	1.4	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2,3-Trichlorobenzene	ND	4.3	1.1	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2,4-Trichlorobenzene	ND	4.3	1.0	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2,4-Trimethylbenzene	ND	4.3	0.56	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2-Dibromo-3-chloropropane	ND	8.7	2.2	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2-Dibromoethane	ND	4.3	0.87	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2-Dichlorobenzene	ND	4.3	1.2	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2-Dichloroethane	ND	4.3	0.93	1	B2K0169	11/02/2012	11/08/12 13:49	
1,2-Dichloropropane	ND	4.3	0.76	1	B2K0169	11/02/2012	11/08/12 13:49	
1,3,5-Trimethylbenzene	ND	4.3	0.53	1	B2K0169	11/02/2012	11/08/12 13:49	
1,3-Dichlorobenzene	ND	4.3	0.60	1	B2K0169	11/02/2012	11/08/12 13:49	
1,3-Dichloropropane	ND	4.3	0.94	1	B2K0169	11/02/2012	11/08/12 13:49	
1,4-Dichlorobenzene	ND	4.3	0.68	1	B2K0169	11/02/2012	11/08/12 13:49	
2,2-Dichloropropane	ND	4.3	1.2	1	B2K0169	11/02/2012	11/08/12 13:49	
2-Chlorotoluene	ND	4.3	1.3	1	B2K0169	11/02/2012	11/08/12 13:49	
4-Chlorotoluene	ND	4.3	0.53	1	B2K0169	11/02/2012	11/08/12 13:49	
4-Isopropyltoluene	ND	4.3	1.7	1	B2K0169	11/02/2012	11/08/12 13:49	
Benzene	ND	4.3	0.61	1	B2K0169	11/02/2012	11/08/12 13:49	
Bromobenzene	ND	4.3	0.93	1	B2K0169	11/02/2012	11/08/12 13:49	
Bromochloromethane	ND	4.3	0.75	1	B2K0169	11/02/2012	11/08/12 13:49	
Bromodichloromethane	ND	4.3	0.84	1	B2K0169	11/02/2012	11/08/12 13:49	
Bromoform	ND	4.3	1.4	1	B2K0169	11/02/2012	11/08/12 13:49	
Bromomethane	ND	4.3	1.7	1	B2K0169	11/02/2012	11/08/12 13:49	



## Certificate of Analysis

Ninno &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-11-8

**Lab ID: 1203860-11**

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	4.3	4.3	1	B2K0169	11/02/2012	11/08/12 13:49	
Carbon tetrachloride	ND	4.3	1.0	1	B2K0169	11/02/2012	11/08/12 13:49	
Chlorobenzene	ND	4.3	0.81	1	B2K0169	11/02/2012	11/08/12 13:49	
Chloroethane	ND	4.3	0.66	1	B2K0169	11/02/2012	11/08/12 13:49	
Chloroform	ND	4.3	1.2	1	B2K0169	11/02/2012	11/08/12 13:49	
Chloromethane	ND	4.3	0.85	1	B2K0169	11/02/2012	11/08/12 13:49	
cis-1,2-Dichloroethene	ND	4.3	1.6	1	B2K0169	11/02/2012	11/08/12 13:49	
cis-1,3-Dichloropropene	ND	4.3	0.71	1	B2K0169	11/02/2012	11/08/12 13:49	
Di-isopropyl ether	ND	4.3	0.76	1	B2K0169	11/02/2012	11/08/12 13:49	
Dibromochloromethane	ND	4.3	0.85	1	B2K0169	11/02/2012	11/08/12 13:49	
Dibromomethane	ND	4.3	1.3	1	B2K0169	11/02/2012	11/08/12 13:49	
Dichlorodifluoromethane	ND	4.3	0.69	1	B2K0169	11/02/2012	11/08/12 13:49	
Ethyl Acetate	ND	43	5.7	1	B2K0169	11/02/2012	11/08/12 13:49	
Ethyl Ether	ND	43	6.6	1	B2K0169	11/02/2012	11/08/12 13:49	
Ethyl tert-butyl ether	ND	4.3	0.56	1	B2K0169	11/02/2012	11/08/12 13:49	
Ethylbenzene	ND	4.3	0.68	1	B2K0169	11/02/2012	11/08/12 13:49	
Freon-113	ND	4.3	0.85	1	B2K0169	11/02/2012	11/08/12 13:49	
Hexachlorobutadiene	ND	4.3	1.5	1	B2K0169	11/02/2012	11/08/12 13:49	
Isopropylbenzene	ND	4.3	0.62	1	B2K0169	11/02/2012	11/08/12 13:49	
m,p-Xylene	ND	8.7	1.0	1	B2K0169	11/02/2012	11/08/12 13:49	
Methylene chloride	ND	4.3	4.3	1	B2K0169	11/02/2012	11/08/12 13:49	
MTBE	ND	4.3	0.89	1	B2K0169	11/02/2012	11/08/12 13:49	
n-Butylbenzene	ND	4.3	0.52	1	B2K0169	11/02/2012	11/08/12 13:49	
n-Propylbenzene	ND	4.3	0.52	1	B2K0169	11/02/2012	11/08/12 13:49	
Naphthalene	ND	4.3	1.0	1	B2K0169	11/02/2012	11/08/12 13:49	
o-Xylene	ND	4.3	0.73	1	B2K0169	11/02/2012	11/08/12 13:49	
sec-Butylbenzene	ND	4.3	0.54	1	B2K0169	11/02/2012	11/08/12 13:49	
Styrene	ND	4.3	0.52	1	B2K0169	11/02/2012	11/08/12 13:49	
tert-Amyl methyl ether	ND	4.3	0.84	1	B2K0169	11/02/2012	11/08/12 13:49	
tert-Butanol	ND	87	7.0	1	B2K0169	11/02/2012	11/08/12 13:49	
tert-Butylbenzene	ND	4.3	0.67	1	B2K0169	11/02/2012	11/08/12 13:49	
Tetrachloroethene	ND	4.3	1.0	1	B2K0169	11/02/2012	11/08/12 13:49	
Toluene	ND	4.3	0.70	1	B2K0169	11/02/2012	11/08/12 13:49	
trans-1,2-Dichloroethene	ND	4.3	1.3	1	B2K0169	11/02/2012	11/08/12 13:49	
trans-1,3-Dichloropropene	ND	43	1.3	1	B2K0169	11/02/2012	11/08/12 13:49	
Trichloroethene	ND	4.3	1.7	1	B2K0169	11/02/2012	11/08/12 13:49	
Trichlorofluoromethane	ND	4.3	0.89	1	B2K0169	11/02/2012	11/08/12 13:49	



## Certificate of Analysis

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1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-11-8

Lab ID: 1203860-11

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	43	10	1	B2K0169	11/02/2012	11/08/12 13:49	
Vinyl chloride	ND	4.3	1.4	1	B2K0169	11/02/2012	11/08/12 13:49	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>108 %</i>		<i>65 - 135</i>		B2K0169	11/02/2012	<i>11/08/12 13:49</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>104 %</i>		<i>57 - 126</i>		B2K0169	11/02/2012	<i>11/08/12 13:49</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>103 %</i>		<i>72 - 121</i>		B2K0169	11/02/2012	<i>11/08/12 13:49</i>	
<i>Surrogate: Toluene-d8</i>	<i>105 %</i>		<i>80 - 107</i>		B2K0169	11/02/2012	<i>11/08/12 13:49</i>	



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1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-11-10

**Lab ID: 1203860-12**

#### **Gasoline Range Organics by EPA 8015B (5035)**

**Analyst: VN**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.86	NA	1	B2K0386	11/16/2012	11/16/12 21:35	
Surrogate: 4-Bromofluorobenzene	105 %		44 - 168		B2K0386	11/16/2012	11/16/12 21:35	

#### **Volatile Organic Compounds by EPA 5035/EPA 8260**

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.2	0.66	1	B2K0169	11/02/2012	11/08/12 14:06	
1,1,1-Trichloroethane	ND	4.2	1.9	1	B2K0169	11/02/2012	11/08/12 14:06	
1,1,2,2-Tetrachloroethane	ND	4.2	0.92	1	B2K0169	11/02/2012	11/08/12 14:06	
1,1,2-Trichloroethane	ND	4.2	0.67	1	B2K0169	11/02/2012	11/08/12 14:06	
1,1-Dichloroethane	ND	4.2	0.93	1	B2K0169	11/02/2012	11/08/12 14:06	
1,1-Dichloroethene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 14:06	
1,1-Dichloropropene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2,3-Trichloropropane	ND	4.2	1.3	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2,3-Trichlorobenzene	ND	4.2	1.1	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2,4-Trichlorobenzene	ND	4.2	0.99	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>1,2,4-Trimethylbenzene</b>	<b>4.8</b>	4.2	0.54	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2-Dibromo-3-chloropropane	ND	8.3	2.1	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2-Dibromoethane	ND	4.2	0.84	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2-Dichlorobenzene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2-Dichloroethane	ND	4.2	0.90	1	B2K0169	11/02/2012	11/08/12 14:06	
1,2-Dichloropropane	ND	4.2	0.73	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>1,3,5-Trimethylbenzene</b>	<b>51</b>	4.2	0.51	1	B2K0169	11/02/2012	11/08/12 14:06	
1,3-Dichlorobenzene	ND	4.2	0.58	1	B2K0169	11/02/2012	11/08/12 14:06	
1,3-Dichloropropane	ND	4.2	0.90	1	B2K0169	11/02/2012	11/08/12 14:06	
1,4-Dichlorobenzene	ND	4.2	0.65	1	B2K0169	11/02/2012	11/08/12 14:06	
2,2-Dichloropropane	ND	4.2	1.1	1	B2K0169	11/02/2012	11/08/12 14:06	
2-Chlorotoluene	ND	4.2	1.3	1	B2K0169	11/02/2012	11/08/12 14:06	
4-Chlorotoluene	ND	4.2	0.51	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>4-Isopropyltoluene</b>	<b>2.0</b>	4.2	1.7	1	B2K0169	11/02/2012	11/08/12 14:06	J
<b>Benzene</b>	<b>2.1</b>	4.2	0.59	1	B2K0169	11/02/2012	11/08/12 14:06	J
Bromobenzene	ND	4.2	0.90	1	B2K0169	11/02/2012	11/08/12 14:06	
Bromochloromethane	ND	4.2	0.72	1	B2K0169	11/02/2012	11/08/12 14:06	
Bromodichloromethane	ND	4.2	0.81	1	B2K0169	11/02/2012	11/08/12 14:06	
Bromoform	ND	4.2	1.4	1	B2K0169	11/02/2012	11/08/12 14:06	
Bromomethane	ND	4.2	1.6	1	B2K0169	11/02/2012	11/08/12 14:06	



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-11-10

**Lab ID: 1203860-12**

#### Volatile Organic Compounds by EPA 5035/EPA 8260

**Analyst: TP**

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	4.2	4.2	1	B2K0169	11/02/2012	11/08/12 14:06	
Carbon tetrachloride	ND	4.2	0.98	1	B2K0169	11/02/2012	11/08/12 14:06	
Chlorobenzene	ND	4.2	0.78	1	B2K0169	11/02/2012	11/08/12 14:06	
Chloroethane	ND	4.2	0.63	1	B2K0169	11/02/2012	11/08/12 14:06	
Chloroform	ND	4.2	1.1	1	B2K0169	11/02/2012	11/08/12 14:06	
Chloromethane	ND	4.2	0.82	1	B2K0169	11/02/2012	11/08/12 14:06	
cis-1,2-Dichloroethene	ND	4.2	1.5	1	B2K0169	11/02/2012	11/08/12 14:06	
cis-1,3-Dichloropropene	ND	4.2	0.68	1	B2K0169	11/02/2012	11/08/12 14:06	
Di-isopropyl ether	ND	4.2	0.73	1	B2K0169	11/02/2012	11/08/12 14:06	
Dibromochloromethane	ND	4.2	0.81	1	B2K0169	11/02/2012	11/08/12 14:06	
Dibromomethane	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 14:06	
Dichlorodifluoromethane	ND	4.2	0.67	1	B2K0169	11/02/2012	11/08/12 14:06	
Ethyl Acetate	ND	42	5.5	1	B2K0169	11/02/2012	11/08/12 14:06	
Ethyl Ether	ND	42	6.3	1	B2K0169	11/02/2012	11/08/12 14:06	
Ethyl tert-butyl ether	ND	4.2	0.54	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>Ethylbenzene</b>	<b>8.3</b>	4.2	0.65	1	B2K0169	11/02/2012	11/08/12 14:06	
Freon-113	ND	4.2	0.81	1	B2K0169	11/02/2012	11/08/12 14:06	
Hexachlorobutadiene	ND	4.2	1.4	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>Isopropylbenzene</b>	<b>2.7</b>	4.2	0.59	1	B2K0169	11/02/2012	11/08/12 14:06	J
<b>m,p-Xylene</b>	<b>13</b>	8.3	0.99	1	B2K0169	11/02/2012	11/08/12 14:06	
Methylene chloride	ND	4.2	4.2	1	B2K0169	11/02/2012	11/08/12 14:06	
MTBE	ND	4.2	0.85	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>n-Butylbenzene</b>	<b>8.4</b>	4.2	0.50	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>n-Propylbenzene</b>	<b>8.5</b>	4.2	0.50	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>Naphthalene</b>	<b>9.2</b>	4.2	0.98	1	B2K0169	11/02/2012	11/08/12 14:06	
o-Xylene	ND	4.2	0.70	1	B2K0169	11/02/2012	11/08/12 14:06	
<b>sec-Butylbenzene</b>	<b>2.8</b>	4.2	0.52	1	B2K0169	11/02/2012	11/08/12 14:06	J
Styrene	ND	4.2	0.50	1	B2K0169	11/02/2012	11/08/12 14:06	
tert-Amyl methyl ether	ND	4.2	0.80	1	B2K0169	11/02/2012	11/08/12 14:06	
tert-Butanol	ND	83	6.7	1	B2K0169	11/02/2012	11/08/12 14:06	
tert-Butylbenzene	ND	4.2	0.64	1	B2K0169	11/02/2012	11/08/12 14:06	
Tetrachloroethene	ND	4.2	0.97	1	B2K0169	11/02/2012	11/08/12 14:06	
Toluene	ND	4.2	0.67	1	B2K0169	11/02/2012	11/08/12 14:06	
trans-1,2-Dichloroethene	ND	4.2	1.2	1	B2K0169	11/02/2012	11/08/12 14:06	
trans-1,3-Dichloropropene	ND	42	1.2	1	B2K0169	11/02/2012	11/08/12 14:06	
Trichloroethene	ND	4.2	1.6	1	B2K0169	11/02/2012	11/08/12 14:06	
Trichlorofluoromethane	ND	4.2	0.85	1	B2K0169	11/02/2012	11/08/12 14:06	



## Certificate of Analysis

Ninyo & Moore

1956 Webster Street, Suite 400  
Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Client Sample ID NMB-11-10

Lab ID: 1203860-12

#### Volatile Organic Compounds by EPA 5035/EPA 8260

Analyst: TP

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	42	9.6	1	B2K0169	11/02/2012	11/08/12 14:06	
Vinyl chloride	ND	4.2	1.3	1	B2K0169	11/02/2012	11/08/12 14:06	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>103 %</i>		<i>65 - 135</i>		B2K0169	11/02/2012	<i>11/08/12 14:06</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>95.1 %</i>		<i>57 - 126</i>		B2K0169	11/02/2012	<i>11/08/12 14:06</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>94.0 %</i>		<i>72 - 121</i>		B2K0169	11/02/2012	<i>11/08/12 14:06</i>	
<i>Surrogate: Toluene-d8</i>	<i>97.5 %</i>		<i>80 - 107</i>		B2K0169	11/02/2012	<i>11/08/12 14:06</i>	



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Oakland , CA 94612

Project Number : Chun/Alameda, 401896001  
Report To : Peter Sims  
Reported : 11/20/2012

### QUALITY CONTROL SECTION

#### Gasoline Range Organics by EPA 8015B (5035) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0386 - GCVOAS

##### Blank (B2K0386-BLK1)

Prepared: 11/16/2012 Analyzed: 11/16/2012

Gasoline Range Organics	ND	1.0			NR				
Surrogate: 4-Bromofluorobenzene	0.09449		0.100000		94.5	44 - 168			

##### LCS (B2K0386-BS1)

Prepared: 11/16/2012 Analyzed: 11/16/2012

Gasoline Range Organics	3.96500		5.00000		79.3	70 - 130			
Surrogate: 4-Bromofluorobenzene	0.09221		0.100000		92.2	44 - 168			

##### LCS Dup (B2K0386-BSD1)

Prepared: 11/16/2012 Analyzed: 11/16/2012

Gasoline Range Organics	4.03800		5.00000		80.8	70 - 130	1.82	20	
Surrogate: 4-Bromofluorobenzene	0.09001		0.100000		90.0	44 - 168			



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Project Number : Chun/Alameda, 401896001

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Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0119 - MSVOAS

##### Blank (B2K0119-BLK1)

Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	ND	5.0			NR				
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				



## Certificate of Analysis

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Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0119 - MSVOAS (continued)**
**Blank (B2K0119-BLK1) - Continued**

Prepared: 11/7/2012 Analyzed: 11/7/2012

Dichlorodifluoromethane	ND	5.0		NR					
Ethyl Acetate	ND	50		NR					
Ethyl Ether	ND	50		NR					
Ethyl tert-butyl ether	ND	5.0		NR					
Ethylbenzene	ND	5.0		NR					
Freon-113	ND	5.0		NR					
Hexachlorobutadiene	ND	5.0		NR					
Isopropylbenzene	ND	5.0		NR					
m,p-Xylene	1.27000	10		NR					J
Methylene chloride	ND	5.0		NR					
MTBE	ND	5.0		NR					
n-Butylbenzene	ND	5.0		NR					
n-Propylbenzene	ND	5.0		NR					
Naphthalene	ND	5.0		NR					
o-Xylene	ND	5.0		NR					
sec-Butylbenzene	ND	5.0		NR					
Styrene	ND	5.0		NR					
tert-Amyl methyl ether	ND	5.0		NR					
tert-Butanol	ND	100		NR					
tert-Butylbenzene	ND	5.0		NR					
Tetrachloroethene	ND	5.0		NR					
Toluene	ND	5.0		NR					
trans-1,2-Dichloroethene	ND	5.0		NR					
trans-1,3-Dichloropropene	ND	50		NR					
Trichloroethene	ND	5.0		NR					
Trichlorofluoromethane	ND	5.0		NR					
Vinyl acetate	ND	50		NR					
Vinyl chloride	ND	5.0		NR					

*Surrogate: 1,2-Dichloroethane-d4*

44.75 50.0000 89.5 65 - 135

*Surrogate: 4-Bromofluorobenzene*

47.20 50.0000 94.4 57 - 126

*Surrogate: Dibromofluoromethane*

45.48 50.0000 91.0 72 - 121

*Surrogate: Toluene-d8*

45.84 50.0000 91.7 80 - 107

**LCS (B2K0119-BS1)**

Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1-Dichloroethene	44.3600	5.0	50.0000	88.7	70 - 130
Benzene	97.1300	5.0	100.000	97.1	70 - 130
Chlorobenzene	47.1000	5.0	50.0000	94.2	70 - 130
MTBE	51.8200	5.0	50.0000	104	70 - 130
Toluene	98.2800	5.0	100.000	98.3	70 - 130
Trichloroethene	52.9500	5.0	50.0000	106	70 - 130

*Surrogate: 1,2-Dichloroethane-d4*

46.68 50.0000 93.4 65 - 135



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0119 - MSVOAS (continued)**
**LCS (B2K0119-BS1) - Continued**

Prepared: 11/7/2012 Analyzed: 11/7/2012

Surrogate: 4-Bromofluorobenzene	47.53	50.0000	95.1	57 - 126
Surrogate: Dibromofluoromethane	48.67	50.0000	97.3	72 - 121
Surrogate: Toluene-d8	47.50	50.0000	95.0	80 - 107

**LCS Dup (B2K0119-BSD1)**

Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1-Dichloroethene	40.8400	5.0	50.0000	81.7	70 - 130	8.26	20
Benzene	92.1500	5.0	100.000	92.2	70 - 130	5.26	20
Chlorobenzene	45.0300	5.0	50.0000	90.1	70 - 130	4.49	20
MTBE	44.1200	5.0	50.0000	88.2	70 - 130	16.1	20
Toluene	93.8000	5.0	100.000	93.8	70 - 130	4.66	20
Trichloroethene	50.4000	5.0	50.0000	101	70 - 130	4.93	20

Surrogate: 1,2-Dichloroethane-d4

44.09 50.0000 88.2 65 - 135

Surrogate: 4-Bromofluorobenzene

46.43 50.0000 92.9 57 - 126

Surrogate: Dibromofluoromethane

45.47 50.0000 90.9 72 - 121

Surrogate: Toluene-d8

45.55 50.0000 91.1 80 - 107

**Matrix Spike (B2K0119-MS1)**

Source: 1203884-01 Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1-Dichloroethene	38.0000	5.0	50.0000	ND	76.0	70 - 130	
Benzene	82.1500	5.0	100.000	ND	82.2	70 - 130	
Chlorobenzene	33.5100	5.0	50.0000	ND	67.0	70 - 130	M2
MTBE	50.6800	5.0	50.0000	ND	101	70 - 130	
Toluene	77.3300	5.0	100.000	ND	77.3	70 - 130	
Trichloroethene	41.1400	5.0	50.0000	ND	82.3	70 - 130	

Surrogate: 1,2-Dichloroethane-d4

48.53 50.0000 97.1 65 - 135

Surrogate: 4-Bromofluorobenzene

45.47 50.0000 90.9 57 - 126

Surrogate: Dibromofluoromethane

49.95 50.0000 99.9 72 - 121

Surrogate: Toluene-d8

46.65 50.0000 93.3 80 - 107

**Matrix Spike Dup (B2K0119-MSD1)**

Source: 1203884-01 Prepared: 11/7/2012 Analyzed: 11/7/2012

1,1-Dichloroethene	37.2500	5.0	50.0000	ND	74.5	70 - 130	1.99	20
Benzene	79.8400	5.0	100.000	ND	79.8	70 - 130	2.85	20
Chlorobenzene	29.7500	5.0	50.0000	ND	59.5	70 - 130	11.9	20
MTBE	50.8700	5.0	50.0000	ND	102	70 - 130	0.374	20
Toluene	73.6500	5.0	100.000	ND	73.6	70 - 130	4.87	20
Trichloroethene	40.1400	5.0	50.0000	ND	80.3	70 - 130	2.46	20

Surrogate: 1,2-Dichloroethane-d4

44.93 50.0000 89.9 65 - 135

Surrogate: 4-Bromofluorobenzene

39.59 50.0000 79.2 57 - 126

Surrogate: Dibromofluoromethane

43.66 50.0000 87.3 72 - 121

Surrogate: Toluene-d8

41.82 50.0000 83.6 80 - 107

**Batch B2K0169 - MSVOAS**



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0169 - MSVOAS (continued)

##### Blank (B2K0169-BLK1)

Prepared: 11/8/2012 Analyzed: 11/8/2012

1,1,1,2-Tetrachloroethane	ND	5.0			NR				
1,1,1-Trichloroethane	ND	5.0			NR				
1,1,2,2-Tetrachloroethane	ND	5.0			NR				
1,1,2-Trichloroethane	ND	5.0			NR				
1,1-Dichloroethane	ND	5.0			NR				
1,1-Dichloroethene	ND	5.0			NR				
1,1-Dichloropropene	ND	5.0			NR				
1,2,3-Trichloropropane	ND	5.0			NR				
1,2,3-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trichlorobenzene	ND	5.0			NR				
1,2,4-Trimethylbenzene	ND	5.0			NR				
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0169 - MSVOAS (continued)**
**Blank (B2K0169-BLK1) - Continued**

Prepared: 11/8/2012 Analyzed: 11/8/2012

Ethyl Acetate	ND	50		NR
Ethyl Ether	ND	50		NR
Ethyl tert-butyl ether	ND	5.0		NR
Ethylbenzene	ND	5.0		NR
Freon-113	ND	5.0		NR
Hexachlorobutadiene	ND	5.0		NR
Isopropylbenzene	ND	5.0		NR
m,p-Xylene	ND	10		NR
Methylene chloride	ND	5.0		NR
MTBE	ND	5.0		NR
n-Butylbenzene	ND	5.0		NR
n-Propylbenzene	ND	5.0		NR
Naphthalene	ND	5.0		NR
o-Xylene	ND	5.0		NR
sec-Butylbenzene	ND	5.0		NR
Styrene	ND	5.0		NR
tert-Amyl methyl ether	ND	5.0		NR
tert-Butanol	ND	100		NR
tert-Butylbenzene	ND	5.0		NR
Tetrachloroethene	ND	5.0		NR
Toluene	ND	5.0		NR
trans-1,2-Dichloroethene	ND	5.0		NR
trans-1,3-Dichloropropene	ND	50		NR
Trichloroethene	ND	5.0		NR
Trichlorofluoromethane	ND	5.0		NR
Vinyl acetate	ND	50		NR
Vinyl chloride	ND	5.0		NR
<i>Surrogate: 1,2-Dichloroethane-d4</i>	42.25	50.0000	84.5	65 - 135
<i>Surrogate: 4-Bromofluorobenzene</i>	42.74	50.0000	85.5	57 - 126
<i>Surrogate: Dibromofluoromethane</i>	42.09	50.0000	84.2	72 - 121
<i>Surrogate: Toluene-d8</i>	42.07	50.0000	84.1	80 - 107

**LCS (B2K0169-BS1)**

Prepared: 11/8/2012 Analyzed: 11/8/2012

1,1-Dichloroethene	45.4900	5.0	50.0000	91.0	70 - 130
Benzene	93.5900	5.0	100.000	93.6	70 - 130
Chlorobenzene	45.5700	5.0	50.0000	91.1	70 - 130
MTBE	54.3600	5.0	50.0000	109	70 - 130
Toluene	98.4300	5.0	100.000	98.4	70 - 130
Trichloroethene	51.2400	5.0	50.0000	102	70 - 130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	47.13	50.0000	94.3	65 - 135	
<i>Surrogate: 4-Bromofluorobenzene</i>	44.81	50.0000	89.6	57 - 126	



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0169 - MSVOAS (continued)**
**LCS (B2K0169-BSD1) - Continued**

Prepared: 11/8/2012 Analyzed: 11/8/2012

Surrogate: Dibromoformmethane 47.52 50.0000 95.0 72 - 121  
Surrogate: Toluene-d8 45.55 50.0000 91.1 80 - 107

**LCS Dup (B2K0169-BSD1)**

Prepared: 11/8/2012 Analyzed: 11/8/2012

1,1-Dichloroethene	49.2500	5.0	50.0000	98.5	70 - 130	7.94	20
Benzene	103.000	5.0	100.000	103	70 - 130	9.57	20
Chlorobenzene	49.9100	5.0	50.0000	99.8	70 - 130	9.09	20
MTBE	60.5500	5.0	50.0000	121	70 - 130	10.8	20
Toluene	107.820	5.0	100.000	108	70 - 130	9.11	20
Trichloroethene	55.2100	5.0	50.0000	110	70 - 130	7.46	20

Surrogate: 1,2-Dichloroethane-d4 41.35 50.0000 82.7 65 - 135  
Surrogate: 4-Bromofluorobenzene 38.50 50.0000 77.0 57 - 126  
Surrogate: Dibromoformmethane 41.25 50.0000 82.5 72 - 121  
Surrogate: Toluene-d8 38.68 50.0000 77.4 80 - 107

L3

**Batch B2K0272 - MSVOAS**
**Blank (B2K0272-BLK1)**

Prepared: 11/12/2012 Analyzed: 11/12/2012

1,1,1,2-Tetrachloroethane	ND	5.0	NR
1,1,1-Trichloroethane	ND	5.0	NR
1,1,2,2-Tetrachloroethane	ND	5.0	NR
1,1,2-Trichloroethane	ND	5.0	NR
1,1-Dichloroethane	ND	5.0	NR
1,1-Dichloroethene	ND	5.0	NR
1,1-Dichloropropene	ND	5.0	NR
1,2,3-Trichloropropene	ND	5.0	NR
1,2,3-Trichlorobenzene	ND	5.0	NR
1,2,4-Trichlorobenzene	ND	5.0	NR
1,2,4-Trimethylbenzene	ND	5.0	NR
1,2-Dibromo-3-chloropropane	ND	10	NR
1,2-Dibromoethane	ND	5.0	NR
1,2-Dichlorobenzene	ND	5.0	NR
1,2-Dichloroethane	ND	5.0	NR
1,2-Dichloropropane	ND	5.0	NR
1,3,5-Trimethylbenzene	ND	5.0	NR
1,3-Dichlorobenzene	ND	5.0	NR
1,3-Dichloropropane	ND	5.0	NR
1,4-Dichlorobenzene	ND	5.0	NR
2,2-Dichloropropane	ND	5.0	NR
2-Chlorotoluene	ND	5.0	NR
4-Chlorotoluene	ND	5.0	NR



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0272 - MSVOAS (continued)

##### Blank (B2K0272-BLK1) - Continued

Prepared: 11/12/2012 Analyzed: 11/12/2012

4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				
Ethyl Acetate	ND	50			NR				
Ethyl Ether	ND	50			NR				
Ethyl tert-butyl ether	ND	5.0			NR				
Ethylbenzene	ND	5.0			NR				
Freon-113	ND	5.0			NR				
Hexachlorobutadiene	ND	5.0			NR				
Isopropylbenzene	ND	5.0			NR				
m,p-Xylene	ND	10			NR				
Methylene chloride	ND	5.0			NR				
MTBE	ND	5.0			NR				
n-Butylbenzene	ND	5.0			NR				
n-Propylbenzene	ND	5.0			NR				
Naphthalene	ND	5.0			NR				
o-Xylene	ND	5.0			NR				
sec-Butylbenzene	ND	5.0			NR				
Styrene	ND	5.0			NR				
tert-Amyl methyl ether	ND	5.0			NR				
tert-Butanol	ND	100			NR				
tert-Butylbenzene	ND	5.0			NR				
Tetrachloroethene	ND	5.0			NR				
Toluene	ND	5.0			NR				
trans-1,2-Dichloroethene	ND	5.0			NR				
trans-1,3-Dichloropropene	ND	50			NR				



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0272 - MSVOAS (continued)**
**Blank (B2K0272-BLK1) - Continued**

Prepared: 11/12/2012 Analyzed: 11/12/2012

Trichloroethene	ND	5.0			NR				
Trichlorofluoromethane	ND	5.0			NR				
Vinyl acetate	ND	50			NR				
Vinyl chloride	ND	5.0			NR				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	41.73		50.0000		83.5	65 - 135			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.84		50.0000		99.7	57 - 126			
<i>Surrogate: Dibromofluoromethane</i>	45.47		50.0000		90.9	72 - 121			
<i>Surrogate: Toluene-d8</i>	50.92		50.0000		102	80 - 107			

**LCS (B2K0272-BS1)**

Prepared: 11/12/2012 Analyzed: 11/12/2012

1,1-Dichloroethene	39.6000	5.0	50.0000		79.2	70 - 130			
Benzene	96.1000	5.0	100.000		96.1	70 - 130			
Chlorobenzene	51.7000	5.0	50.0000		103	70 - 130			
MTBE	49.3500	5.0	50.0000		98.7	70 - 130			
Toluene	99.3300	5.0	100.000		99.3	70 - 130			
Trichloroethene	50.9900	5.0	50.0000		102	70 - 130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	40.79		50.0000		81.6	65 - 135			
<i>Surrogate: 4-Bromofluorobenzene</i>	50.50		50.0000		101	57 - 126			
<i>Surrogate: Dibromofluoromethane</i>	44.69		50.0000		89.4	72 - 121			
<i>Surrogate: Toluene-d8</i>	51.85		50.0000		104	80 - 107			

**LCS Dup (B2K0272-BSD1)**

Prepared: 11/12/2012 Analyzed: 11/12/2012

1,1-Dichloroethene	40.7000	5.0	50.0000		81.4	70 - 130	2.74	20	
Benzene	95.0300	5.0	100.000		95.0	70 - 130	1.12	20	
Chlorobenzene	52.5900	5.0	50.0000		105	70 - 130	1.71	20	
MTBE	51.5500	5.0	50.0000		103	70 - 130	4.36	20	
Toluene	96.2100	5.0	100.000		96.2	70 - 130	3.19	20	
Trichloroethene	50.3000	5.0	50.0000		101	70 - 130	1.36	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	41.95		50.0000		83.9	65 - 135			
<i>Surrogate: 4-Bromofluorobenzene</i>	50.10		50.0000		100	57 - 126			
<i>Surrogate: Dibromofluoromethane</i>	45.92		50.0000		91.8	72 - 121			
<i>Surrogate: Toluene-d8</i>	50.80		50.0000		102	80 - 107			

**Duplicate (B2K0272-DUP1)**

Source: 1203945-25

Prepared: 11/12/2012 Analyzed: 11/12/2012

1,1-Dichloroethene	ND	5.0		ND	NR		20		
Benzene	ND	5.0		ND	NR		20		
Chlorobenzene	ND	5.0		ND	NR		20		
MTBE	ND	5.0		ND	NR		20		
Toluene	ND	5.0		ND	NR		20		
Trichloroethene	ND	5.0		ND	NR		20		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	42.72		50.0000		85.4	65 - 135			



## Certificate of Analysis

Ninyo &amp; Moore

1956 Webster Street, Suite 400  
Oakland, CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0272 - MSVOAS (continued)**
**Duplicate (B2K0272-DUP1) - Continued**

**Surrogate: 4-Bromofluorobenzene** 50.24 50.0000 100 57 - 126  
**Surrogate: Dibromofluoromethane** 46.56 50.0000 93.1 72 - 121  
**Surrogate: Toluene-d8** 51.19 50.0000 102 80 - 107

**Matrix Spike (B2K0272-MS1)**

**Source: 1203945-25** Prepared: 11/12/2012 Analyzed: 11/12/2012

1,1-Dichloroethene	35.6100	5.0	50.0000	ND	71.2	70 - 130
Benzene	85.9300	5.0	100.000	ND	85.9	70 - 130
Chlorobenzene	42.4600	5.0	50.0000	ND	84.9	70 - 130
MTBE	46.9700	5.0	50.0000	ND	93.9	70 - 130
Toluene	85.3800	5.0	100.000	ND	85.4	70 - 130
Trichloroethene	43.8400	5.0	50.0000	ND	87.7	70 - 130

**Surrogate: 1,2-Dichloroethane-d4** 43.49 50.0000 87.0 65 - 135  
**Surrogate: 4-Bromofluorobenzene** 50.29 50.0000 101 57 - 126  
**Surrogate: Dibromofluoromethane** 47.42 50.0000 94.8 72 - 121  
**Surrogate: Toluene-d8** 51.96 50.0000 104 80 - 107

**Matrix Spike Dup (B2K0272-MSD1)**

**Source: 1203945-25** Prepared: 11/12/2012 Analyzed: 11/12/2012

1,1-Dichloroethene	34.7200	5.0	50.0000	ND	69.4	70 - 130	2.53	20	M1
Benzene	84.6500	5.0	100.000	ND	84.6	70 - 130	1.50	20	
Chlorobenzene	42.2600	5.0	50.0000	ND	84.5	70 - 130	0.472	20	
MTBE	46.0100	5.0	50.0000	ND	92.0	70 - 130	2.06	20	
Toluene	84.9400	5.0	100.000	ND	84.9	70 - 130	0.517	20	
Trichloroethene	43.2000	5.0	50.0000	ND	86.4	70 - 130	1.47	20	

**Surrogate: 1,2-Dichloroethane-d4** 43.39 50.0000 86.8 65 - 135  
**Surrogate: 4-Bromofluorobenzene** 50.51 50.0000 101 57 - 126  
**Surrogate: Dibromofluoromethane** 45.76 50.0000 91.5 72 - 121  
**Surrogate: Toluene-d8** 52.00 50.0000 104 80 - 107

**Batch B2K0419 - MSVOAS**
**Blank (B2K0419-BLK1)**

Prepared: 11/16/2012 Analyzed: 11/16/2012

1,1,1,2-Tetrachloroethane	ND	5.0	NR
1,1,1-Trichloroethane	ND	5.0	NR
1,1,2,2-Tetrachloroethane	ND	5.0	NR
1,1,2-Trichloroethane	ND	5.0	NR
1,1-Dichloroethane	ND	5.0	NR
1,1-Dichloroethene	ND	5.0	NR
1,1-Dichloropropene	ND	5.0	NR
1,2,3-Trichloropropane	ND	5.0	NR
1,2,3-Trichlorobenzene	ND	5.0	NR
1,2,4-Trichlorobenzene	ND	5.0	NR



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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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#### Batch B2K0419 - MSVOAS (continued)

##### Blank (B2K0419-BLK1) - Continued

Prepared: 11/16/2012 Analyzed: 11/16/2012

1,2,4-Trimethylbenzene	ND	5.0			NR				
1,2-Dibromo-3-chloropropane	ND	10			NR				
1,2-Dibromoethane	ND	5.0			NR				
1,2-Dichlorobenzene	ND	5.0			NR				
1,2-Dichloroethane	ND	5.0			NR				
1,2-Dichloropropane	ND	5.0			NR				
1,3,5-Trimethylbenzene	ND	5.0			NR				
1,3-Dichlorobenzene	ND	5.0			NR				
1,3-Dichloropropane	ND	5.0			NR				
1,4-Dichlorobenzene	ND	5.0			NR				
2,2-Dichloropropane	ND	5.0			NR				
2-Chlorotoluene	ND	5.0			NR				
4-Chlorotoluene	ND	5.0			NR				
4-Isopropyltoluene	ND	5.0			NR				
Benzene	ND	5.0			NR				
Bromobenzene	ND	5.0			NR				
Bromochloromethane	ND	5.0			NR				
Bromodichloromethane	ND	5.0			NR				
Bromoform	ND	5.0			NR				
Bromomethane	ND	5.0			NR				
Carbon disulfide	ND	5.0			NR				
Carbon tetrachloride	ND	5.0			NR				
Chlorobenzene	ND	5.0			NR				
Chloroethane	ND	5.0			NR				
Chloroform	ND	5.0			NR				
Chloromethane	ND	5.0			NR				
cis-1,2-Dichloroethene	ND	5.0			NR				
cis-1,3-Dichloropropene	ND	5.0			NR				
Di-isopropyl ether	ND	5.0			NR				
Dibromochloromethane	ND	5.0			NR				
Dibromomethane	ND	5.0			NR				
Dichlorodifluoromethane	ND	5.0			NR				
Ethyl Acetate	ND	50			NR				
Ethyl Ether	ND	50			NR				
Ethyl tert-butyl ether	ND	5.0			NR				
Ethylbenzene	ND	5.0			NR				
Freon-113	ND	5.0			NR				
Hexachlorobutadiene	ND	5.0			NR				
Isopropylbenzene	ND	5.0			NR				
m,p-Xylene	ND	10			NR				
Methylene chloride	ND	5.0			NR				
MTBE	ND	5.0			NR				



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Reported : 11/20/2012

### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0419 - MSVOAS (continued)**
**Blank (B2K0419-BLK1) - Continued**

Prepared: 11/16/2012 Analyzed: 11/16/2012

n-Butylbenzene	ND	5.0		NR					
n-Propylbenzene	ND	5.0		NR					
Naphthalene	ND	5.0		NR					
o-Xylene	ND	5.0		NR					
sec-Butylbenzene	ND	5.0		NR					
Styrene	ND	5.0		NR					
tert-Amyl methyl ether	ND	5.0		NR					
tert-Butanol	ND	100		NR					
tert-Butylbenzene	ND	5.0		NR					
Tetrachloroethene	ND	5.0		NR					
Toluene	ND	5.0		NR					
trans-1,2-Dichloroethene	ND	5.0		NR					
trans-1,3-Dichloropropene	ND	50		NR					
Trichloroethene	ND	5.0		NR					
Trichlorofluoromethane	ND	5.0		NR					
Vinyl acetate	ND	50		NR					
Vinyl chloride	ND	5.0		NR					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.72	50.0000		87.4	65 - 135				
<i>Surrogate: 4-Bromofluorobenzene</i>	49.05	50.0000		98.1	57 - 126				
<i>Surrogate: Dibromofluoromethane</i>	45.76	50.0000		91.5	72 - 121				
<i>Surrogate: Toluene-d8</i>	50.25	50.0000		100	80 - 107				

**LCS (B2K0419-BS1)**

Prepared: 11/16/2012 Analyzed: 11/16/2012

1,1-Dichloroethene	39.6100	5.0	50.0000	79.2	70 - 130		
Benzene	97.0100	5.0	100.000	97.0	70 - 130		
Chlorobenzene	51.5700	5.0	50.0000	103	70 - 130		
MTBE	49.4500	5.0	50.0000	98.9	70 - 130		
Toluene	100.580	5.0	100.000	101	70 - 130		
Trichloroethene	49.3800	5.0	50.0000	98.8	70 - 130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	42.01	50.0000		84.0	65 - 135		
<i>Surrogate: 4-Bromofluorobenzene</i>	49.64	50.0000		99.3	57 - 126		
<i>Surrogate: Dibromofluoromethane</i>	44.33	50.0000		88.7	72 - 121		
<i>Surrogate: Toluene-d8</i>	51.54	50.0000		103	80 - 107		

**LCS Dup (B2K0419-BSD1)**

Prepared: 11/16/2012 Analyzed: 11/16/2012

1,1-Dichloroethene	38.2000	5.0	50.0000	76.4	70 - 130	3.62	20
Benzene	95.5400	5.0	100.000	95.5	70 - 130	1.53	20
Chlorobenzene	51.9200	5.0	50.0000	104	70 - 130	0.676	20
MTBE	50.6600	5.0	50.0000	101	70 - 130	2.42	20
Toluene	97.4500	5.0	100.000	97.4	70 - 130	3.16	20
Trichloroethene	48.8100	5.0	50.0000	97.6	70 - 130	1.16	20



## Certificate of Analysis

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### Volatile Organic Compounds by EPA 5035/EPA 8260 - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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**Batch B2K0419 - MSVOAS (continued)**
**LCS Dup (B2K0419-BSD1) - Continued**

Prepared: 11/16/2012 Analyzed: 11/16/2012

Surrogate: 1,2-Dichloroethane-d4	41.99	50.0000		84.0	65 - 135
Surrogate: 4-Bromofluorobenzene	51.08	50.0000		102	57 - 126
Surrogate: Dibromofluoromethane	45.04	50.0000		90.1	72 - 121
Surrogate: Toluene-d8	51.86	50.0000		104	80 - 107

**Matrix Spike (B2K0419-MS1)**

Source: 1204030-10

Prepared: 11/16/2012 Analyzed: 11/16/2012

1,1-Dichloroethene	40.8100	5.0	50.0000	ND	81.6	70 - 130
Benzene	94.9700	5.0	100.000	ND	95.0	70 - 130
Chlorobenzene	48.9300	5.0	50.0000	ND	97.9	70 - 130
MTBE	51.6200	5.0	50.0000	ND	103	70 - 130
Toluene	95.7100	5.0	100.000	ND	95.7	70 - 130
Trichloroethene	49.0000	5.0	50.0000	ND	98.0	70 - 130

Surrogate: 1,2-Dichloroethane-d4	47.36	50.0000		94.7	65 - 135
Surrogate: 4-Bromofluorobenzene	50.50	50.0000		101	57 - 126
Surrogate: Dibromofluoromethane	49.61	50.0000		99.2	72 - 121
Surrogate: Toluene-d8	51.82	50.0000		104	80 - 107

**Matrix Spike Dup (B2K0419-MSD1)**

Source: 1204030-10

Prepared: 11/16/2012 Analyzed: 11/16/2012

1,1-Dichloroethene	39.3300	5.0	50.0000	ND	78.7	70 - 130	3.69	20
Benzene	93.4900	5.0	100.000	ND	93.5	70 - 130	1.57	20
Chlorobenzene	47.9600	5.0	50.0000	ND	95.9	70 - 130	2.00	20
MTBE	50.3300	5.0	50.0000	ND	101	70 - 130	2.53	20
Toluene	96.3600	5.0	100.000	ND	96.4	70 - 130	0.677	20
Trichloroethene	46.8200	5.0	50.0000	ND	93.6	70 - 130	4.55	20

Surrogate: 1,2-Dichloroethane-d4	46.21	50.0000		92.4	65 - 135
Surrogate: 4-Bromofluorobenzene	52.25	50.0000		104	57 - 126
Surrogate: Dibromofluoromethane	47.84	50.0000		95.7	72 - 121
Surrogate: Toluene-d8	52.98	50.0000		106	80 - 107



## Certificate of Analysis

Ninyo & Moore

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Oakland , CA 94612

Project Number : Chun/Alameda, 401896001

Report To : Peter Sims  
Reported : 11/20/2012

### Notes and Definitions

S7	Surrogate recovery was above laboratory acceptance limit. Chromatogram shows high concentration of heavy hydrocarbons.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
L3	Laboratory control sample outside in-house established limits but within method criteria.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
D6	Sample required dilution due to high concentration of target analyte.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:

(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.

# CHAIN OF CUSTODY RECORD

 Pg 1 of 2

<b>ADVANCED TECHNOLOGY LABORATORIES</b> 3275 Walnut Ave., Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040	P.O.#: _____ Quote #: _____ <small>As the authorized agent of the below named company, I hereby purchase testing services from ATL as dictated below and guarantee payment in full.</small> Submitter (Print): _____ Signature: _____	<b>FOR LABORATORY USE ONLY:</b> Method of Transport <input type="checkbox"/> Client <input type="checkbox"/> ATL <input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac <input type="checkbox"/> GSO <input type="checkbox"/> Other: _____
		<small>Sample Condition Upon Receipt</small> 1. CHILLED <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> N <input type="checkbox"/>

Submitter - Please complete all SHADeD areas and include QUOTE # above to ensure proper invoicing.

<b>Client:</b> <u>Ninyo + Moore</u> <b>Attn:</b> <u>Peter Sims</u>	<b>Address:</b> <u>1956 Webster Street, Ste 400</u> <b>City:</b> <u>Oakland</u> <b>State:</b> <u>CA</u> <b>Zip Code:</b> <u>94612</u>	<b>TEL:</b> <u>510-343-3000</u> <b>FAX:</b> <u>510-343-3001</u>
<b>Project Name:</b> <u>Chun/Alameda</u> <b>Project #:</b> <u>401896001</u> <b>Relinquished by:</b> (Signature and Printed Name) <u>Peter Sims</u> <b>Date:</b> <u>11-2-12</u> <b>Time:</b> <u>1506</u>	<b>Sampler:</b> (Printed Name) <u>Peter Sims</u> <b>(Signature)</b> <u>Peter Sims</u> <b>Received by:</b> (Signature and Printed Name) <u>FPD(w)</u> <b>Date:</b> <u>11/3/12</u> <b>Time:</b> <u>1040</u>	
<b>Relinquished by:</b> (Signature and Printed Name)	<b>Date:</b> _____ <b>Time:</b> _____ <b>Received by:</b> (Signature and Printed Name) <b>Relinquished by:</b> (Signature and Printed Name)	<b>Date:</b> _____ <b>Time:</b> _____ <b>Received by:</b> (Signature and Printed Name) <b>Relinquished by:</b> (Signature and Printed Name)
<b>Bill To:</b> <b>Attn:</b> <u>Peter Sims</u> <b>E-mail:</b> <u>psims@ninyoandmoore.com</u> <b>Company:</b> <u>Ninyo and Moore</u> <b>Address:</b> <u>1956 Webster Street</u> <b>City:</b> <u>Oakland</u> <b>State:</b> <u>CA</u> <b>Zip:</b> <u>94612</u>	<b>Send Report To:</b> <b>Attn:</b> _____ <b>E-mail:</b> _____ <b>Company:</b> <u>SAME</u> <b>Address:</b> _____ <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____	<b>Special Instructions/Comments:</b> <small>Circle appropriate matrix</small>

## Sample/Records - Archival & Disposal

Unless otherwise requested by client, all Samples and Hardcopy will be disposed Forty-five(45) days after generation of report - electronic copies retained for five(5) years.

## Storage Fees (applies when storage is requested):

- Sample : Forty-five(45) Days Complimentary - \$2.00 / sample / mo thereafter.

**Hardcopy Reports \$17.50 per report.**

I T E M	BUSINESS HOURS 8:30 am to 5:30 pm	Sample Description				CIRCLE or Write IN Analyses Needed	X015B (GRO) / 8260-824 (Volatiles) / 8270B-825(BNA) / 8270B-824(FED) / 8015B(DRC) / 8081 OrgCl / 8082 PCBs	TC-15 / TO-14 / TO-13 / RSK-175 / 8310(PAHs) / 8015B(HC1D) / 8081 OrgCl / 8082 PCBs	6010B-200-7 CAM Metals / 6010B-200-7 PCBS / 6010B-200-7 Hex. Chromium / 300(Aliquots) / 314 (Pechlorate)	7199-218-6 (Hex. Chromium) / 300(Aliquots) / 314 (Pechlorate)	CIRCLE APPROPRIATE MATRIX	QA/QC					
		Lab No.	Sample I.D. / Location	Date	Time							TAT	#	Type			
1	1203860 -01	NMB-6-7	11/2/12	0757	X X					X			10	b	2	1	5035/C
2	- 2	NMB-6-10		0802	X X					X			10	b	2	1	5035/C
3	- 3	NMB-12-8		0827	X X					X			10	b	2	1	5035/C
4	- 4	NMB-12-10		0833	X X					X			10	b	2	1	5035/C
5	- 5	NMB-9-10		0855	X X					X			10	b	2	1	5035/C
6	- 6	NMB-9-8		0900	X X					X			10	b	2	1	5035/C
7	- 7	NMB-6-10		0918	X X					X			10	b	2	1	5035/C
8	- 8	NMB-6-5		0923	X X					X			10	b	2	1	5035/C
9	- 9	NMB-1-10		1009	X X					X			10	b	2	1	5035/C
10	- 10	NMB-1-5		1012	X X					X			10	b	2	1	5035/C
■ Samples Submitted AFTER 3:30 PM, are considered received the following business day at 8:30 AM.		Weekend, Holiday, Off Hours Work ASK for QUOTE		Container Types: 1=Tube 5=Jar 2=VOA 6=Tedlar 3=Liter 7=Canister 4=Pint		Material: 1=Glass 2=Plastic 3=Metal		Preservatives: 1=HCl, 2=HNO <sub>3</sub> , 3=H <sub>2</sub> SO <sub>4</sub> 4=4°C 5=Zn(Ac) <sub>2</sub> 6=NaOH 7=Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub>		For RUSH TCLP/STLC, add 2 days to respective TAT.							
TAT 0 300% SURCHARGE SAME BUSINESS DAY IF ROVD BY 9:00 AM		TAT 1 100% SURCHARGE NEXT BUSINESS DAY 5:30 PM		TAT 2 50% SURCHARGE 2ND BUSINESS DAY 5:30 PM		TAT 3 30% SURCHARGE 3RD BUSINESS DAY 5:30 PM		TAT 4 20% SURCHARGE 4TH BUSINESS DAY 5:30 PM		TAT 5 NO SURCHARGE 5-7 BUSINESS DAYS 5:30 PM		TAT 10 10% DISCOUNT 10th BUSINESS DAY 5:30 PM		Subcon. TAT is 10-15 business days, Dioxin and Furans 21 business days.			

# **CHAIN OF CUSTODY RECORD**

Pg 2 of 2

ADVANCED TECHNOLOGY LABORATORIES		P.O.#: _____	Quote #: _____	FOR LABORATORY USE ONLY:					
		As the authorized agent of the below named company, I hereby purchase testing services from ATL as dictated below and guarantee payment in full.		Sample Condition Upon Receipt					
		Submitter (Print): _____		<input checked="" type="checkbox"/> Client <input type="checkbox"/> ATL <input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac <input type="checkbox"/> GSO <input type="checkbox"/> Other: _____					
		Signature: _____		1. CHILLED <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED 2. HEADSPACE (VOA) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N 3. CONTAINER INTACT <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N					
Submitter - Please complete all SHADeD areas and include QUOTE # above to ensure proper invoicing.									
Client: <b>Niryo + Moore</b> Attn: <b>Peter Sims</b>		Address: <b>1956 Webster Street, Ste 400</b> City <b>Oakland</b> State <b>CA</b> Zip Code <b>94612</b>		TEL: <b>510-343-3000</b>					
Project Name: <b>Chun/Alameda</b>		Project #: <b>401B96001</b>		Sampler: <b>(Printed Name)</b> <i>Peter Sims Peter Sims</i>		(Signature) <i>TPO, Inc.</i>			
Relinquished by: (Signature and Printed Name) <i>Peter Sims Peter Sims</i>		Date: <b>11-2-12</b> Time: <b>1506</b>		Received by: (Signature and Printed Name)		Date: <b>11/2/12</b> Time: <b>1040</b>			
Relinquished by: (Signature and Printed Name)		Date: _____ Time: _____		Received by: (Signature and Printed Name)		Date: _____ Time: _____			
Relinquished by: (Signature and Printed Name)		Date: _____ Time: _____		Received by: (Signature and Printed Name)		Date: _____ Time: _____			
Bill To: Attn: <b>Peter Sims</b> E-mail: _____		Send Report To: Attn: _____ E-mail: _____				Special Instructions/Comments:			
Company: <b>Niryo + Moore</b> Address: <b>1956 Webster St.</b> City: <b>Oakland</b> State: <b>CA</b> Zip: <b>94612</b>		Company: <b>SAME</b> Address: _____ City: _____				State: _____ Zip: _____			
<b>Sample/Records - Archival &amp; Disposal</b> Unless otherwise requested by client, all Samples and Hardcopy will be disposed Forty-five(45) days after generation of report- electronic copies retained for five(5) years.									
<b>Storage Fees (applies when storage is requested):</b> ■ Sample : Forty-five(45) Days Complimentary - \$2.00 / sample / mo thereafter. <b>Hardcopy Reports \$17.50 per report.</b>									
I T E M	<b>BUSINESS HOURS</b> 8:30 am to 5:30 pm		Sample Description						
	Lab No.	Sample I.D. / Location	Date	Time					
1	1203860 - 11	NMB-11-8	11/2/12	1045	X X				
2	1 - 12	NMB-11-10	11/2/12	1051	X X				
3									
4									
5									
6									
7									
8									
9									
10									
■ Samples Submitted AFTER 3:30 PM, are considered received the following business day at 8:30 AM.		Weekend, Holiday, Off Hours Work ASK for QUOTE		Container Types: 1=Tube 2=VOA 3=Liter 4=Pint 5=Jar 6=Tedlar 7=Canister		Material: 1=Glass 2=Plastic 3=Metal		Preservatives: 1=HCl 2=HNO3 3=H2SO4 4=4°C 5=Zn(Ac)2 6=NaOH 7=Na2S2O4	
TAT 0 300% SURCHARGE SAME BUSINESS DAY IF RCV'D BY 9:00 AM		TAT 1 100% SURCHARGE NEXT BUSINESS DAY 5:30 PM		TAT 2 50% SURCHARGE 2ND BUSINESS DAY 5:30 PM		TAT 3 30% SURCHARGE 3RD BUSINESS DAY 5:30 PM		TAT 4 20% SURCHARGE 4TH BUSINESS DAY 5:30 PM	
TAT 5 NO SURCHARGE 5-7 BUSINESS DAYS 5:30 PM		TAT 10 10% DISCOUNT 10th BUSINESS DAY 5:30 PM						For RUSH TCLP/STLC, add 2 days to respective TAT. Subcon, TAT is 10-15 business days, Dioxin and Furans 21 business days.	

## Rachelle Arada

---

**From:** Peter Sims [psims@ninyoandmoore.com]  
**Sent:** Wednesday, November 14, 2012 9:20 AM  
**To:** Rachelle Arada  
**Subject:** RE: 401896004 Chun/Alameda

Rachelle,

I mislabeled two samples. Sample NMB-6-7 collected at 0757 on 11/2/12 should be named NMB-3-7. Sample NMB-6-10 collected at 0802 on 11/2/12 should be named NMB-3-10.

Please include GeoTracker EDD for all samples for this project. GeoTracker ID is T0600100980.

Thanks,

Peter D. Sims, LEED AP  
Project Environmental Geologist  
**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants  
1956 Webster Street, Suite 400  
Oakland, California 94612  
(510) 343-3000 x5216 (Office)  
(510) 327-9335 (Cell Phone)  
(510) 343-3001 (Fax)  
[psims@ninyoandmoore.com](mailto:psims@ninyoandmoore.com)

**New San Jose office**  
2149 O'Toole Avenue, Suite 10  
San Jose, CA 95131  
(408) 435-9000  
(408) 435-9006 (Fax)

*Experience · Quality · Commitment*

**"Celebrating 25 Years"**

-----Original Message-----

**From:** Rachelle Arada [<mailto:Rachelle@atlglobal.com>]  
**Sent:** Thursday, November 08, 2012 3:31 PM  
**To:** Peter Sims  
**Subject:** RE: 401896004 Chun/Alameda

Please see attached.

---

**From:** Peter Sims [<mailto:psims@ninyoandmoore.com>]  
**Sent:** Thursday, November 08, 2012 2:39 PM  
**To:** Rachelle Arada  
**Subject:** RE: 401896004 Chun/Alameda

Can you send me a copy of the COCs for the samples collected on 11/1/12.

Thanks,

Peter D. Sims, LEED AP  
Project Environmental Geologist  
**Ninyo & Moore**

## Rachelle Arada

---

**From:** Peter Sims [psims@ninyoandmoore.com]  
**Sent:** Tuesday, November 20, 2012 3:14 PM  
**To:** Rachelle Arada  
**Subject:** RE: Results - Chun/Alameda, 401896001 (ATL# 1203860)

Hi Rachelle,

Please J-flag the VOC results for both reports for this job (ATL #s 1203860 and 1203850).

Thanks,

Peter D. Sims, LEED AP  
Project Environmental Geologist  
**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants  
1956 Webster Street, Suite 400  
Oakland, California 94612  
(510) 343-3000 x5216 (Office)  
(510) 327-9335 (Cell Phone)  
(510) 343-3001 (Fax)  
[psims@ninyoandmoore.com](mailto:psims@ninyoandmoore.com)

**New San Jose office**  
**2149 O'Toole Avenue, Suite 10**  
**San Jose, CA 95131**  
**(408) 435-9000**  
**(408) 435-9006 (Fax)**

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### **"Celebrating 25 Years"**

-----Original Message-----

**From:** Rachelle Arada [<mailto:Rachelle@atlglobal.com>]  
**Sent:** Monday, November 19, 2012 4:45 PM  
**To:** Peter Sims  
**Subject:** Results - Chun/Alameda, 401896001 (ATL# 1203860)

Hi Peter,

Attached are the results for the above project. Geotracker EDD to follow.

**Rachelle Arada**  
Project Manager



**Advanced Technology Laboratories**  
[www.atlglobal.com](http://www.atlglobal.com)  
Tel: (562) 989-4045 ext. 237  
Fax: (562) 989-4040

Advanced Technology Laboratories is a full-service environmental lab providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. ATL is accredited by the State of California, NELAP and State of Oregon (Air) and holds various SBE, DBE and MBE certificates and a USDA soil permit. ATL takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates. *Advanced Technology Labs - Your Partner for Quality Environmental Testing*

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<http://www.mccampbell.com> / E-mail: main@mccampbell.com

## Analytical Report

Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun  Client Contact: Peter Sim  Client P.O.:	Date Sampled: 11/02/12  Date Received: 11/02/12  Date Reported: 11/14/12  Date Completed: 11/14/12
---	--	--

**WorkOrder: 1211093**

November 14, 2012

Dear Peter:

Enclosed within are:

- 1) The results of the **6** analyzed samples from your project: **#401896004; Chun,**
- 2) QC data for the above samples, and
- 3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing  
McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McCampbell Analytical, Inc.

***The analytical results relate only to the items tested.***



McCAMPBELL ANALYTICAL INC.

1534 WILLOW PASS ROAD / PITTSBURG, CA 94565-1701

Website: [www.mccampbell.com](http://www.mccampbell.com) / Email: main@mccampbell.com

Telephone: (877) 252-9262 / Fax: (925) 252-9269

Report To: Peter Sims

Bill To: Peter Sims

Company: Ninyo + Moore

10156 Webster Street, Oakland, CA

E-Mail: psims@ninyoandmoore.com

Tele: (510) 343-3000

Fax: (510) 343-3001

Project #: 401896004

Project Name: Chun

Project Location: 2301 Santa Clara Ave, Alameda, CA

Sampler Signature: Peter Sims

## CHAIN OF CUSTODY RECORD

## TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Coelt (Normal)

No Write On (DW) No

Lab Use Only

Pressurized By

Date

Pressurization Gas

N2

He

Helium Shroud SN#:

Other:

Notes:

Field Sample ID (Location)	Collection		Canister SN#	Manifold / Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum			
	Date	Time						Initial	Final	Receipt	Final (psi)
NMB-3 SV	11/2/12	1115	CAN7526-874	MAN316-669	T014/T015		X	-29	-2.5		
NMB-6 SV		1130	CAN6406-793	MAN316-814	T014/T015		X	-29	-2.5		
NMB-9 SV		1140	CAN6310-790	MAN316-726	T014/T015		X	-28	-2		
NMB-12 SV		1154	CAN5807-738	MAN316-813	T014/T015		X	-28	-2		
NMB-15 SV		1215	CAN7525-873	MAN316-672	T014/T015		X	-30	-2		
NMB-11 SV	↓	1258	CAN7527-875	MAN316-811	T014/T015		X	-30	-2.5		
							ICE/ GOOD CONDITION				
							HEAD SPACE ABSENT				
							DECHLORINATED IN LAB				
							PRESERVATION	VOAS	O&G	METALS	OTHER

Relinquished By: *Peter Sims*

Date: 11/2/12

Time: 1530

Received By: *[Signature]*Relinquished By: *[Signature]*

Date: 11/3/12

Time: 1645

Received By: *[Signature]*

Date: 11/22/12

Relinquished By: *[Signature]*

Date: 11/3/12

Time: 1645

Received By: *[Signature]*

Date: 11/22/12

Temp (°C): \_\_\_\_\_

Work Order #: 121093

Equipment  
Condition: \_\_\_\_\_

Shipped Via: \_\_\_\_\_



# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1211093

ClientCode: NMO

WaterTrax     WriteOn     EDF     Excel     EQuIS     Email     HardCopy     ThirdParty     J-flag

## Report to:

Peter Sim                      Email: psims@ninyoandmoore.com  
Ninyo & Moore  
1956 Webster St. #400  
Oakland, CA 94612  
(510) 633-5640    FAX: (510) 633-5646  
cc:  
PO:  
ProjectNo: #401896004; Chun

## Bill to:

Accounts Payable  
Ninyo & Moore  
1956 Webster St. #400  
Oakland, CA 94612

Requested TAT: 5 days

Date Received: 11/02/2012  
Date Printed: 11/08/2012

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1211093-001	NMB-3SV	Air	11/2/2012 11:15	<input type="checkbox"/>	A	A											
1211093-002	NMB-6SV	Air	11/2/2012 11:30	<input type="checkbox"/>		A											
1211093-003	NMB-9SV	Air	11/2/2012 11:40	<input type="checkbox"/>		A											
1211093-004	NMB-12SV	Air	11/2/2012 11:54	<input type="checkbox"/>		A											
1211093-005	NMB-1SV	Air	11/2/2012 12:15	<input type="checkbox"/>		A											
1211093-006	NMB-11SV	Air	11/2/2012 12:58	<input type="checkbox"/>		A											

Test Legend:

1	PREF REPORT
6	
11	

2	TO15_SOIL(UG/M3)	3		4		5	
7		8		9		10	
12							

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A contain testgroup.

Prepared by: Gabrielle Walker

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



## Sample Receipt Checklist

Client Name: **Ninyo & Moore**

Date and Time Received: **11/2/2012 9:11:53 PM**

Project Name: **#401896004; Chun**

Login Reviewed by: **Gabrielle Walker**

WorkOrder N°: **1211093**

Matrix: Air

Carrier: Rob Pringle (MAI Courier)

### Chain of Custody (COC) Information

- |   |   |                             |
|---|---|-----------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Sample IDs noted by Client on COC?                      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Date and Time of collection noted by Client on COC?     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Sampler's name noted on COC?                            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |

### Sample Receipt Information

- |   |   |                             |  |
|---|---|-----------------------------|--|
| Custody seals intact on shipping container/coolier? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Shipping container/coolier in good condition?       | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Samples in proper containers/bottles?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sample containers intact?                           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sufficient sample volume for indicated test?        | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |

### Sample Preservation and Hold Time (HT) Information

- |   |   |  |  |
|---|---|--|--|
| All samples received within holding time?           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Container/Temp Blank temperature                    | Cooler Temp:                            |  | NA <input checked="" type="checkbox"/>                     |
| Water - VOA vials have zero headspace / no bubbles? | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Sample labels checked for correct preservation?     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Metal - pH acceptable upon receipt (pH<2)?          | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | NA <input checked="" type="checkbox"/>                     |
| Samples Received on Ice?                            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |  |

\* NOTE: If the "No" box is checked, see comments below.

Comments:



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Ninyo & Moore  
1956 Webster St. #400  
Oakland, CA 94612

Client Project ID: #401896004; Chun

Date Sampled: 11/02/12

Date Received: 11/02/12

Client Contact: Peter Sim

Date Extracted: 11/05/12-11/06/12

Client P.O.:

Date Analyzed: 11/05/12-11/06/12

## **Leak Check Compound\***

Extraction method: TO15

Analytical methods: TO15

Work Order: 1211093

\* leak check compound is reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

The (liquid) Leak Check reference is:

DTSC, Advisory-Active Soil Gas Investigations, April 2012, page 17, section 4.2.2.1:

"The laboratory reports should quantify and annotate all detections of the leak check compound at the reporting limit of the target analytes."

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/02/12
		Date Received: 11/02/12
	Client Contact: Peter Sim	Date Extracted: 11/05/12-11/07/12
	Client P.O.:	Date Analyzed: 11/05/12-11/07/12

### Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211093

Lab ID	1211093-001A			Initial Pressure (psia)	14.23	
Client ID	NMB-3SV			Final Pressure (psia)	28.36	
Matrix	Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
TPH(g)	200,000	10	1800	Acetone	ND	1.0
Acrylonitrile	ND	1.0	4.4	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	780	10	6.5	Benzyl chloride	ND	1.0
Bromodichloromethane	ND	1.0	14	Bromoform	ND	1.0
Bromomethane	ND	1.0	7.9	1,3-Butadiene	ND	1.0
2-Butanone (MEK)	ND	1.0	150	t-Butyl alcohol (TBA)	ND	1.0
Carbon Disulfide	ND	1.0	6.3	Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0	9.4	Chloroethane	ND	1.0
Chloroform	ND	1.0	9.9	Chloromethane	ND	1.0
Cyclohexane	ND<1800	10	180	Dibromochloromethane	ND	1.0
1,2-Dibromo-3-chloropropane	ND	1.0	20	1,2-Dibromoethane (EDB)	ND	1.0
1,2-Dichlorobenzene	ND	1.0	12	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	12	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	8.2	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethene	ND	1.0	8.1	cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0	8.1	1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0	9.2	trans-1,3-Dichloropropene	ND	1.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14	Diisopropyl ether (DIPE)	ND	1.0
1,4-Dioxane	ND	1.0	7.3	Ethanol	ND	1.0
Ethyl acetate	ND	1.0	19	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	1400	10	8.8	4-Ethyltoluene	300	10
Freon 113	ND	1.0	16	Heptane	2700	10
Hexachlorobutadiene	ND	1.0	22	Hexane	6400	10
2-Hexanone	ND	1.0	210	4-Methyl-2-pentanone (MIBK)	ND	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	7.3	Methylene chloride	ND	1.0
Naphthalene	ND	1.0	11	Propene	ND	1.0
Styrene	ND	1.0	8.6	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	14	Tetrachloroethene	20	1.0
Tetrahydrofuran	ND	1.0	6.0	Toluene	2000	10
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	610	10
1,3,5-Trimethylbenzene	300	10	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	5100	10

### Surrogate Recoveries (%)

%SS1:	129	%SS2:	100
%SS3:	110		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/02/12
		Date Received: 11/02/12
	Client Contact: Peter Sim	Date Extracted: 11/05/12-11/07/12
	Client P.O.:	Date Analyzed: 11/05/12-11/07/12

### Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211093

Lab ID	1211093-002A			Initial Pressure (psia)	14.18	
Client ID	NMB-6SV			Final Pressure (psia)	28.26	
Matrix	Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
TPH(g)	470,000	10	1800	Acetone	ND	1.0
Acrylonitrile	ND	1.0	4.4	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	3800	10	6.5	Benzyl chloride	ND	1.0
Bromodichloromethane	ND	1.0	14	Bromoform	ND	1.0
Bromomethane	ND	1.0	7.9	2-Butanone (MEK)	ND	1.0
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	5.4	Chloroform	ND	1.0
Chloromethane	ND	1.0	4.2	Cyclohexane	ND<1800	10
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0	10	1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0
Ethanol	ND	1.0	96	Ethyl acetate	ND	1.0
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	3800	10
4-Ethyltoluene	2800	10	10	Freon 113	ND	1.0
Heptane	3300	10	210	Hexachlorobutadiene	ND	1.0
Hexane	6100	10	180	2-Hexanone	ND	1.0
4-Methyl-2-pentanone (MIBK)	ND	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0
Methylene chloride	ND	1.0	7.1	Naphthalene	560	10
Propene	ND	1.0	88	Styrene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0	14	Tetrahydrofuran	ND	1.0
Toluene	8300	10	7.7	1,2,4-Trichlorobenzene	ND	1.0
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0
Trichloroethene	ND	1.0	11	Trichlorofluoromethane	ND	1.0
1,2,4-Trimethylbenzene	6700	10	10	1,3,5-Trimethylbenzene	3400	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0
Xylenes, Total	16,000	10	27			

### Surrogate Recoveries (%)

%SS1:	126	%SS2:	92
%SS3:	122		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/02/12
		Date Received: 11/02/12
	Client Contact: Peter Sim	Date Extracted: 11/05/12-11/06/12
	Client P.O.:	Date Analyzed: 11/05/12-11/06/12

### Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211093

Lab ID	1211093-003A			Initial Pressure (psia)	14.27	
Client ID	NMB-9SV			Final Pressure (psia)	28.44	
Matrix	Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
TPH(g)	24.000	1.0	1800	Acetone	ND	1.0
Acrylonitrile	ND	1.0	4.4	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	11	1.0	6.5	Benzyl chloride	ND	1.0
Bromodichloromethane	ND	1.0	14	Bromoform	ND	1.0
Bromomethane	ND	1.0	7.9	1,3-Butadiene	ND	1.0
2-Butanone (MEK)	ND	1.0	150	t-Butyl alcohol (TBA)	ND	1.0
Carbon Disulfide	ND	1.0	6.3	Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0	9.4	Chloroethane	ND	1.0
Chloroform	ND	1.0	9.9	Chloromethane	ND	1.0
Cyclohexane	ND	1.0	180	Dibromochloromethane	ND	1.0
1,2-Dibromo-3-chloropropane	ND	1.0	20	1,2-Dibromoethane (EDB)	ND	1.0
1,2-Dichlorobenzene	ND	1.0	12	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	12	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	8.2	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethene	ND	1.0	8.1	cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0	8.1	1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0	9.2	trans-1,3-Dichloropropene	ND	1.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14	Diisopropyl ether (DIPE)	ND	1.0
1,4-Dioxane	ND	1.0	7.3	Ethanol	ND	1.0
Ethyl acetate	ND	1.0	19	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	230	1.0	8.8	4-Ethyltoluene	180	1.0
Freon 113	ND	1.0	16	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	22	Hexane	230	1.0
2-Hexanone	ND	1.0	210	4-Methyl-2-pentanone (MIBK)	ND	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	7.3	Methylene chloride	ND	1.0
Naphthalene	16	1.0	11	Propene	ND	1.0
Styrene	ND	1.0	8.6	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	14	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	6.0	Toluene	110	1.0
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	470	1.0
1,3,5-Trimethylbenzene	190	1.0	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	1100	1.0

### Surrogate Recoveries (%)

%SS1:	106	%SS2:	99
%SS3:	106		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/02/12
		Date Received: 11/02/12
	Client Contact: Peter Sim	Date Extracted: 11/06/12
	Client P.O.:	Date Analyzed: 11/06/12

### Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211093

Lab ID	1211093-004A			Initial Pressure (psia)	13.32	
Client ID	NMB-12SV			Final Pressure (psia)	26.56	
Matrix	Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
TPH(g)	11.000	1.0	1800	Acetone	ND	1.0
Acrylonitrile	ND	1.0	4.4	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	24	1.0	6.5	Benzyl chloride	ND	1.0
Bromodichloromethane	ND	1.0	14	Bromoform	ND	1.0
Bromomethane	ND	1.0	7.9	1,3-Butadiene	ND	1.0
2-Butanone (MEK)	ND	1.0	150	t-Butyl alcohol (TBA)	ND	1.0
Carbon Disulfide	ND	1.0	6.3	Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0	9.4	Chloroethane	ND	1.0
Chloroform	ND	1.0	9.9	Chloromethane	ND	1.0
Cyclohexane	ND	1.0	180	Dibromochloromethane	ND	1.0
1,2-Dibromo-3-chloropropane	ND	1.0	20	1,2-Dibromoethane (EDB)	ND	1.0
1,2-Dichlorobenzene	ND	1.0	12	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	12	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	8.2	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethene	ND	1.0	8.1	cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0	8.1	1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0	9.2	trans-1,3-Dichloropropene	ND	1.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14	Diisopropyl ether (DIPE)	ND	1.0
1,4-Dioxane	ND	1.0	7.3	Ethanol	ND	1.0
Ethyl acetate	ND	1.0	19	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	25	1.0	8.8	4-Ethyltoluene	11	1.0
Freon 113	ND	1.0	16	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	22	Hexane	ND	1.0
2-Hexanone	ND	1.0	210	4-Methyl-2-pentanone (MIBK)	9.0	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	7.3	Methylene chloride	ND	1.0
Naphthalene	ND	1.0	11	Propene	ND	1.0
Styrene	ND	1.0	8.6	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	14	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	6.0	Toluene	150	1.0
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	35	1.0
1,3,5-Trimethylbenzene	14	1.0	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	130	1.0

### Surrogate Recoveries (%)

%SS1:	104	%SS2:	99
%SS3:	108		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/02/12
		Date Received: 11/02/12
	Client Contact: Peter Sim	Date Extracted: 11/06/12
	Client P.O.:	Date Analyzed: 11/06/12

### Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211093

Lab ID	1211093-005A			Initial Pressure (psia)	13.87	
Client ID	NMB-1SV			Final Pressure (psia)	27.64	
Matrix	Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
TPH(g)	ND	1.0	1800	Acetone	ND	1.0
Acrylonitrile	ND	1.0	4.4	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	7.1	1.0	6.5	Benzyl chloride	ND	1.0
Bromodichloromethane	ND	1.0	14	Bromoform	ND	1.0
Bromomethane	ND	1.0	7.9	1,3-Butadiene	ND	1.0
2-Butanone (MEK)	ND	1.0	150	t-Butyl alcohol (TBA)	ND	1.0
Carbon Disulfide	ND	1.0	6.3	Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0	9.4	Chloroethane	ND	1.0
Chloroform	ND	1.0	9.9	Chloromethane	ND	1.0
Cyclohexane	ND	1.0	180	Dibromochloromethane	ND	1.0
1,2-Dibromo-3-chloropropane	ND	1.0	20	1,2-Dibromoethane (EDB)	ND	1.0
1,2-Dichlorobenzene	ND	1.0	12	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	12	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	8.2	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethene	ND	1.0	8.1	cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0	8.1	1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0	9.2	trans-1,3-Dichloropropene	ND	1.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14	Diisopropyl ether (DIPE)	ND	1.0
1,4-Dioxane	ND	1.0	7.3	Ethanol	ND	1.0
Ethyl acetate	ND	1.0	19	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	ND	1.0	8.8	4-Ethyltoluene	ND	1.0
Freon 113	ND	1.0	16	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	22	Hexane	ND	1.0
2-Hexanone	ND	1.0	210	4-Methyl-2-pentanone (MIBK)	ND	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	7.3	Methylene chloride	ND	1.0
Naphthalene	ND	1.0	11	Propene	ND	1.0
Styrene	ND	1.0	8.6	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	14	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	6.0	Toluene	32	1.0
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	ND	1.0

#### Surrogate Recoveries (%)

%SS1:	107	%SS2:	100
%SS3:	104		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/02/12
		Date Received: 11/02/12
	Client Contact: Peter Sim	Date Extracted: 11/06/12
	Client P.O.:	Date Analyzed: 11/06/12

### Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211093

Lab ID	1211093-006A			Initial Pressure (psia)	14.26	
Client ID	NMB-11SV			Final Pressure (psia)	28.42	
Matrix	Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
TPH(g)	2900	1.0	1800	Acetone	ND	1.0
Acrylonitrile	ND	1.0	4.4	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	12	1.0	6.5	Benzyl chloride	ND	1.0
Bromodichloromethane	ND	1.0	14	Bromoform	ND	1.0
Bromomethane	ND	1.0	7.9	1,3-Butadiene	ND	1.0
2-Butanone (MEK)	ND	1.0	150	t-Butyl alcohol (TBA)	ND	1.0
Carbon Disulfide	ND	1.0	6.3	Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0	9.4	Chloroethane	ND	1.0
Chloroform	ND	1.0	9.9	Chloromethane	ND	1.0
Cyclohexane	ND	1.0	180	Dibromochloromethane	ND	1.0
1,2-Dibromo-3-chloropropane	ND	1.0	20	1,2-Dibromoethane (EDB)	ND	1.0
1,2-Dichlorobenzene	ND	1.0	12	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	12	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	8.2	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethene	ND	1.0	8.1	cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0	8.1	1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0	9.2	trans-1,3-Dichloropropene	ND	1.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14	Diisopropyl ether (DIPE)	ND	1.0
1,4-Dioxane	ND	1.0	7.3	Ethanol	ND	1.0
Ethyl acetate	ND	1.0	19	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	32	1.0	8.8	4-Ethyltoluene	14	1.0
Freon 113	ND	1.0	16	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	22	Hexane	ND	1.0
2-Hexanone	ND	1.0	210	4-Methyl-2-pentanone (MIBK)	9.2	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	7.3	Methylene chloride	ND	1.0
Naphthalene	ND	1.0	11	Propene	88	1.0
Styrene	ND	1.0	8.6	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	14	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	6.0	Toluene	120	1.0
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	42	1.0
1,3,5-Trimethylbenzene	15	1.0	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	140	1.0

### Surrogate Recoveries (%)

%SS1:	105	%SS2:	98
%SS3:	104		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas

QC Matrix: Soilgas

BatchID: 72247

WorkOrder: 1211093

EPA Method: TO15	Extraction: TO15							Spiked Sample ID: N/A		
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
		nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Acrylonitrile		N/A	25	N/A	N/A	N/A	77.1	N/A	N/A	60 - 140
tert-Amyl methyl ether (TAME)		N/A	25	N/A	N/A	N/A	77.2	N/A	N/A	60 - 140
Benzene		N/A	25	N/A	N/A	N/A	70.9	N/A	N/A	60 - 140
Benzyl chloride		N/A	25	N/A	N/A	N/A	85.9	N/A	N/A	60 - 140
Bromodichloromethane		N/A	25	N/A	N/A	N/A	84.7	N/A	N/A	60 - 140
Bromoform		N/A	25	N/A	N/A	N/A	99.3	N/A	N/A	60 - 140
t-Butyl alcohol (TBA)		N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
Carbon Disulfide		N/A	25	N/A	N/A	N/A	115	N/A	N/A	60 - 140
Carbon Tetrachloride		N/A	25	N/A	N/A	N/A	94.9	N/A	N/A	60 - 140
Chlorobenzene		N/A	25	N/A	N/A	N/A	80.2	N/A	N/A	60 - 140
Chloroethane		N/A	25	N/A	N/A	N/A	77.2	N/A	N/A	60 - 140
Chloroform		N/A	25	N/A	N/A	N/A	79	N/A	N/A	60 - 140
Chloromethane		N/A	25	N/A	N/A	N/A	74.9	N/A	N/A	60 - 140
Dibromochloromethane		N/A	25	N/A	N/A	N/A	92.4	N/A	N/A	60 - 140
1,2-Dibromo-3-chloropropane		N/A	25	N/A	N/A	N/A	118	N/A	N/A	60 - 140
1,2-Dibromoethane (EDB)		N/A	25	N/A	N/A	N/A	77.3	N/A	N/A	60 - 140
1,2-Dichlorobenzene		N/A	25	N/A	N/A	N/A	79.6	N/A	N/A	60 - 140
1,3-Dichlorobenzene		N/A	25	N/A	N/A	N/A	80.8	N/A	N/A	60 - 140
1,4-Dichlorobenzene		N/A	25	N/A	N/A	N/A	81.1	N/A	N/A	60 - 140
Dichlorodifluoromethane		N/A	25	N/A	N/A	N/A	80.9	N/A	N/A	60 - 140
1,1-Dichloroethane		N/A	25	N/A	N/A	N/A	82.1	N/A	N/A	60 - 140
1,2-Dichloroethane (1,2-DCA)		N/A	25	N/A	N/A	N/A	84.5	N/A	N/A	60 - 140
1,1-Dichloroethene		N/A	25	N/A	N/A	N/A	71.1	N/A	N/A	60 - 140
cis-1,2-Dichloroethene		N/A	25	N/A	N/A	N/A	77.4	N/A	N/A	60 - 140
trans-1,2-Dichloroethene		N/A	25	N/A	N/A	N/A	79.4	N/A	N/A	60 - 140
1,2-Dichloropropane		N/A	25	N/A	N/A	N/A	79	N/A	N/A	60 - 140
cis-1,3-Dichloropropene		N/A	25	N/A	N/A	N/A	76.3	N/A	N/A	60 - 140
trans-1,3-Dichloropropene		N/A	25	N/A	N/A	N/A	80.4	N/A	N/A	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane		N/A	25	N/A	N/A	N/A	88.4	N/A	N/A	60 - 140
Diisopropyl ether (DIPE)		N/A	25	N/A	N/A	N/A	76.7	N/A	N/A	60 - 140
1,4-Dioxane		N/A	25	N/A	N/A	N/A	71.4	N/A	N/A	60 - 140

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas

QC Matrix: Soilgas

BatchID: 72247

WorkOrder: 1211093

EPA Method: TO15	Extraction: TO15							Spiked Sample ID: N/A		
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
		nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Ethyl acetate		N/A	25	N/A	N/A	N/A	76	N/A	N/A	60 - 140
Ethyl tert-butyl ether (ETBE)		N/A	25	N/A	N/A	N/A	72.9	N/A	N/A	60 - 140
Ethylbenzene		N/A	25	N/A	N/A	N/A	74.4	N/A	N/A	60 - 140
Freon 113		N/A	25	N/A	N/A	N/A	82	N/A	N/A	60 - 140
Hexachlorobutadiene		N/A	25	N/A	N/A	N/A	96.3	N/A	N/A	60 - 140
4-Methyl-2-pentanone (MIBK)		N/A	25	N/A	N/A	N/A	79.5	N/A	N/A	60 - 140
Methyl-t-butyl ether (MTBE)		N/A	25	N/A	N/A	N/A	82.3	N/A	N/A	60 - 140
Methylene chloride		N/A	25	N/A	N/A	N/A	111	N/A	N/A	60 - 140
Naphthalene		N/A	25	N/A	N/A	N/A	122	N/A	N/A	60 - 140
Styrene		N/A	25	N/A	N/A	N/A	77.7	N/A	N/A	60 - 140
1,1,1,2-Tetrachloroethane		N/A	25	N/A	N/A	N/A	93.3	N/A	N/A	60 - 140
1,1,2,2-Tetrachloroethane		N/A	25	N/A	N/A	N/A	69.2	N/A	N/A	60 - 140
Tetrachloroethene		N/A	25	N/A	N/A	N/A	88.9	N/A	N/A	60 - 140
Tetrahydrofuran		N/A	25	N/A	N/A	N/A	74.5	N/A	N/A	60 - 140
Toluene		N/A	25	N/A	N/A	N/A	78.3	N/A	N/A	60 - 140
1,2,4-Trichlorobenzene		N/A	25	N/A	N/A	N/A	98.1	N/A	N/A	60 - 140
1,1,1-Trichloroethane		N/A	25	N/A	N/A	N/A	86.9	N/A	N/A	60 - 140
1,1,2-Trichloroethane		N/A	25	N/A	N/A	N/A	79.1	N/A	N/A	60 - 140
Trichloroethene		N/A	25	N/A	N/A	N/A	90.3	N/A	N/A	60 - 140
1,2,4-Trimethylbenzene		N/A	25	N/A	N/A	N/A	75.2	N/A	N/A	60 - 140
1,3,5-Trimethylbenzene		N/A	25	N/A	N/A	N/A	81	N/A	N/A	60 - 140
Vinyl Chloride		N/A	25	N/A	N/A	N/A	75.3	N/A	N/A	60 - 140
%SS1:		N/A	500	N/A	N/A	N/A	100	N/A	N/A	60 - 140
%SS2:		N/A	500	N/A	N/A	N/A	95	N/A	N/A	60 - 140
%SS3:		N/A	500	N/A	N/A	N/A	101	N/A	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas

QC Matrix: Soilgas

BatchID: 72247

WorkOrder: 1211093

EPA Method: TO15		Extraction: TO15		Spiked Sample ID: N/A					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS

### BATCH 72247 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1211093-001A	11/02/12 11:15 AM	11/05/12	11/05/12 10:34 PM	1211093-001A	11/02/12 11:15 AM	11/07/12	11/07/12 4:38 PM
1211093-001A	11/02/12 11:15 AM	11/07/12	11/07/12 4:38 PM	1211093-002A	11/02/12 11:30 AM	11/05/12	11/05/12 11:15 PM
1211093-002A	11/02/12 11:30 AM	11/07/12	11/07/12 5:18 PM	1211093-002A	11/02/12 11:30 AM	11/07/12	11/07/12 5:18 PM
1211093-003A	11/02/12 11:40 AM	11/05/12	11/05/12 11:55 PM	1211093-003A	11/02/12 11:40 AM	11/06/12	11/06/12 3:50 PM
1211093-004A	11/02/12 11:54 AM	11/06/12	11/06/12 12:36 AM	1211093-004A	11/02/12 11:54 AM	11/06/12	11/06/12 12:36 AM
1211093-005A	11/02/12 12:15 PM	11/06/12	11/06/12 1:17 AM	1211093-005A	11/02/12 12:15 PM	11/06/12	11/06/12 1:17 AM
1211093-006A	11/02/12 12:58 PM	11/06/12	11/06/12 2:00 AM	1211093-006A	11/02/12 12:58 PM	11/06/12	11/06/12 2:00 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



## Analytical Report

Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun  Client Contact: Peter Sim  Client P.O.:	Date Sampled: 11/12/12-11/13/12  Date Received: 11/13/12  Date Reported: 11/20/12  Date Completed: 11/20/12
---	--	---

**WorkOrder: 1211384**

December 05, 2012

Dear Peter:

Enclosed within are:

- 1) The results of the **9** analyzed samples from your project: **#401896004; Chun,**
- 2) QC data for the above samples, and
- 3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing  
McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McCampbell Analytical, Inc.

***The analytical results relate only to the items tested.***



McCAMPBELL ANALYTICAL INC.

1534 WILLOW PASS ROAD / PITTSBURG, CA 94565-1701

Website: [www.mccampbell.com](http://www.mccampbell.com) / Email: main@mccampbell.com

Telephone: (877) 252-9262 / Fax: (925) 252-9269

## CHAIN OF CUSTODY RECORD

## TURN AROUND TIME

     RUSH  24 HR  48 HR  72 HR  5 DAY  
No Write On (DW) No

Report To: Peter Sims

Bill To: Peter Sims

Lab Use Only

Company: Ninyo + Moore

E-Mail: psims@ninyoandmoore.com

## Pressurized By

## Date

## Pressurization Gas

N2

He

Tele: (510) 343-3000

Fax: (510) 343-3001

Project #: 401896004

Project Name: Chun

Helium Shroud SN#:

Project Location: Alameda

Other:

Sampler Signature: Peter Sims

Notes: Analyze with reporting limits below CHHSLs.

NMSS-3, very slow sampling.

MAN 316-843 broke and was not used

Field Sample ID (Location)	Collection		Canister SN#	Manifold / Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum			
	Date	Time						Initial	Final	Receipt	Final (psi)
NMIA-6	11/12/12	11:27	6037		TO15 VOCs	X		-30	-5		
NMIA-5	11/12/12	11:30	4760		TO15 VOCs	X		-30	-5		
NMIA-1	11/12/12	11:32	6044		TO15 VOCs	X		-24.5	-1		
NMIA-2	11/12/12	10:57	CAN4773-891	522	TO15 VOCs	X		-29	-4		
NMIA-3	11/12/12	10:52	A7788	547	TO15 VOCs	X		-30	-6		
NMIA-4	11/12/12	10:48	CAN3656-572	537	TO15 VOCs	X		-28.5	-4		
NMSS-3	11/13/12	12:30	A7515	MAN316-673	TO15 VOCs /TPH <sub>o</sub>		X	-30	-10		
NMSS-1	11/13/12	13:11	6409	MAN316-723	TO15 VOCs /TPH <sub>o</sub>		X	-28	-2		
NMSS-2	11/13/12	12:56	A7516	MAN316-766	TO15 VOCs /TPH <sub>o</sub>		X	-29	-3		

Relinquished By:

*Peter Sims*

Date: 11/13/12

Time: 1550  
1926C

Received By:

*AB*

Temp (°C): \_\_\_\_\_

Work Order #: \_\_\_\_\_

Relinquished By:

*J. D. M.*

Date: 11/13/12

Time: 1630

Received By:

*J. D. M.*

Equipment Condition:

Shipped Via:

Relinquished By:

Date:

Time:

Received By:

*J. D. M.*



# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1211384

ClientCode: NMO

WaterTrax     WriteOn     EDF     Excel     EQuIS     Email     HardCopy     ThirdParty     J-flag

## Report to:

Peter Sim                      Email: psims@ninyoandmoore.com  
 Ninyo & Moore  
 1956 Webster St. #400  
 Oakland, CA 94612  
 (510) 633-5640    FAX: (510) 633-5646  
 cc:  
 PO:  
 ProjectNo: #401896004; Chun

## Bill to:

Accounts Payable  
 Ninyo & Moore  
 1956 Webster St. #400  
 Oakland, CA 94612

Requested TAT: 5 days

Date Received: 11/13/2012  
 Date Printed: 11/14/2012

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1211384-001	NMIA-6	Indoor Air	11/12/2012 11:27	<input type="checkbox"/>	A	A											
1211384-002	NMIA-5	Indoor Air	11/12/2012 11:30	<input type="checkbox"/>		A											
1211384-003	NMIA-1	Indoor Air	11/12/2012 11:32	<input type="checkbox"/>			A										
1211384-004	NMIA-2	Indoor Air	11/12/2012 10:57	<input type="checkbox"/>			A										
1211384-005	NMIA-3	Indoor Air	11/12/2012 10:52	<input type="checkbox"/>			A										
1211384-006	NMIA-4	Indoor Air	11/12/2012 10:48	<input type="checkbox"/>			A										
1211384-007	NMSS-3	Soil Gas	11/13/2012 12:30	<input type="checkbox"/>				A									
1211384-008	NMSS-1	Soil Gas	11/13/2012 13:11	<input type="checkbox"/>				A									
1211384-009	NMSS-2	Soil Gas	11/13/2012 12:56	<input type="checkbox"/>				A									

Test Legend:

<input type="checkbox"/> 1	PREDF REPORT	<input type="checkbox"/> 2	15+GAS_LL_INDOOR(UG/N)	<input type="checkbox"/> 3	TO15+GAS_SOIL(UG/M3)	<input type="checkbox"/> 4		<input type="checkbox"/> 5	
<input type="checkbox"/> 6		<input type="checkbox"/> 7		<input type="checkbox"/> 8		<input type="checkbox"/> 9		<input type="checkbox"/> 10	
<input type="checkbox"/> 11		<input type="checkbox"/> 12							

The following SamplIDs: 007A, 008A, 009A contain testgroup.

Prepared by: Zoraida Cortez

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.





Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
		Date Received: 11/13/12
	Client Contact: Peter Sim	Date Reported: 11/20/12
	Client P.O.:	Date Completed: 11/20/12

**Work Order: 1211384**

December 05, 2012

#### CASE NARRATIVE REGARDING TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The dissadvantages are listed in Appendix B of the DTSC Advisory of April 2012.

J1) The TPH-gasoline ESL of 10ug/M3 is beyond our instrumentaion capabilites.



Ninvo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
	Client Contact: Peter Sim	Date Received: 11/13/12
	Client P.O.:	Date Extracted: 11/15/12
<b>TPH gas + Volatile Organic Compounds in <math>\mu\text{g}/\text{m}^3</math>*</b>		

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-001A			Initial Pressure (psia)	12.90
Client ID	NMIA-6			Final Pressure (psia)	12.90
Matrix	Indoor Air				
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *
Acetone	37	1.0	12	Acrylonitrile	ND
tert-Amyl methyl ether (TAME)	ND	1.0	0.42	Benzene	2.2
Benzyl chloride	ND	1.0	0.53	Bromodichloromethane	ND
Bromoform	ND	1.0	1.1	Bromomethane	ND
1,3-Butadiene	ND	1.0	0.22	2-Butanone (MEK)	ND
t-Butyl alcohol (TBA)	ND	1.0	6.2	Carbon Disulfide	ND
Carbon Tetrachloride	0.50	1.0	0.16	Chlorobenzene	ND
Chloroethane	ND	1.0	0.27	Chloroform	0.52
Chloromethane	ND	1.0	0.21	Cyclohexane	ND
Dibromochloromethane	ND	1.0	0.87	1,2-Dibromo-3-chloropropane	ND
1,2-Dibromoethane (EDB)	ND	1.0	0.2	1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND	1.0	0.61	1,4-Dichlorobenzene	0.29
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND
1,2-Dichloroethane (1,2-DCA)	0.15	1.0	0.1	1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND	1.0	0.4	trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND	1.0	0.12	cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND	1.0	0.12	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND
Diisopropyl ether (DIPE)	ND	1.0	0.42	1,4-Dioxane	ND
Ethyl acetate	5.6	1.0	0.92	Ethyl tert-butyl ether (ETBE)	ND
Ethylbenzene	1.0	1.0	0.44	4-Ethyltoluene	1.1
Freon 113	ND	1.0	0.78	Heptane	ND
Hexachlorobutadiene	ND	1.0	1.1	Hexane	ND
2-Hexanone	ND	1.0	42	4-Methyl-2-pentanone (MIBK)	3.2
Methyl-t-butyl ether (MTBE)	ND	1.0	0.37	Methylene chloride	0.51
Naphthalene	0.50	1.0	0.26	Propene	ND
Styrene	0.47	1.0	0.43	1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND	1.0	0.17	Tetrachloroethene	ND
Tetrahydrofuran	ND	1.0	0.6	Toluene	6.0
1,2,4-Trichlorobenzene	ND	1.0	0.75	1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND	1.0	0.14	Trichloroethene	ND
Trichlorofluoromethane	1.4	1.0	0.57	1,2,4-Trimethylbenzene	2.2
1,3,5-Trimethylbenzene	0.86	1.0	0.5	Vinyl Acetate	ND
Vinyl Chloride	ND	1.0	0.06	Xylenes, Total	6.1
TPH(g)	160	1.0	36		1.0

**Surrogate Recoveries (%)**

%SS1:	99	%SS2:	101
%SS3:	99		

Comments: j1

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

j1) see attached narrative



Ninvo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
	Client Contact: Peter Sim	Date Received: 11/13/12
	Client P.O.:	Date Extracted: 11/15/12
<b>TPH gas + Volatile Organic Compounds in µg/m³*</b>		

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-002A			Initial Pressure (psia)	12.84	
Client ID	NMIA-5			Final Pressure (psia)	12.84	
Matrix	Indoor Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	32	1.0	12	Acrylonitrile	ND	1.0
tert-Amyl methyl ether (TAME)	ND	1.0	0.42	Benzene	1.9	1.0
Benzyl chloride	ND	1.0	0.53	Bromodichloromethane	ND	1.0
Bromoform	ND	1.0	1.1	Bromomethane	ND	1.0
1,3-Butadiene	ND	1.0	0.22	2-Butanone (MEK)	ND	1.0
t-Butyl alcohol (TBA)	ND	1.0	6.2	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	0.47	1.0	0.16	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	0.27	Chloroform	0.31	1.0
Chloromethane	0.48	1.0	0.21	Cyclohexane	ND	1.0
Dibromochloromethane	ND	1.0	0.87	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	0.2	1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0	0.61	1,4-Dichlorobenzene	0.16	1.0
Dichlorodifluoromethane	2.4	1.0	0.5	1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.1	1,1-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	ND	1.0	0.4	trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0	0.12	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	0.12	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0
Diisopropyl ether (DIPE)	ND	1.0	0.42	1,4-Dioxane	ND	1.0
Ethyl acetate	8.2	1.0	0.92	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	0.71	1.0	0.44	4-Ethyltoluene	1.3	1.0
Freon 113	ND	1.0	0.78	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	1.1	Hexane	ND	1.0
2-Hexanone	ND	1.0	42	4-Methyl-2-pentanone (MIBK)	0.77	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	0.37	Methylene chloride	0.41	1.0
Naphthalene	0.35	1.0	0.26	Propene	ND	1.0
Styrene	ND	1.0	0.43	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	0.17	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	0.6	Toluene	4.5	1.0
1,2,4-Trichlorobenzene	ND	1.0	0.75	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	0.14	Trichloroethene	ND	1.0
Trichlorofluoromethane	1.2	1.0	0.57	1,2,4-Trimethylbenzene	2.3	1.0
1,3,5-Trimethylbenzene	1.0	1.0	0.5	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	0.06	Xylenes, Total	5.0	1.0
TPH(g)	210	1.0	36			

**Surrogate Recoveries (%)**

%SS1:	100	%SS2:	103
%SS3:	100		

Comments: j1

\*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

j1) see attached narrative



Ninvo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
	Client Contact: Peter Sim	Date Received: 11/13/12
	Client P.O.:	Date Extracted: 11/15/12
<b>TPH gas + Volatile Organic Compounds in µg/m³*</b>		

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-003A			Initial Pressure (psia)	12.82	
Client ID	NMIA-1			Final Pressure (psia)	12.82	
Matrix	Indoor Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	27	1.0	12	Acrylonitrile	ND	1.0
tert-Amyl methyl ether (TAME)	ND	1.0	0.42	Benzene	1.6	1.0
Benzyl chloride	ND	1.0	0.53	Bromodichloromethane	ND	1.0
Bromoform	ND	1.0	1.1	Bromomethane	ND	1.0
1,3-Butadiene	ND	1.0	0.22	2-Butanone (MEK)	ND	1.0
t-Butyl alcohol (TBA)	ND	1.0	6.2	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	0.45	1.0	0.16	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	0.27	Chloroform	0.26	1.0
Chloromethane	0.29	1.0	0.21	Cyclohexane	ND	1.0
Dibromochloromethane	ND	1.0	0.87	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	0.2	1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0	0.61	1,4-Dichlorobenzene	0.17	1.0
Dichlorodifluoromethane	2.9	1.0	0.5	1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.1	1,1-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	ND	1.0	0.4	trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0	0.12	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	0.12	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0
Diisopropyl ether (DIPE)	ND	1.0	0.42	1,4-Dioxane	ND	1.0
Ethyl acetate	4.5	1.0	0.92	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	0.63	1.0	0.44	4-Ethyltoluene	ND	1.0
Freon 113	ND	1.0	0.78	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	1.1	Hexane	ND	1.0
2-Hexanone	ND	1.0	42	4-Methyl-2-pentanone (MIBK)	ND	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	0.37	Methylene chloride	0.39	1.0
Naphthalene	0.36	1.0	0.26	Propene	ND	1.0
Styrene	ND	1.0	0.43	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	0.17	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	0.6	Toluene	4.0	1.0
1,2,4-Trichlorobenzene	ND	1.0	0.75	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	0.14	Trichloroethene	ND	1.0
Trichlorofluoromethane	1.3	1.0	0.57	1,2,4-Trimethylbenzene	1.3	1.0
1,3,5-Trimethylbenzene	ND	1.0	0.5	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	0.06	Xylenes, Total	4.2	1.0
TPH(g)	110	1.0	36			

**Surrogate Recoveries (%)**

%SS1:	99	%SS2:	101
%SS3:	99		

Comments: j1

\*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

j1) see attached narrative



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
	Client Contact: Peter Sim	Date Received: 11/13/12
	Client P.O.:	Date Extracted: 11/15/12
<b>TPH gas + Volatile Organic Compounds in µg/m³*</b>		

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-004A			Initial Pressure (psia)	13.10
Client ID	NMIA-2			Final Pressure (psia)	13.10
Matrix	Indoor Air				
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *
Acetone	27	1.0	12	Acrylonitrile	ND
tert-Amyl methyl ether (TAME)	ND	1.0	0.42	Benzene	3.8
Benzyl chloride	ND	1.0	0.53	Bromodichloromethane	ND
Bromoform	ND	1.0	1.1	Bromomethane	ND
1,3-Butadiene	ND	1.0	0.22	2-Butanone (MEK)	ND
t-Butyl alcohol (TBA)	ND	1.0	6.2	Carbon Disulfide	ND
Carbon Tetrachloride	0.45	1.0	0.16	Chlorobenzene	ND
Chloroethane	ND	1.0	0.27	Chloroform	0.55
Chloromethane	ND	1.0	0.21	Cyclohexane	ND
Dibromochloromethane	ND	1.0	0.87	1,2-Dibromo-3-chloropropane	ND
1,2-Dibromoethane (EDB)	ND	1.0	0.2	1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND	1.0	0.61	1,4-Dichlorobenzene	ND
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND
1,2-Dichloroethane (1,2-DCA)	1.4	1.0	0.1	1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND	1.0	0.4	trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND	1.0	0.12	cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND	1.0	0.12	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND
Diisopropyl ether (DIPE)	ND	1.0	0.42	1,4-Dioxane	ND
Ethyl acetate	3.7	1.0	0.92	Ethyl tert-butyl ether (ETBE)	ND
Ethylbenzene	8.4	1.0	0.44	4-Ethyltoluene	4.5
Freon 113	ND	1.0	0.78	Heptane	ND
Hexachlorobutadiene	ND	1.0	1.1	Hexane	ND
2-Hexanone	ND	1.0	42	4-Methyl-2-pentanone (MIBK)	ND
Methyl-t-butyl ether (MTBE)	ND	1.0	0.37	Methylene chloride	2.4
Naphthalene	0.97	1.0	0.26	Propene	ND
Styrene	2.4	1.0	0.43	1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND	1.0	0.17	Tetrachloroethene	ND
Tetrahydrofuran	ND	1.0	0.6	Toluene	26
1,2,4-Trichlorobenzene	ND	1.0	0.75	1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND	1.0	0.14	Trichloroethene	ND
Trichlorofluoromethane	1.5	1.0	0.57	1,2,4-Trimethylbenzene	16
1,3,5-Trimethylbenzene	5.6	1.0	0.5	Vinyl Acetate	ND
Vinyl Chloride	ND	1.0	0.06	Xylenes, Total	40
TPH(g)	620	1.0	36		1.0

**Surrogate Recoveries (%)**

%SS1:	101	%SS2:	101
%SS3:	99		

Comments: j1

\*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

j1) see attached narrative



Ninvo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
	Client Contact: Peter Sim	Date Received: 11/13/12
	Client P.O.:	Date Extracted: 11/15/12
<b>TPH gas + Volatile Organic Compounds in µg/m³*</b>		

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-005A			Initial Pressure (psia)	12.78	
Client ID	NMIA-3			Final Pressure (psia)	12.78	
Matrix	Indoor Air					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	51	1.0	12	Acrylonitrile	ND	1.0
tert-Amyl methyl ether (TAME)	ND	1.0	0.42	Benzene	1.9	1.0
Benzyl chloride	ND	1.0	0.53	Bromodichloromethane	ND	1.0
Bromoform	ND	1.0	1.1	Bromomethane	ND	1.0
1,3-Butadiene	ND	1.0	0.22	2-Butanone (MEK)	ND	1.0
t-Butyl alcohol (TBA)	ND	1.0	6.2	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	0.44	1.0	0.16	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	0.27	Chloroform	0.54	1.0
Chloromethane	ND	1.0	0.21	Cyclohexane	ND	1.0
Dibromochloromethane	ND	1.0	0.87	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	0.2	1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0	0.61	1,4-Dichlorobenzene	0.15	1.0
Dichlorodifluoromethane	1.2	1.0	0.5	1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane (1,2-DCA)	1.5	1.0	0.1	1,1-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	ND	1.0	0.4	trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0	0.12	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	0.12	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0
Diisopropyl ether (DIPE)	ND	1.0	0.42	1,4-Dioxane	ND	1.0
Ethyl acetate	11	1.0	0.92	Ethyl tert-butyl ether (ETBE)	ND	1.0
Ethylbenzene	2.0	1.0	0.44	4-Ethyltoluene	1.4	1.0
Freon 113	ND	1.0	0.78	Heptane	ND	1.0
Hexachlorobutadiene	ND	1.0	1.1	Hexane	ND	1.0
2-Hexanone	ND	1.0	42	4-Methyl-2-pentanone (MIBK)	ND	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	0.37	Methylene chloride	1.7	1.0
Naphthalene	0.52	1.0	0.26	Propene	ND	1.0
Styrene	0.68	1.0	0.43	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	0.17	Tetrachloroethene	ND	1.0
Tetrahydrofuran	ND	1.0	0.6	Toluene	11	1.0
1,2,4-Trichlorobenzene	ND	1.0	0.75	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	0.14	Trichloroethene	ND	1.0
Trichlorofluoromethane	1.2	1.0	0.57	1,2,4-Trimethylbenzene	4.1	1.0
1,3,5-Trimethylbenzene	1.4	1.0	0.5	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	0.06	Xylenes, Total	11	1.0
TPH(g)	440	1.0	36			

**Surrogate Recoveries (%)**

%SS1:	100	%SS2:	102
%SS3:	97		

Comments: j1

\*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

j1) see attached narrative



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/12/12
	Client Contact: Peter Sim	Date Received: 11/13/12
	Client P.O.:	Date Extracted: 11/15/12
<b>TPH gas + Volatile Organic Compounds in µg/m³*</b>		

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-006A			Initial Pressure (psia)	12.70
Client ID	NMIA-4			Final Pressure (psia)	12.70
Matrix	Indoor Air				
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *
Acetone	20	1.0	12	Acrylonitrile	ND
tert-Amyl methyl ether (TAME)	ND	1.0	0.42	Benzene	1.7
Benzyl chloride	ND	1.0	0.53	Bromodichloromethane	ND
Bromoform	ND	1.0	1.1	Bromomethane	ND
1,3-Butadiene	ND	1.0	0.22	2-Butanone (MEK)	ND
t-Butyl alcohol (TBA)	ND	1.0	6.2	Carbon Disulfide	ND
Carbon Tetrachloride	0.46	1.0	0.16	Chlorobenzene	ND
Chloroethane	ND	1.0	0.27	Chloroform	0.25
Chloromethane	0.48	1.0	0.21	Cyclohexane	ND
Dibromochloromethane	ND	1.0	0.87	1,2-Dibromo-3-chloropropane	ND
1,2-Dibromoethane (EDB)	ND	1.0	0.2	1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND	1.0	0.61	1,4-Dichlorobenzene	ND
Dichlorodifluoromethane	2.9	1.0	0.5	1,1-Dichloroethane	ND
1,2-Dichloroethane (1,2-DCA)	0.30	1.0	0.1	1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND	1.0	0.4	trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND	1.0	0.12	cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND	1.0	0.12	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND
Diisopropyl ether (DIPE)	ND	1.0	0.42	1,4-Dioxane	ND
Ethyl acetate	7.2	1.0	0.92	Ethyl tert-butyl ether (ETBE)	ND
Ethylbenzene	0.62	1.0	0.44	4-Ethyltoluene	ND
Freon 113	ND	1.0	0.78	Heptane	ND
Hexachlorobutadiene	ND	1.0	1.1	Hexane	ND
2-Hexanone	ND	1.0	42	4-Methyl-2-pentanone (MIBK)	ND
Methyl-t-butyl ether (MTBE)	ND	1.0	0.37	Methylene chloride	0.41
Naphthalene	0.28	1.0	0.26	Propene	ND
Styrene	ND	1.0	0.43	1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND	1.0	0.17	Tetrachloroethene	ND
Tetrahydrofuran	ND	1.0	0.6	Toluene	4.0
1,2,4-Trichlorobenzene	ND	1.0	0.75	1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND	1.0	0.14	Trichloroethene	ND
Trichlorofluoromethane	1.3	1.0	0.57	1,2,4-Trimethylbenzene	1.2
1,3,5-Trimethylbenzene	ND	1.0	0.5	Vinyl Acetate	ND
Vinyl Chloride	ND	1.0	0.06	Xylenes, Total	4.1
TPH(g)	80	1.0	36		1.0
<b>Surrogate Recoveries (%)</b>					
%SS1:	101		%SS2:	103	
%SS3:	101				

Comments: j1

\*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

j1) see attached narrative



Ninyo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/13/12
		Date Received: 11/13/12
	Client Contact: Peter Sim	Date Extracted: 11/16/12
	Client P.O.:	Date Analyzed: 11/16/12

### TPH gas + Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-007A			Initial Pressure (psia)	9.71
Client ID	NMSS-3			Final Pressure (psia)	19.36
Matrix	Soil Gas				
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *
Acetone	ND	1.0	120	Acrylonitrile	ND
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	ND
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND
Bromoform	ND	1.0	21	Bromomethane	ND
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND
Chloroethane	ND	1.0	5.4	Chloroform	ND
Chloromethane	ND	1.0	4.2	Cyclohexane	ND
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND
Dichlorodifluoromethane	ND	1.0	10	1,1-Dichloroethane	ND
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND
Ethanol	120	1.0	96	Ethyl acetate	ND
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	ND
4-Ethyltoluene	ND	1.0	10	Freon 113	ND
Heptane	ND	1.0	210	Hexachlorobutadiene	ND
Hexane	ND	1.0	180	2-Hexanone	ND
4-Methyl-2-pentanone (MIBK)	ND	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND
Methylene chloride	ND	1.0	7.1	Naphthalene	ND
Propene	ND	1.0	88	Styrene	ND
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND
Tetrachloroethene	ND	1.0	14	Tetrahydrofuran	ND
Toluene	ND	1.0	7.7	TPH(g)	ND
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	ND
1,3,5-Trimethylbenzene	ND	1.0	10	Vinyl Acetate	ND
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	ND

#### Surrogate Recoveries (%)

%SS1:	105	%SS2:	102
%SS3:	100		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninvo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/13/12
		Date Received: 11/13/12
	Client Contact: Peter Sim	Date Extracted: 11/16/12
	Client P.O.:	Date Analyzed: 11/16/12

### TPH gas + Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-008A			Initial Pressure (psia)	14.42	
Client ID	NMSS-1			Final Pressure (psia)	28.74	
Matrix	Soil Gas					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	ND	1.0	120	Acrylonitrile	ND	1.0
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	ND	1.0
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0
Bromoform	ND	1.0	21	Bromomethane	ND	1.0
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND	1.0
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	5.4	Chloroform	ND	1.0
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0	10	1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0
Ethanol	ND	1.0	96	Ethyl acetate	ND	1.0
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	ND	1.0
4-Ethyltoluene	ND	1.0	10	Freon 113	ND	1.0
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0
Hexane	ND	1.0	180	2-Hexanone	ND	1.0
4-Methyl-2-pentanone (MIBK)	ND	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0
Propene	ND	1.0	88	Styrene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0	14	Tetrahydrofuran	ND	1.0
Toluene	ND	1.0	7.7	TPH(g)	ND	1.0
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	ND	1.0

#### Surrogate Recoveries (%)

%SS1:	109	%SS2:	102
%SS3:	99		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor



Ninvo & Moore  1956 Webster St. #400  Oakland, CA 94612	Client Project ID: #401896004; Chun	Date Sampled: 11/13/12
		Date Received: 11/13/12
	Client Contact: Peter Sim	Date Extracted: 11/16/12
	Client P.O.:	Date Analyzed: 11/16/12

### TPH gas + Volatile Organic Compounds in $\mu\text{g}/\text{m}^3$ \*

Extraction Method: TO15

Analytical Method: TO15

Work Order: 1211384

Lab ID	1211384-009A			Initial Pressure (psia)	13.96	
Client ID	NMSS-2			Final Pressure (psia)	27.83	
Matrix	Soil Gas					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	ND	1.0	120	Acrylonitrile	ND	1.0
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	ND	1.0
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0
Bromoform	ND	1.0	21	Bromomethane	ND	1.0
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND	1.0
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	5.4	Chloroform	81	1.0
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0	10	1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0
Ethanol	ND	1.0	96	Ethyl acetate	ND	1.0
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	ND	1.0
4-Ethyltoluene	ND	1.0	10	Freon 113	ND	1.0
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0
Hexane	ND	1.0	180	2-Hexanone	ND	1.0
4-Methyl-2-pentanone (MIBK)	ND	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0
Propene	ND	1.0	88	Styrene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0	14	Tetrahydrofuran	7.3	1.0
Toluene	ND	1.0	7.7	TPH(g)	ND	1.0
1,2,4-Trichlorobenzene	ND	1.0	15	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	11	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	11	1,2,4-Trimethylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0	10	Vinyl Acetate	ND	1.0
Vinyl Chloride	ND	1.0	5.2	Xylenes, Total	ND	1.0

#### Surrogate Recoveries (%)

%SS1:	109	%SS2:	102
%SS3:	100		

Comments:

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor





## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Indoor Air

QC Matrix: Soilgas

BatchID: 72487

WorkOrder: 1211384

EPA Method: TO15	Extraction: TO15	Spiked Sample ID: N/A							
		Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)	
Analyte	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Acrylonitrile	N/A	25	N/A	N/A	N/A	96.8	N/A	N/A	60 - 140
tert-Amyl methyl ether (TAME)	N/A	25	N/A	N/A	N/A	94.6	N/A	N/A	60 - 140
Benzene	N/A	25	N/A	N/A	N/A	91.4	N/A	N/A	60 - 140
Benzyl chloride	N/A	25	N/A	N/A	N/A	95	N/A	N/A	60 - 140
Bromodichloromethane	N/A	25	N/A	N/A	N/A	97.9	N/A	N/A	60 - 140
Bromoform	N/A	25	N/A	N/A	N/A	113	N/A	N/A	60 - 140
t-Butyl alcohol (TBA)	N/A	25	N/A	N/A	N/A	74.9	N/A	N/A	60 - 140
Carbon Disulfide	N/A	25	N/A	N/A	N/A	94.2	N/A	N/A	60 - 140
Carbon Tetrachloride	N/A	25	N/A	N/A	N/A	94.9	N/A	N/A	60 - 140
Chlorobenzene	N/A	25	N/A	N/A	N/A	89.9	N/A	N/A	60 - 140
Chloroethane	N/A	25	N/A	N/A	N/A	105	N/A	N/A	60 - 140
Chloroform	N/A	25	N/A	N/A	N/A	93	N/A	N/A	60 - 140
Chloromethane	N/A	25	N/A	N/A	N/A	107	N/A	N/A	60 - 140
Dibromochloromethane	N/A	25	N/A	N/A	N/A	102	N/A	N/A	60 - 140
1,2-Dibromo-3-chloropropane	N/A	25	N/A	N/A	N/A	121	N/A	N/A	60 - 140
1,2-Dibromoethane (EDB)	N/A	25	N/A	N/A	N/A	91.8	N/A	N/A	60 - 140
1,3-Dichlorobenzene	N/A	25	N/A	N/A	N/A	89.8	N/A	N/A	60 - 140
1,4-Dichlorobenzene	N/A	25	N/A	N/A	N/A	83.8	N/A	N/A	60 - 140
Dichlorodifluoromethane	N/A	25	N/A	N/A	N/A	123	N/A	N/A	60 - 140
1,1-Dichloroethane	N/A	25	N/A	N/A	N/A	95.8	N/A	N/A	60 - 140
1,2-Dichloroethane (1,2-DCA)	N/A	25	N/A	N/A	N/A	94.2	N/A	N/A	60 - 140
cis-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	96.1	N/A	N/A	60 - 140
trans-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	96.6	N/A	N/A	60 - 140
1,2-Dichloropropane	N/A	25	N/A	N/A	N/A	94.7	N/A	N/A	60 - 140
cis-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	94.5	N/A	N/A	60 - 140
trans-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	96.7	N/A	N/A	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	N/A	25	N/A	N/A	N/A	88.6	N/A	N/A	60 - 140
Diisopropyl ether (DIPE)	N/A	25	N/A	N/A	N/A	97	N/A	N/A	60 - 140
1,4-Dioxane	N/A	25	N/A	N/A	N/A	91.4	N/A	N/A	60 - 140
Ethyl acetate	N/A	25	N/A	N/A	N/A	93.1	N/A	N/A	60 - 140
Ethyl tert-butyl ether (ETBE)	N/A	25	N/A	N/A	N/A	98	N/A	N/A	60 - 140

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Indoor Air

QC Matrix: Soilgas

BatchID: 72487

WorkOrder: 1211384

EPA Method: TO15		Extraction: TO15		Spiked Sample ID: N/A					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Ethylbenzene	N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
Freon 113	N/A	25	N/A	N/A	N/A	90.9	N/A	N/A	60 - 140
Hexachlorobutadiene	N/A	25	N/A	N/A	N/A	86	N/A	N/A	60 - 140
4-Methyl-2-pentanone (MIBK)	N/A	25	N/A	N/A	N/A	93.8	N/A	N/A	60 - 140
Methyl-t-butyl ether (MTBE)	N/A	25	N/A	N/A	N/A	93.2	N/A	N/A	60 - 140
Methylene chloride	N/A	25	N/A	N/A	N/A	107	N/A	N/A	60 - 140
Naphthalene	N/A	25	N/A	N/A	N/A	91.2	N/A	N/A	60 - 140
Styrene	N/A	25	N/A	N/A	N/A	91.4	N/A	N/A	60 - 140
1,1,1,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	97.7	N/A	N/A	60 - 140
1,1,2,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	94.8	N/A	N/A	60 - 140
Tetrachloroethene	N/A	25	N/A	N/A	N/A	109	N/A	N/A	60 - 140
Tetrahydrofuran	N/A	25	N/A	N/A	N/A	120	N/A	N/A	60 - 140
Toluene	N/A	25	N/A	N/A	N/A	91.1	N/A	N/A	60 - 140
1,2,4-Trichlorobenzene	N/A	25	N/A	N/A	N/A	89.2	N/A	N/A	60 - 140
1,1,1-Trichloroethane	N/A	25	N/A	N/A	N/A	93.9	N/A	N/A	60 - 140
1,1,2-Trichloroethane	N/A	25	N/A	N/A	N/A	93.7	N/A	N/A	60 - 140
Trichloroethene	N/A	25	N/A	N/A	N/A	90.7	N/A	N/A	60 - 140
1,2,4-Trimethylbenzene	N/A	25	N/A	N/A	N/A	89.5	N/A	N/A	60 - 140
1,3,5-Trimethylbenzene	N/A	25	N/A	N/A	N/A	90.6	N/A	N/A	60 - 140
Vinyl Chloride	N/A	25	N/A	N/A	N/A	94.8	N/A	N/A	60 - 140
%SS1:	N/A	500	N/A	N/A	N/A	99	N/A	N/A	60 - 140
%SS2:	N/A	500	N/A	N/A	N/A	102	N/A	N/A	60 - 140
%SS3:	N/A	500	N/A	N/A	N/A	101	N/A	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Indoor Air

QC Matrix: Soilgas

BatchID: 72487

WorkOrder: 1211384

EPA Method: TO15		Extraction: TO15		Spiked Sample ID: N/A					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS

### BATCH 72487 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1211384-001A	11/12/12 11:27 AM	11/15/12	11/15/12 1:20 PM	1211384-002A	11/12/12 11:30 AM	11/15/12	11/15/12 2:18 PM
1211384-003A	11/12/12 11:32 AM	11/15/12	11/15/12 3:36 PM	1211384-004A	11/12/12 10:57 AM	11/15/12	11/15/12 4:48 PM
1211384-005A	11/12/12 10:52 AM	11/15/12	11/15/12 6:06 PM	1211384-006A	11/12/12 10:48 AM	11/15/12	11/15/12 7:07 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas

QC Matrix: Soilgas

BatchID: 72573

WorkOrder: 1211384

EPA Method: TO15	Extraction: TO15							Spiked Sample ID: N/A		
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
		nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Acrylonitrile		N/A	25	N/A	N/A	N/A	140	N/A	N/A	60 - 140
tert-Amyl methyl ether (TAME)		N/A	25	N/A	N/A	N/A	95.2	N/A	N/A	60 - 140
Benzene		N/A	25	N/A	N/A	N/A	94.8	N/A	N/A	60 - 140
Benzyl chloride		N/A	25	N/A	N/A	N/A	95.8	N/A	N/A	60 - 140
Bromodichloromethane		N/A	25	N/A	N/A	N/A	98	N/A	N/A	60 - 140
Bromoform		N/A	25	N/A	N/A	N/A	116	N/A	N/A	60 - 140
t-Butyl alcohol (TBA)		N/A	25	N/A	N/A	N/A	118	N/A	N/A	60 - 140
Carbon Disulfide		N/A	25	N/A	N/A	N/A	96.8	N/A	N/A	60 - 140
Carbon Tetrachloride		N/A	25	N/A	N/A	N/A	94.6	N/A	N/A	60 - 140
Chlorobenzene		N/A	25	N/A	N/A	N/A	92.7	N/A	N/A	60 - 140
Chloroethane		N/A	25	N/A	N/A	N/A	95.2	N/A	N/A	60 - 140
Chloroform		N/A	25	N/A	N/A	N/A	94.5	N/A	N/A	60 - 140
Chloromethane		N/A	25	N/A	N/A	N/A	108	N/A	N/A	60 - 140
Dibromochloromethane		N/A	25	N/A	N/A	N/A	104	N/A	N/A	60 - 140
1,2-Dibromo-3-chloropropane		N/A	25	N/A	N/A	N/A	125	N/A	N/A	60 - 140
1,2-Dibromoethane (EDB)		N/A	25	N/A	N/A	N/A	93.6	N/A	N/A	60 - 140
1,3-Dichlorobenzene		N/A	25	N/A	N/A	N/A	93.1	N/A	N/A	60 - 140
1,4-Dichlorobenzene		N/A	25	N/A	N/A	N/A	86.6	N/A	N/A	60 - 140
Dichlorodifluoromethane		N/A	25	N/A	N/A	N/A	94.6	N/A	N/A	60 - 140
1,1-Dichloroethane		N/A	25	N/A	N/A	N/A	97.1	N/A	N/A	60 - 140
1,2-Dichloroethane (1,2-DCA)		N/A	25	N/A	N/A	N/A	92.8	N/A	N/A	60 - 140
cis-1,2-Dichloroethene		N/A	25	N/A	N/A	N/A	99	N/A	N/A	60 - 140
trans-1,2-Dichloroethene		N/A	25	N/A	N/A	N/A	99.2	N/A	N/A	60 - 140
1,2-Dichloropropane		N/A	25	N/A	N/A	N/A	96.4	N/A	N/A	60 - 140
cis-1,3-Dichloropropene		N/A	25	N/A	N/A	N/A	95.4	N/A	N/A	60 - 140
trans-1,3-Dichloropropene		N/A	25	N/A	N/A	N/A	96.6	N/A	N/A	60 - 140
1,2-Dichloro-1,1,2,2-tetrafluoroethane		N/A	25	N/A	N/A	N/A	103	N/A	N/A	60 - 140
Diisopropyl ether (DIPE)		N/A	25	N/A	N/A	N/A	97	N/A	N/A	60 - 140
1,4-Dioxane		N/A	25	N/A	N/A	N/A	94.5	N/A	N/A	60 - 140
Ethyl acetate		N/A	25	N/A	N/A	N/A	93.9	N/A	N/A	60 - 140
Ethyl tert-butyl ether (ETBE)		N/A	25	N/A	N/A	N/A	98.8	N/A	N/A	60 - 140

LCS = Laboratory Control Sample

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

 QA/QC Officer



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas

QC Matrix: Soilgas

BatchID: 72573

WorkOrder: 1211384

EPA Method: TO15	Extraction: TO15							Spiked Sample ID: N/A		
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
		nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Ethylbenzene		N/A	25	N/A	N/A	N/A	105	N/A	N/A	60 - 140
Freon 113		N/A	25	N/A	N/A	N/A	114	N/A	N/A	60 - 140
Hexachlorobutadiene		N/A	25	N/A	N/A	N/A	90.8	N/A	N/A	60 - 140
4-Methyl-2-pentanone (MIBK)		N/A	25	N/A	N/A	N/A	93	N/A	N/A	60 - 140
Methyl-t-butyl ether (MTBE)		N/A	25	N/A	N/A	N/A	94.2	N/A	N/A	60 - 140
Methylene chloride		N/A	25	N/A	N/A	N/A	111	N/A	N/A	60 - 140
Naphthalene		N/A	25	N/A	N/A	N/A	98.3	N/A	N/A	60 - 140
Styrene		N/A	25	N/A	N/A	N/A	92.8	N/A	N/A	60 - 140
1,1,1,2-Tetrachloroethane		N/A	25	N/A	N/A	N/A	99.7	N/A	N/A	60 - 140
1,1,2,2-Tetrachloroethane		N/A	25	N/A	N/A	N/A	96.6	N/A	N/A	60 - 140
Tetrachloroethene		N/A	25	N/A	N/A	N/A	114	N/A	N/A	60 - 140
Tetrahydrofuran		N/A	25	N/A	N/A	N/A	122	N/A	N/A	60 - 140
Toluene		N/A	25	N/A	N/A	N/A	93	N/A	N/A	60 - 140
1,2,4-Trichlorobenzene		N/A	25	N/A	N/A	N/A	95.1	N/A	N/A	60 - 140
1,1,1-Trichloroethane		N/A	25	N/A	N/A	N/A	93.7	N/A	N/A	60 - 140
1,1,2-Trichloroethane		N/A	25	N/A	N/A	N/A	95.4	N/A	N/A	60 - 140
Trichloroethene		N/A	25	N/A	N/A	N/A	93.9	N/A	N/A	60 - 140
1,2,4-Trimethylbenzene		N/A	25	N/A	N/A	N/A	91.1	N/A	N/A	60 - 140
1,3,5-Trimethylbenzene		N/A	25	N/A	N/A	N/A	91.1	N/A	N/A	60 - 140
Vinyl Chloride		N/A	25	N/A	N/A	N/A	85.4	N/A	N/A	60 - 140
%SS1:		N/A	500	N/A	N/A	N/A	95	N/A	N/A	60 - 140
%SS2:		N/A	500	N/A	N/A	N/A	103	N/A	N/A	60 - 140
%SS3:		N/A	500	N/A	N/A	N/A	100	N/A	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

LCS = Laboratory Control Sample

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

 QA/QC Officer



## QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas

QC Matrix: Soilgas

BatchID: 72573

WorkOrder: 1211384

EPA Method: TO15

Extraction: TO15

Spiked Sample ID: N/A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS

### BATCH 72573 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1211384-007A	11/13/12 12:30 PM	11/16/12	11/16/12 2:57 PM	1211384-008A	11/13/12 1:11 PM	11/16/12	11/16/12 3:38 PM
1211384-009A	11/13/12 12:56 PM	11/16/12	11/16/12 4:19 PM				

LCS = Laboratory Control Sample

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

 QA/QC Officer