



ANALYSIS, INC.

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October 25, 2013

Mr. Michael Parker  
Stockbridge BHV Emerald Place Land Company, LLC  
500 La Gonda Way, Suite 295  
Danville, CA 94526

Subject: **Subsurface Investigation Report**  
The Green, 5411 Martinelli Way, et al, Dublin, CA

Dear Mr. Parker:

The following *Subsurface Investigation Report* is submitted by Ground Zero Analysis, Inc. (Ground Zero) to present the results of a shallow soil and soil vapor investigation conducted at the subject site. Site activities were conducted in response to recommendations contained in the *Phase I Environmental Site Assessment* report, dated August 2, 2013, prepared by ENGEO Incorporated.

Site activities included the advancement and sampling of five shallow soil borings to investigate the potential presence of herbicides in shallow soil, and the installation and sampling of five temporary soil vapor monitoring wells, to investigate the potential presence of volatile organic compounds (VOCs) in soil vapor beneath the subject site. The location of the subject site is shown on Figure 1. A site plan is shown on Figure 2.

## BACKGROUND

### Property Information

The subject site is located at 5411 Martinelli Way in Dublin, California. Martinelli Way borders the site to the north, Hacienda Drive borders the site to the east, Interstate-580 borders the site to the south and Arnold Road borders the site to the west. The site has an area of approximately

27.45 acres and is identified as Assessor's Parcel Numbers (APNs) 986-033-004, 986-033-005-2 and 986-033-006. The site is relatively flat and at an elevation of approximately 340 feet above mean sea level.

The subject site was previously occupied by a portion of the U.S. Army's Camp Parks Reserve Forces Training Area. The subject portion of the base was closed and property ownership was transferred to Alameda County in the late 1960s. The structures on the property were demolished in the mid-1990s. The property is currently undeveloped open space, mainly covered by grasses and low weeds, with one small unoccupied structure in the north central portion of the site.

### **Historic Site Investigations**

In 2003, Levine-Fricke (LF) conducted limited soil sampling. Four soil borings were advanced and sampled along the location of a former railroad spur that had transected the site. Low levels of DDT in two of the soil samples were the only contaminants of concern detected during their investigation. Based on the results LF concluded that no further investigation was warranted in the area of the former railroad spur on the property.

In February 2007, Strata Environmental (Strata) conducted a Phase I Environmental Site Assessment on the subject site. Strata reported that the site was formerly part of the Camp Parks Reserve Forces Training Area, and that a fuel depot, railroad spur and warehouses were located on the site during the time it was used by the military. Strata reported that the Camp Parks facilities were razed in the 1990s and the subject site was cleared. The Report also included documentation that there had been concern at the time of the Camp Parks closure for the possibility of the release of petroleum hydrocarbons in the vicinity of the former fuel depot. Strata reported that in February 1998, Erler & Kalinowski, Inc. (EKI) collected soil and groundwater samples from the site and the laboratory analytical results indicated that the soil and groundwater at the subject site were not impacted. However, various VOCs (including tetrachloroethene [PCE]) were discovered in soil and groundwater samples collected on the property north of the site. A case closure letter was issued for the site on July 10, 1998 by the Alameda County Care Services Agency. Based on their assessment, Strata did not identify any Recognized Environmental Conditions (RECs) for the site, and did not recommend any additional environmental investigations.

In September 2008 during grading activities a steel underground storage tank (UST) was discovered in the southwest corner of the site. In October 2008 the UST was removed from the subsurface by ADR Environmental Group (ADR) and the soil in the vicinity of the former UST was excavated. Additional remedial over-excavation and groundwater pumping was conducted in 2009 and 2010. The results of the final confirmation soil samples were non-detect for all fuel analytes. Only a de minimus concentration of diesel was detected in the final groundwater sample. Case closure was granted for the site in September 2010.

In the August 2013 *Phase I Environmental Site Assessment* report, ENGEO concluded that the presence of VOCs in soil vapor beneath the parcel located north of the subject property constitutes a REC. ENGEO recommended, in pertinent part, the following actions:

- “A soil vapor monitoring study and a human health risk assessment should be considered at the Property to...evaluate impacts due to the upgradient VOC source...”
- “...it is our experience that historical use of herbicides was common on former military sites: as such, it may be prudent to consider the health risk of near-surface soil at contemplated residential development areas.”

The current investigation by Ground Zero is intended to address those recommendations.

## SITE ACTIVITIES

### Fieldwork Preparation

The proposed soil and soil vapor boring locations were marked in the field for utility clearance by Underground Service Alert. A drilling permit was obtained prior to site activities from the Zone 7 Water Agency. A copy of the drilling permit has been included in Attachment A.

### Shallow Soil Sampling

A total of five (5) soil borings (HAB1 through HAB5) were advanced in a rough grid pattern across the 27.45 acre site on October 8, 2013, by a Geologist from Ground Zero. The locations of the shallow soil borings are shown on Figure 2.

The shallow soil borings were all advanced with a hand auger and soil samples were collected with a drive sampling device, which contained 6-inch long and 2-inch diameter, clean, brass sample tubes. Soil samples were collected from borings HAB1 through HAB4 at depths of approximately 1, 2 and 3 feet below grade. In boring HAB5 only the 1-foot soil sample could be retrieved. After sample collection, the soil samples were sealed with Teflon tape, capped, uniquely labeled and stored in an iced chest, cooled to approximately 4°C, pending delivery to the laboratory.

The soil samples were submitted under chain-of-custody protocol to State-Certified McCampbell Analytical, Inc. ([McCcampbell] ELAP #1644) for analysis. All soil samples collected from the depth of one foot were analyzed for chlorinated and nitrophenol herbicides by EPA Method 8151A. The laboratory was instructed to hold the remaining 2-foot and 3-foot samples pending analytical results.

Following the completion of soil sample collection, the borings were backfilled with cuttings. Field notes from the shallow soil investigation are included in Attachment B.

### **Soil Vapor Investigation**

In order to investigate the potential for detectable concentrations of VOCs in soil vapor, five (5) temporary soil vapor wells (VW-1 through VW-5) were constructed in close proximity to the hand auger borings on October 15, 2013. Soil vapor monitoring well installation and sampling was conducted in general accordance with the Department of Toxic Substances Control (DTSC) and Regional Water Quality Control Board (RWQCB) guidelines put forth in their report *Advisory – Active Soil Gas Investigations* (DTSC and RWQCB, April 2012).

TEG of Northern California (C-57 license #706568) installed and sampled the temporary soil vapor wells with the assistance of a Ground Zero Geologist. The pilot borings were advanced by TEG, using a direct-push drill rig equipped with 1-inch diameter direct-push drilling rods. The borings were all advanced to an initial depth of 5 feet below grade. Prior to removing the drill rods from the subsurface, a soil vapor flow test was performed at each location, using a syringe, to determine if the soil would yield sufficient vapor to collect a sample. Borings VW-3, VW-4 and VW-5 yielded sufficient vapor at 5 feet below grade to collect samples, while borings VW-1 and VW-2, which were tight at 5 feet below grade first yielded sufficient vapor at 4.5 feet below grade.

TEG constructed the five temporary soil vapor wells in the respective pilot borings using  $\frac{1}{8}$ -inch diameter Nylaflow tubing and nylon screen. The vapor wells were centered within the borehole by constructing each well through  $\frac{3}{4}$ -inch PVC pipe. Vapor wells VW-1 and VW-2 were constructed at a depth of 4.5 feet below grade and wells VW-3, VW-4 and VW-5 were constructed at a depth of 5 feet below grade. The vapor screen was placed in the middle of a 1-foot #30 Monterey sand filter pack. The filter pack was overlain with six inches of dry granular bentonite followed by hydrated granular bentonite to the surface. A vapor well construction diagram has been provided as Figure 3.

Prior to purging and sampling, the wells were allowed to sit for two hours to equilibrate and then a shut-in test was performed on each dedicated sampling manifold to ensure that no leaks were present in the sample train. The wells were then purged of three casing volumes of vapor (a casing volume includes the volume of the filter pack, the well tubing and the sampling manifold) and sampled using Summa canisters under a helium shroud (with the helium concentration maintained at approximately 20% within the shroud). Following the completion of vapor sample collection, the well materials were retrieved and the borings were backfilled with bentonite.

The soil vapor samples were submitted under chain-of-custody protocol to McCampbell for analysis of VOCs by EPA Method TO-15 and for helium by ASTM D 1946-90. Field notes from the soil vapor investigation are included in Attachment B.

## **RESULTS OF INVESTIGATION**

### **Herbicides in Shallow Soil**

All samples collected from 1-foot below grade were analyzed for herbicides by McCampbell. The 2-foot and 3-foot samples were held by the laboratory pending the shallow results. No herbicides were detected in any of the 1-foot soil samples collected. Consequently, none of the 2-foot or 3-foot samples were analyzed. Soil analytical results are summarized in Table 1. The laboratory analytical report is included in Attachment C.

### **VOCs in Soil Vapor**

Very low levels of several fuel components were detected in the five vapor samples: these included benzene, toluene, ethylbenzene and xylenes (BTEX), ethanol, 1,2,4-trimethylbenzene (1,2,4-TMB) and 1,3,5-trimethylbenzene (1,3,5-TMB). The only chlorinated VOC that was detected was 4.5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) PCE in sample VW-3. Very low levels of several solvents were detected in one or more of the five vapor samples, which included 2-butanone (MEK), carbon disulfide, ethyl acetate, 2-hexanone and 4-methyl-2-pentanone. Additional VOCs detected include acetone, acrolein, bromomethane and 4-ethyltoluene.

Helium was detected in 3 of the 5 vapor samples at concentrations ranging from 0.006% to 0.31%. According to the DTSC and RWQCB guidelines 5% ambient air constitutes a leak when a helium shroud is used. Helium was maintained at a 20% concentration in the vapor shroud during sampling. Consequently, a sample concentration of 1% helium would constitute a leak. The concentrations of helium detected during this investigation were all well below that level indicating good sample integrity.

The overall uniformity and very low magnitude of the detected VOCs suggests that they may be representative of anthropogenic background concentrations. No indications of "hotspots" or subsurface sources are apparent although the single detection of PCE may be related to groundwater contamination north of the property.

Soil vapor analytical results are summarized in Table 2. Laboratory reports are included in Attachment D.

## SCREENING LEVEL HEALTH RISK EVALUATION

Both the CA Regional Water Quality Control Board (RWQCB) and the CA Office of Environmental Health Hazard Assessment (OEHHA) have calculated and published screening levels for concentrations of chemicals in various media and via various exposure routes that are considered protective of human health under most conditions. The screening levels are concentrations that correspond to a lifetime excess cancer risk of one-in-one-million (1E-06) or a hazard quotient (non-cancer toxicity threshold) of one. For this property, the only exposure route of concern would be intrusion of VOCs into overlying buildings. Since residential development is proposed, this scenario was evaluated for potential health risk.

Although none of the detected VOCs exceeded (or even approached) Residential Shallow Soil Gas Screening Levels for Indoor Air Vapor Intrusion (RWQCB Environmental Screening Levels [ESLs] or the OEHHA California Human Health Risk Screening Levels [CHHSLs]), the cancer risk and hazard quotients were calculated for the individual detected compounds and for the sum total. The cumulative totals were then compared to the accepted thresholds of "significant" lifetime excess cancer risk of 1E-06 and the non-cancer hazard index of 1. Since the risk formula for both cancer and non-cancer effects are linear, simple ratios can be used to calculate risk.

Calculations for cancer risk were made for each carcinogenic constituent (benzene, ethylbenzene and PCE) by dividing the maximum concentration detected by the CHHSL value (which is lower than the ESL value) and multiplying by 1E-06. Table 3 presents the calculations in greater detail but they can be summarized as follows:

Compound	Maximum Soil Vapor Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	12	3.3E-07
Ethylbenzene	17	4.0E-08
PCE	4.5	2.5E-08
<b>TOTAL CANCER RISK</b>		<b>4.0E-07</b> <b>INSIGNIFICANT</b>

Similarly, calculations for the hazard quotients were made for each constituent that has a corresponding published non-cancer ESL or CHHSL value. The calculations were made by dividing the maximum concentration by the non-cancer screening level. Table 3 presents the calculations in greater detail but they can be summarized as follows:

Compound	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
Acetone	270	1.7E-05
Benzene	12	7.5E-04
Bromomethane	11	4.2E-03
MEK	76	2.9E-05
Ethylbenzene	17	3.3E-05
MIBK	26	1.6E-05
PCE	4.5	3.2E-05
Toluene	75	5.4E-04
Xylenes	79	1.5E-03
<b>TOTAL HAZARD INDEX</b>		<b>7.2E-03</b> <b>INSIGNIFICANT</b>

## SUMMARY

Soil and soil vapor samples were collected from 5 locations in a grid pattern across the subject site in October 2013. Soil samples were collected at 1 foot below grade and analyzed by the laboratory for herbicides; all of the soil samples were non-detect for all constituents of concern.

Soil vapor samples were collected from temporary soil vapor wells constructed at a depth of 5 feet below grade. The vapor samples were collected into Summa canisters, under helium shroud, and were analyzed by the lab for VOCs and helium. Helium was detected in 3 of the 5 vapor samples but at concentrations lower than the leak threshold established by DTSC and the RWQCB.

Various VOCs were detected in the vapor samples. Several fuel-related VOCs were detected at similar concentrations across the site; several solvent related VOCs were detected at similar concentrations across the site; and acetone was detected at similar concentrations across the site. The relative uniformity of the chemicals detected and their concentrations suggests that these are anthropogenic background levels. The concentrations of VOCs were all well below their respective residential vapor intrusion ESL and CHHSL values. The total lifetime excess risk for carcinogenic constituents was calculated at 4.0E-07, an order of magnitude below the threshold level of 1E-06. Similarly, the total hazard index was calculated at 7.2E-03, several orders of magnitude below the threshold level of 1E+00.

## CONCLUSIONS

The results of the investigation confirm that the upper foot of soil beneath the site is not impacted with herbicides.

Several VOCs were detected at extremely low concentrations in soil vapor beneath the site. Because of the uniformity of the concentrations of the chemicals across the site it is believed that these represent background levels. The single detection of PCE in VW-3 may be related to contamination on the property to the north. Potential cancer and non-cancer health risk due to vapor intrusion into residential indoor air was calculated and the risks were insignificant. From the perspective of health risk due to vapor intrusion, the property is suitable for residential development.

## REFERENCES

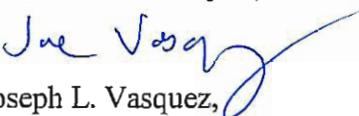
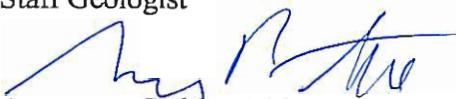
ENGEO, Inc. *Phase I Environmental Site Assessment*, The Green – General Plan Amendment Study, APNs 986-033-004, 986-033-005-2 and 986-033-006, August 2, 2013.

Strata Environmental, *Phase I Environmental Site Assessment*, Emerald Place, Hacienda Drive and Martinelli Way, February 2007.

ADR Environmental Group, Inc. *Remedial Soil Excavation and Sampling Data Report*, The Green on Park Place, July 31, 2009.

Please contact us at your earliest convenience if you have any questions or comments regarding this report.

Respectfully,  
Ground Zero Analysis, Inc.

  
Joseph L. Vasquez,  
Staff Geologist  
  
Gregory P. Stahl, PG No. 5023  
CA Certified Hydrogeologist No. 264



Figures

Figure 1 – Site Location

Figure 2 – Site Plan

Figure 3 – Temporary Vapor Well Construction Diagram

Tables

Table 1 – Soil Analytical Data

Table 2 – Soil Vapor Analytical Data

Table 3 – Soil Vapor Risk Screening Evaluation Summary

Attachments

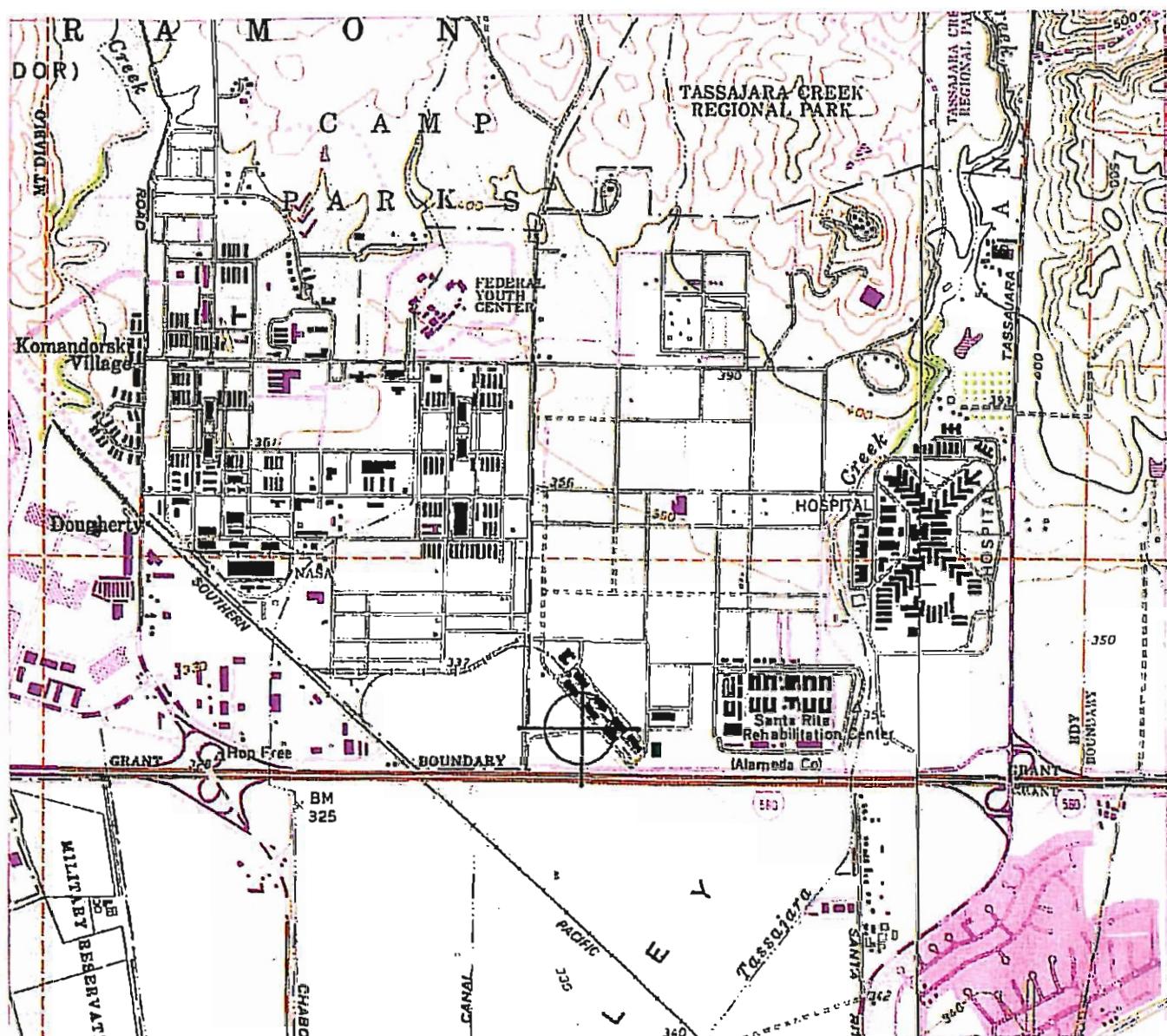
Attachment A – Drilling Permit

Attachment B – Field Notes

Attachment C – Soil Laboratory Report

Attachment D – Soil Vapor Laboratory Report

## **FIGURES**



SCALE 1:24000

1      1/2      0      1 MILE  
1000    0    1000    2000    3000    4000    5000    6000    7000 FEET  
1      5      0      1 KILOMETER

LEGEND:



SITE LOCATION

NATIONAL GEODETIC VERTICAL DATUM OF 1929



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: DUBLIN, CA.



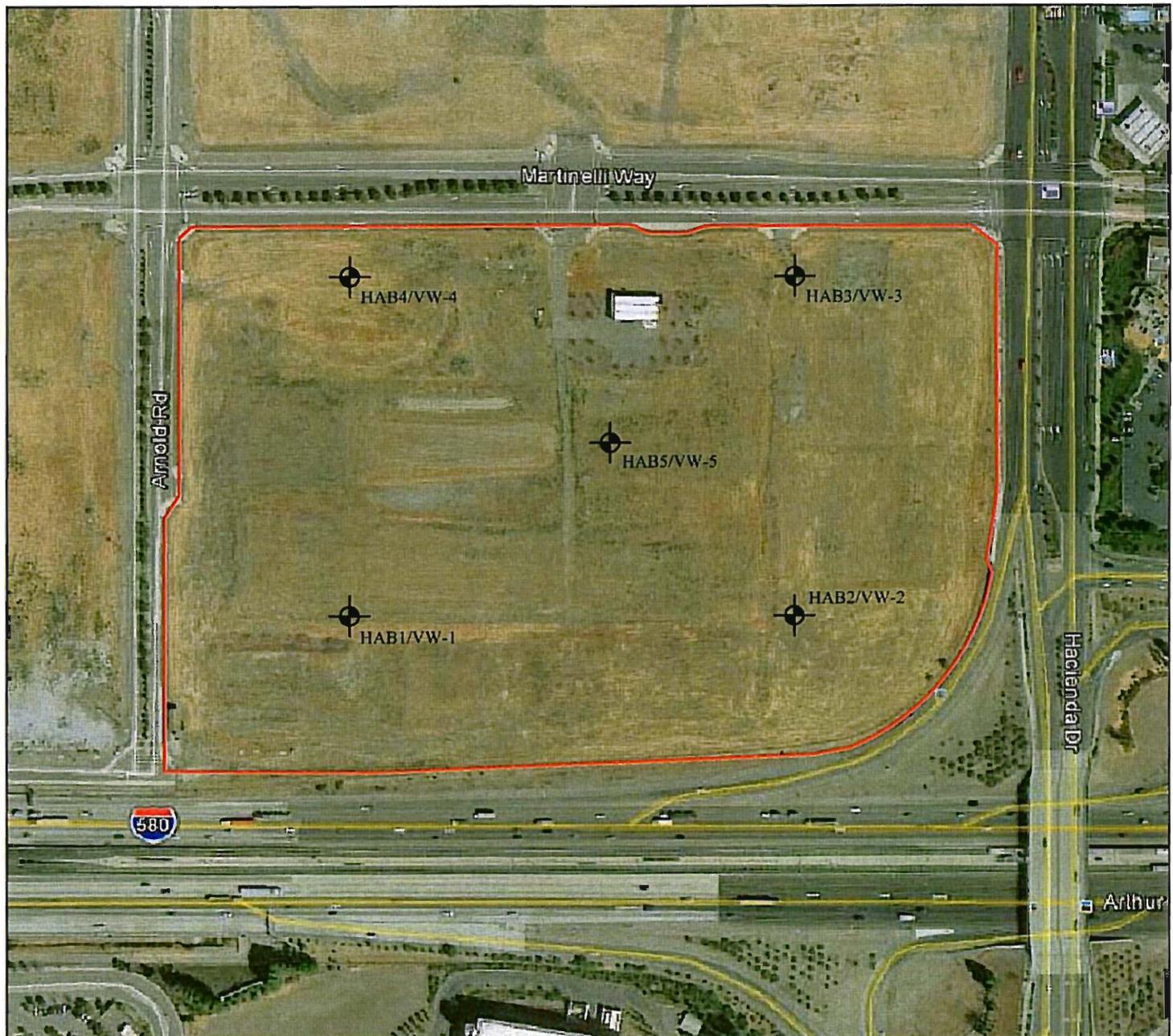
GROUND ZERO  
ANALYSIS, INC.

SITE LOCATION MAP  
THE GREEN  
5411 MARTINELLI WAY  
DUBLIN, CA

FIGURE

1

FM 1013/SITELOC



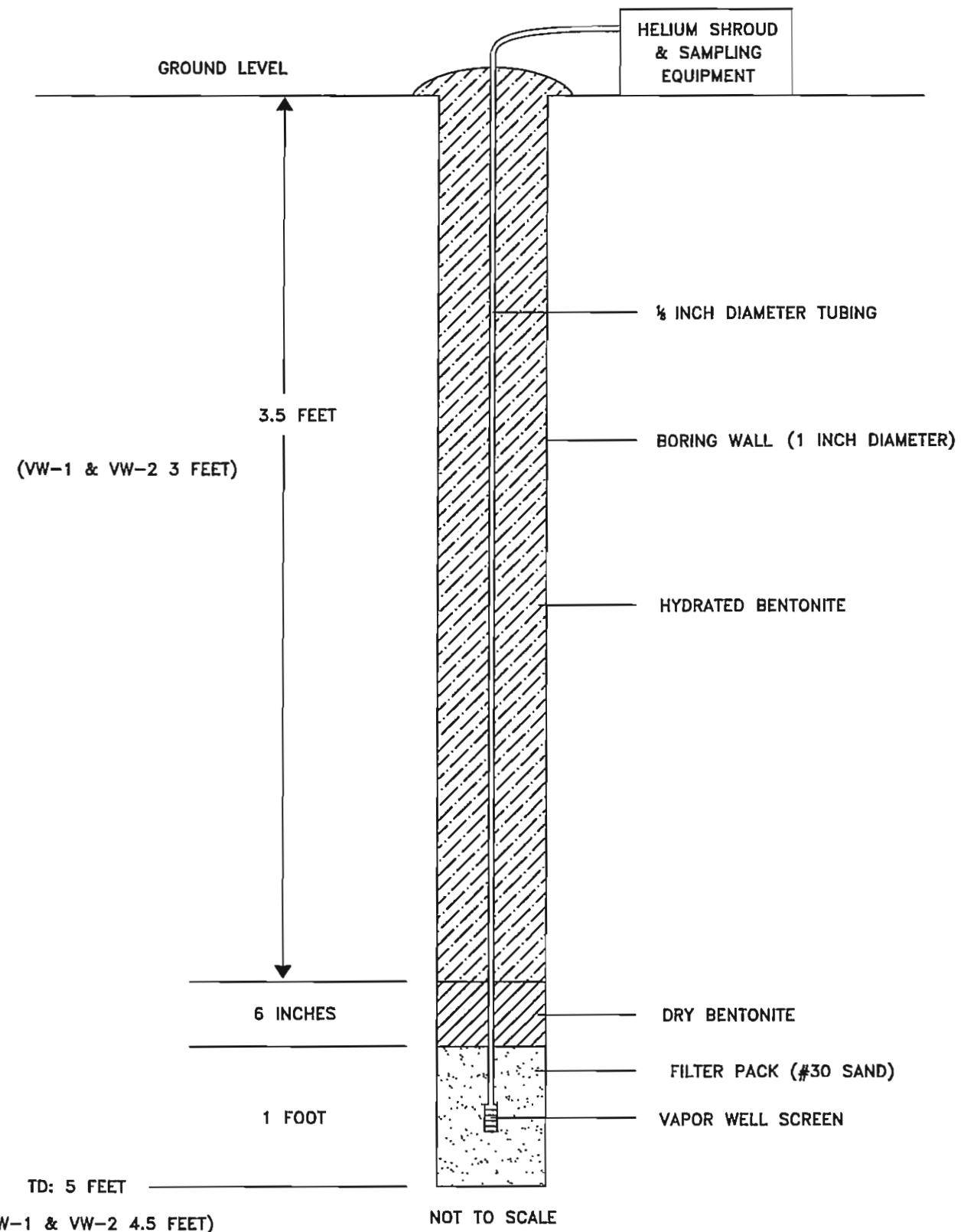
— APPROXIMATE PROPERTY LINE



SOIL BORING/TEMPORARY VAPOR PROBE LOCATION

0 250  
SCALE 1"=250'





## **TABLES**

**TABLE 1**  
**Soil Analytical Results**  
The Green  
5411 Martinelli Way  
Dublin, CA  
*(Results in mg/kg)*

Date	Sample ID	Depth (feet)	2,4-D	2,4-DB	2,4,5-TP	2,4,5-T	Dalapon	Dicamba	Dichloroprop	Dinoseb	MCPA	MCPP	4-Nitrophenol	PCP
10/08/13	HAB1-1'	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<5.0	<5.0	<0.05	<0.05
	HAB1-2'	2	--	--	--	--	--	--	--	--	--	--	--	--
	HAB1-3'	3	--	--	--	--	--	--	--	--	--	--	--	--
	HAB2-1'	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<5.0	<5.0	<0.05	<0.05
	HAB2-2'	2	--	--	--	--	--	--	--	--	--	--	--	--
	HAB2-2.5'	2.5	--	--	--	--	--	--	--	--	--	--	--	--
	HAB3-1'	1	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<25	<25	<0.25	<0.25
	HAB3-2'	2	--	--	--	--	--	--	--	--	--	--	--	--
	HAB3-3'	3	--	--	--	--	--	--	--	--	--	--	--	--
	HAB4-1'	1	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<25	<25	<0.25	<0.25
	HAB4-2'	2	--	--	--	--	--	--	--	--	--	--	--	--
	HAB4-3'	3	--	--	--	--	--	--	--	--	--	--	--	--
	HAB5-1'	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<5.0	<5.0	<0.05	<0.05

**Notes:**

mg/kg = milligrams per kilogram (aka parts per million [ppm])

2,4-D = 2,4-Dichlorophenoxyacetic acid

2,4-DB = 2,4-Dichlorophenoxybutanoic acid

2,4,5-TP = 2,4,5-Trichlorophenoxypropionic acid (Silvex)

2,4,5-T = 2,4,5-Trichlorophenoxyacetic acid

MCPA = 4-Chloro-2-methylphenoxyacetic acid

MCPP = 2-(4-chloro)-2-methylphenoxypropanoic acid

PCP = Pentachlorophenol

< = Less than indicated detection limit (not detected)

-- = Not analyzed

**TABLE 2**  
**Soil Vapor Analytical Results**  
The Green  
5411 Martinelli Way  
Dublin, CA

Date	Sample ID	He (%)	Benzene	Toluene	Ethylbenzene	Xylenes	Acetone	Acrolein	Bromomethane	MEK	Carbon Disulfide	Ethanol	Ethyl Acetate	4-Ethyltoluene	2-Hexanone	MIBK	PCE	1,2,4-TMB	1,3,5-TMB
10/15/13	VW-1	0.027	3.0	18	5.2	28	270	<0.23	8.6	76	5.2	<96	<1.8	3.2	<2.1	8.6	<3.4	10	<2.5
	VW-2	0.006	12	42	11	52	110	8.0	4.9	<75	<1.6	<96	3.3	3.2	2.6	26	<3.4	9.8	4.3
	VW-3	0.31	3.7	9.4	<2.2	<6.6	87	7.5	<2.0	<75	<1.6	100	5.6	<2.5	3.2	22	4.5	<2.5	<2.5
	VW-4	<0.005	2.9	30	7.2	33	150	10	4.8	<75	<1.6	140	2.6	<2.5	<2.1	4.2	<3.4	7.5	3.3
	VW-5	<0.005	9.4	75	17	78	160	<12	<2.0	<75	<1.6	<96	2.5	4.4	2.4	21	<3.4	15	6.4
	VW-5 DUP	0.05	9.5	75	17	79	160	<12	11	<75	<1.6	<96	3.2	5.0	3.1	21	<3.4	16	6.3
ESL	--	--	42	160,000	490	52,000	16,000,000	--	2,600	2,600,000	--	--	--	--	--	1,600,000	210	--	--
CHHSL	--	--	36	140,000	420	320,000	--	--	--	--	--	--	--	--	--	--	180	--	--

**Notes:**

Results in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) except Helium in percent

He = Helium

MEK = Methyl ethyl ketone (2-Butanone)

MIBK = Methyl isobutyl ketone (4-Methyl-2-pentanone)

PCE = Tetrachloroethylene

1,2,4-TMB = 1,2,4-Trimethylbenzene

1,3,5-TMB = 1,3,5-Trimethylbenzene

ESL = Environmental Screening Level for Soil Gas to Residential Indoor Air (RWQCB, Region 2, May 2013)

CHHSL = California Human Health Screening Level for Soil Gas to Residential Indoor Air, Buildings Constructed without Engineered Fill (OEHHA, Sept. 2010)

< = Less than indicated detection limit (not-detected)

-- = No published screening level

**TABLE 3**  
**Soil Vapor Risk Screening Evaluation Summary**  
The Green  
5411 Martinelli Way  
Dublin, CA

Compound	Possible Sources	Carcinogen?	ESL (Cancer)	ESL (Non-Cancer)	CHHSL	Maximum Concentration Detected	Maximum Cancer Risk	Hazard Quotient
Acetone	Natl. soil oxidation; exhaust	No	--	16,000,000	--	270	--	1.7E-05
Acrolein	Chem mfg.	No	--	--	--	10	--	--
Benzene	Fuel; exhaust	Yes	42	16,000	36	12	3.3E-07	7.5E-04
Bromomethane	Soil Fumigant	No	--	2,600	--	11	--	4.2E-03
MEK	Solvent	No	--	2,600,000	--	76	--	2.9E-05
Carbon Disulfide	Solvent	No	--	--	--	5.2	--	--
Ethanol	Fuel; exhaust	No	--	--	--	140	--	--
Ethyl Acetate	Solvent	--	--	--	--	5.6	--	--
Ethylbenzene	Fuel; exhaust	Yes	490	520,000	420	17	4.0E-08	3.3E-05
4-Ethyltoluene	?	--	--	--	--	5.0	--	--
2-Hexanone	Solvent	No	--	--	--	3.2	--	--
MIBK	Solvent	No	--	1,600,000	--	26	--	1.6E-05
PCE	Solvent	Yes	210	140,000	180	4.5	2.5E-08	3.2E-05
Toluene	Fuel; exhaust	No	--	160,000	140,000	75	--	5.4E-04
1,2,4-TMB	Fuel; exhaust	No	--	--	--	16	--	--
1,3,5-TMB	Fuel; exhaust	--	--	--	--	6.4	--	--
Xylenes	Fuel; exhaust	No	--	52,000	320,000	79	--	1.5E-03

TOTAL RISK      HAZARD INDEX

4.0E-07      7.2E-03

**Notes:** Results in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

ESL = RWQCB Environmental Screening Level for Soil Gas to Residential Indoor Air (cancer risk = 1E-06, hazard quotient = 1)

CHHSL = OEHHA CA Human Health Screening Level for Soil Gas to Residential Indoor Air No Engineered Fill (cancer risk = 1E-06, hazard quotient ≈ 1)

Risk and Hazard calculated using the lower of ESL or CHHSL

## **ATTACHMENT A**

**Permitting**



# ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (825) 454-5000 FAX (825) 245-8908  
E-MAIL: [whong@zone7water.com](mailto:whong@zone7water.com)

## DRILLING PERMIT APPLICATION

### FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 5411 Martinelli Way, Dublin, CA PERMIT NUMBER 2013124

Coordinates Source Google Earth ft Accuracy ft.  
LAT: 37° 42' 12" N LONG: 121° 53' 27" W  
APN 986-033-004, 005-2, & 006

CLIENT  
Name Stockbridge BHV Emerald Place Land Co. LLC  
Address 500 La Gonda Way Phone (925) 314-2700  
City Danville, CA Zip 94526

APPLICANT  
Name Ground Zero Analysis, Inc.  
Email gstahl@groundzerounalysis.com (209) 522-4227  
Address 1172 Kansas Ave. Phone (209) 522-4119  
City Modesto, CA Zip 95351

TYPE OF PROJECT:

Well Construction  Geotechnical Investigation   
Well Destruction  Contamination Investigation   
Cathodic Protection  Other Phase II Invest.

PROPOSED WELL USE:

Domestic  Irrigation   
Municipal  Remediation   
Industrial  Groundwater Monitoring   
Dewatering  Other Temp/Vapor Probe

DRILLING METHOD:

Mud Rotary  Air Rotary  Hollow Stem Auger   
Cable Tool  Direct Push  Other Hand Auger

DRILLING COMPANY TEG Northern California, Inc.

DRILLER'S LICENSE NO. C-57 706568

WELL SPECIFICATIONS:

Drill Hole Diameter  in. Maximum   
Casing Diameter  in. Depth  ft.  
Surface Seal Depth  ft. Number

SOIL BORINGS:

Number of Borings 5-10 Maximum   
Hole Diameter 2 in. Depth 5 ft.

ESTIMATED STARTING DATE 10/15/13

ESTIMATED COMPLETION DATE 10/15/13

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-88.

APPLICANT'S  
SIGNATURE

Date 10/2/13

ATTACH SITE PLAN OR SKETCH

### FOR OFFICE USE

PERMIT NUMBER 2013124  
WELL NUMBER   
APN 986-33-4, 986-33-5-2 & 986-33-6

PERMIT CONDITIONS  
(Circle Permit Requirements Apply)

A. GENERAL

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report (DWR Form 168), signed by the driller.
3. Permit is void if project not begun within 90 days of approval date.
4. Notify Zone 7 at least 24 hours before the start of work.

B. WATER SUPPLY WELLS

1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

C. GROUNDWATER MONITORING WELLS INCLUDING  
PIEZOMETERS

1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report including all soil and water laboratory analysis results.

Approved

Wyman Hong

Date 10/3/13

Revised: January 4, 2010

## **ATTACHMENT B**

**Field Notes**

Daily Field Report			
Project Name:	Field Technician:	Date:	10/8/13
Project Activity:	Job Number:	Page:	1 of

on site at 10:30. gate code I was given did not work on main entrance lock but it did work on a secondary entrance lock. Once on site measured out first boring/vapor probe locations. I will hand auger each location first, then set up my stakes for USA.

- Begin w/ HAB1 which is the southwestern most boring. Hand auger to 3' below grade collecting soil samples w/ drive sampler (into brass tubes) at 1', 2' & 3'.

- HAB1-1' collected @ 10:57

- HAB1-2' collected @ 11:15

- HAB1-3' collected @ 11:30

- soil is a stiff, nonplastic black clay, that separates into large chunks, and gravel - Hard to dig through.

- After boring, backfill w/ native soil and install stakes (two 4' duct taped together) w/ white flagging on top.

- Short break for lunch. (11:30 - 11:45)

- continue on w/ HAB2, which is the south eastern most boring

- samples: HAB2-1' collected at 12:35

- HAB2-2' collected at 12:52

- HAB2-3<sup>2.5'</sup> collected at 13:05

- refusal at 2.5 Feet, so collected the deepest sample I could HAB2-2.5'.

- set up white stake.

- move to HAB3 (northeastern). HAB3-1' collected @ 13:27, HAB3-2' @ 13:37  
HAB3-3' collected @ 13:46, soil stiff black clay.

- set up stake w/ white flags.

Daily Field Report		
Project Name: The Green	Field Technician: JLV	Date: 10/8/13
Project Activity: HAB & USA marking	Job Number: 946	Page: 2 of

- move to HAB 4, located in northwest corner of lot.  
stiff clay again.

samples HAB4-1' collected @ 14:07

HAB4-2' collected @ 14:20

HAB4-3' collected @ 14:30

- dug a further 2 more feet just to test  
soil type. The clay continues to 5 feet in  
this location.

- set up white flagging.

- move to HAB 5, the central boring.

- HAB5-1' collected @ 14:57

- HAB5-2' collected @ refusal. Too rocky!

- HAB5-3' collected @ 2nd hole - refusal.

set flag.

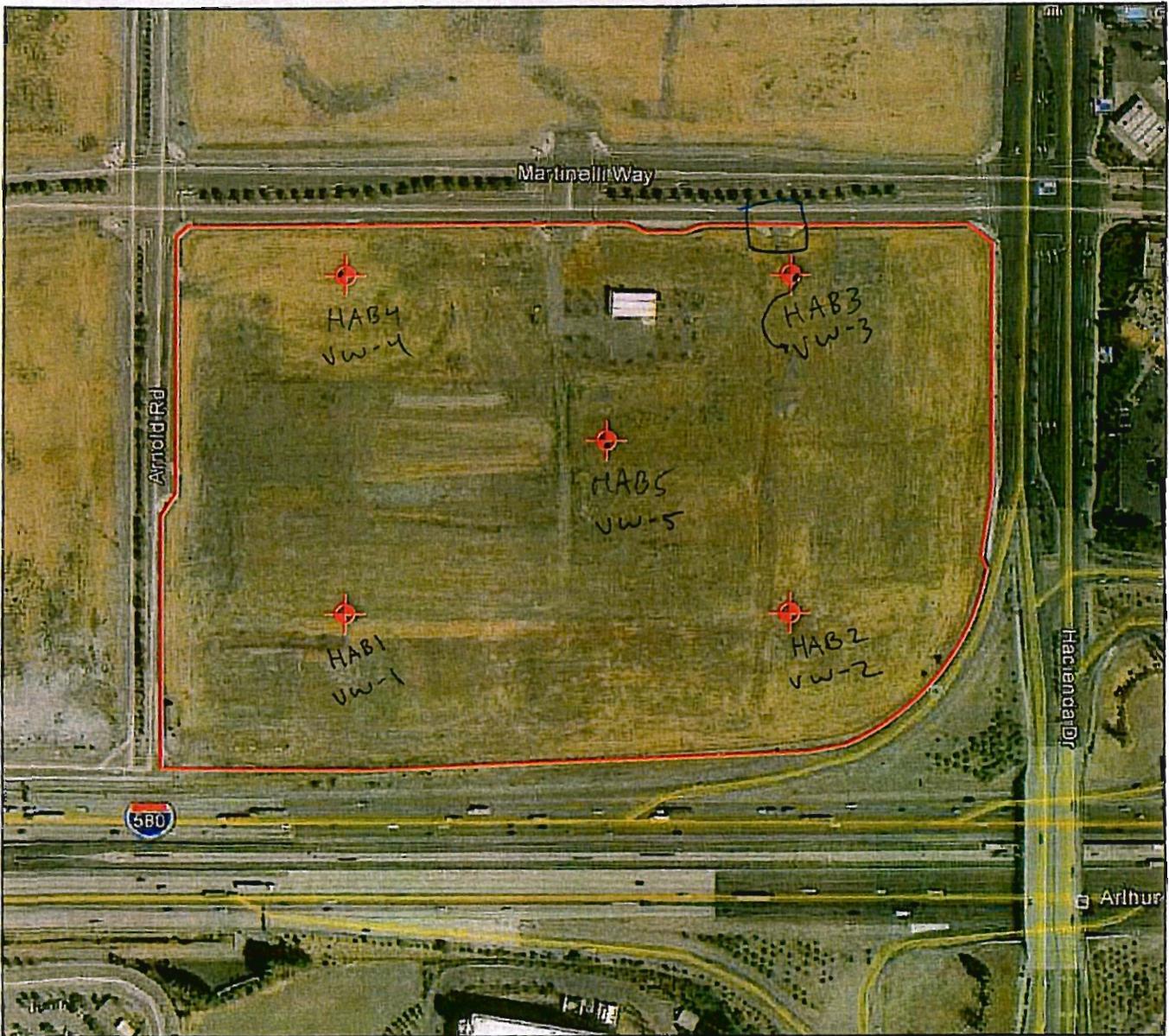
- clean up site, then mark street for USA.

# GROUND ZERO ANALYSIS

No 1730

## CHAIN OF CUSTODY RECORD ANALYSIS REQUEST

PROJECT NO. 942	PROJECT NAME/SITE Stockbridge The Green						PO. #:										
SAMPLERS <i>Joe Varg</i>	(SIGN) <i>Joe Vasquez</i> (PRINT)																
SAMPLE IDENTIFICATION	DATE 10/8/13	TIME 10:57	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE	ANALYSIS REQUESTED							REMARKS	
HAB1-1'			X	none	X		1	S	BTEX (602/8020)	X							
HAB1-2'		11:15					1		TPHg (8015)								
HAB1-3'		11:30					1		TPHd (8015)								
HAB2-1'		12:35					1		OXYGENATES (8260)								
HAB2-2'		12:52					1		601/8010								
<del>HAB2-2.5'</del>		13:05					1		8260 FULL SCAN								
HAB3-1'		13:27					1		Chlorinated herbicides by 8151								
HAB3-2'		13:37					1		HOLD								
HAB3-3'		13:46					1										
HAB4-1'		14:07					1										
HAB4-2'		14:20					1										
HAB4-3'		14:30					1										
HAB5-1'	↓	14:57	↓	↓	↓	↓	1										
RELINQUISHED BY: <i>Joe Varg</i>	DATE 10/9/13	TIME 1148	RECEIVED BY: <i>Marcia D</i>	LABORATORY: McCampbell Analytical						PLEASE SEND RESULTS TO: Ground zero Analysis 1172 Kansas Ave Modesto, CA 95351							
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:														
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME: standard													
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RECEIPT CONDITION:						PROJECT MANAGER: Grey Stahl							



— APPROXIMATE PROPERTY LINE



PROPOSED SOIL BORING/TEMPORARY VAPOR PROBE

0 250  
SCALE 1"=250'



**Daily Field Report**

Project Name: Stockbridge Town	Field Technician: Joe Vasquez	Date: 10/15/13
Project Activity: Vapor survey	Job Number: 942	Page: 1 of

on site at 8:00. check USA markings. All markings due on street; look ok.

- 8:15 craig w/ TEU on site. Safety meeting + discuss project.

- set up a first location VW-3.

- 9:00 start pushing VW-3. use 1" diameter direct push rods to 5 feet below grade. Put a temporary well down rods to test vapor flow and results were favorable. Proceed w/ first well construction. Rods w/ be pulled and 3/4" pvc will be placed in hole to support well. <sup>vapor</sup> Well will be constructed through pvc which will be remove as well is constructed.

- vapor probe tip placed on the end of 1/8" tubing to construct well.

- #30 monterey sand from 5' to 4' with vapor probe centered in filter pack. Dry bentonite from 3.5-4 Ft, granular bentonite, and hydrated bentonite from 3.5 Ft to surface.

- 9:14 set VW-3.

9:37 begin VW-4. push to 5', probe centered in 1 ft sand pack (from 4-5'), 6" dry bentonite followed by hydrated bentonite to surface.

- 9:46 VW-4 set.

- move to VW-5. construct VW-5 as described above.

- 10:08 set VW-5.

- 10:28 set VW-1. VW-1 constructed slightly shallower due to tight soil. From 4.5-5 Ft dry bentonite; 3.5-4.5 Ft filter pack w/ vapor probe in center; 3-3.5 dry bentonite;

**Daily Field Report**

Project Name: The Green

Field Technician: Joe Vasquez

Date: 10/15/13

Project Activity: soil vapor survey

Job Number: 942

Page: 2 of

- 3.0 - ground surface hydrated bentonite on VW-1.  
 - VW-2 tight at 5 feet similar to VW-1. Craig pulled up  
 a rods until vacuum ~~releas~~ released, which was at  
 4.5 Ft. so construct VW-2 as follows: 5-4.5 ft dry bentonite;  
 4.5-3.5 Ft #30 sand w/ vapor probe centered in sand  
 pack; 3.5-3.0 dry bentonite; 3.0 - surface hydrated  
 bentonite.

10:47 set VW-2

\* move to VW-3 and set up helium shroud and get sample  
 equipment ready. set up manifold and summa and conduct  
 initial shut in test. pull vacuum on manifold w/ syringe and  
 we watch gauge to make sure the vacuum holds. That means  
 there's no leak in the sample train.

- calculated purge volume, we want 3 casing + filterpack  
 volumes, which equals 440 cc's of purge

\* Craig is purging the well w/ syringe while I  
 monitor helium concentration. we will keep helium  
 about 20% by monitoring every minute and adding  
 more He as necessary.

11:42 open summa and sample VW-3. helium at 20%  
 under shroud. Starting pressure = -29 in Hg. shut off at -5 in Hg @ 11:49

- prior to sampling we tested the purged vapor for  
 helium to check for air intrusion and we got 0%  
 on meter, so well should be sound.

- VW-3 collected at 11:42 into CAN 7509-857 by manifold #MAN316T-994

- move to VW-4.

Daily Field Report		
Project Name: The Green	Field Technician: Joe Vasquez	Date: 10/15/13
Project Activity: Soil Vapor Survey	Job Number: 942	Page: 3 of

- conduct shut in test on VW-4. Manifold held a vacuum for 5 minutes, so no leak.
- purge well of 440 cc's of vapor (3 casing volumes) and maintain He shroud at 20%.
  - test purged vapors for He and none were detected
- \* 12:22 sample VW-4, initial pressure > -30 in Hg. maintain He shroud of  $\approx$  20%
- \* 12:29 done sampling, -5 in Hg.
- VW-4 can # CAN6421-852, manifold # MAN316T-999.
- move to VW-5. collect duplicate sample from VW-5, so update manifold to accommodate 2 sunny canisters.
  - shut in test a success, no leaks in manifold.
  - collect duplicate sample (VW-5 dup) at same time
  - purge well of 3 casing volumes, & monitoring for helium in purged vapor. None.
- 13:04 open both sunny canisters, pressure > -30.
- 13:17 close canisters, pressure -5 in Hg.
- \* VW-5, can # CAN6303-783, manifold # MAN316-728
- \* VW-5 Dup, can # CAN5807-738, manifold # MAN316-728
- VW1, shut in test conducted first for 5 minutes, no leak in manifold.
  - purge 3 casing volumes and test for He intrusion during process
  - none detected.
- 13:49 open canister and sample VW1. starting pressure -30 in Hg.
  - He shroud of 20% maintained.
  - 13:58 shut canister, pressure -5 in Hg
- VW1, can # CAN6310-790, manifold # MAN316-821

## Daily Field Report

Project Name: The Green

Field Technician: JLV

Date: 10/15/13

Project Activity: SVS

Job Number: 942

Page: 4 of

13:30 called brook inspector to schedule site visit but he did not answer his phone.

VWZ shot in test successful, no leaks. Purge 3 casing volumes & no He in purged vapor.

- 14:25 sample VWZ. pressure @ -30 in Hg.

- 14:32 done @ -5 in Hg.

- JVW-2 @ 14:25, can # CAN6163-749, manifold # MAN316-711

\* upon completion pull all vapor probes & backfill any annulus w/  
bentonite.

15:00 done on site.



## McCAMPBELL ANALYTICAL INC.

1534 WILLOW PASS ROAD / PITTSBURG, CA 94565-1701

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

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

Report To: Greg Stahl Bill To: Ground Zero Analysis

Company: Ground Zero Analysis, Inc.

1172 Kansas Ave., Modesto, CA 95351

gstahl@groundzeroanalysis.com E-Mail:

Tele: (209) 522-4119 Fax: (209) 522-4227

Project #: 942 Project Name: Stockbridge The Green

Project Location: 5411 Martinelli Way, Dublin

Sampler Signature: Joe Vojay

## CHAIN OF CUSTODY RECORD

## TURN AROUND TIME

    RUSH  24 HR  48 HR  72 HR  5 DAY  
No Write On (DW) No

EDF Required? Coel (Normal)

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)
VW-3	10/15/13	11:42	CAN 7509-857	MAN 316T-994	VOCs by TO-15, He by ASTM D 1946-90		X	-29	-5		
VW-4	10/15/13	12:22	CAN 6421-852	MAN 316T-999			X	>-30	-5		
VW-5	10/15/13	13:04	CAN 6303-783	MAN 316-728			X	>-30	-5		
VW-5 Dup	10/15/13	13:04	CAN 5807-738	MAN 316-728			X	>-30	-5		
VW-1	10/15/13	13:49	CAN 6310-790	MAN 316-821			X	>-30	-5		
VW-2	10/15/13	14:25	CAN 6163-749	MAN 316-711			X	>-30	-5		

Relinquished By:

Date:

10/16/13

Time:

10:17

Received By:

Temp (°C) :

Work Order #:

Relinquished By:

Date:

Time:

Received By:

Equipment Condition:

Relinquished By:

Date:

Time:

Received By:

Shipped Via:

## TEG / Strataprobe Field Log

Client:

Ground Zero

Page 1 of 1

Location: 5411 Martinelli Way, Dublin, CA

Date: 10-15-13

Client ID#: 942

Project Manager: Greg Stahl

Start Time: 0830

vw-3 TEG #: 31015

TEG Operator: C.V.S.

Finish Time: 14150

Point ID	Matrix	Time Placed	Time Sampled	Target Depth	Actual Depth	Field Notes
1		0830				In site / 11.5 meeting
2 vw-3	V	914	1112	5	5	
3 vw-4	V	946		5	5	
4 vw-5	V	1008		5	5	
5 vw-1	V	1028		5	4.5	No flow @ 5'
6 vw-2	V	1047		5	4.5	No flow @ 5'
7						
8 vw-3		1114 - 1119				Shot in test - 14 / -14
9 vw-3	V		1142			Starting vacuum - 29 end -5
10 vw-4		1212 - 1217				Shot in test - 14 / -14
11 vw-4	V		1222			starting vacuum > -30 end -5
12 vw-5 + DVP		1254 - 1259				Shot in test - 16 / -16
13 vw-5 + DVP	V		1304			starting vacuum > -30 end -5
14 vw-1		1337 - 1342				Shot in test - 13 / -13
15 vw-1	V		1349			starting vacuum - 30 / -5
16 vw-2		1415 - 1420				Shot in test - 15 / -15
17 vw-2	V		1425			starting vacuum - 30 end
18		1432				Abandonment
19						Duplicate = split sample
20						
21						3 purple volumes = 440 cc
22						15' 4" Teflon used

Site Notes: Trapping vapor wells. 1 in. dia. hole. 1/2" Nylon tube. Plastic air diffuser, 1 ft. x 30" diameter kiln dried sand + 6 in. dry bentonite + hydrated bentonite to surface. Filling 1L Summas (McCampbell Analytical). Helium leak check under shroud.

Accepted by: Joe Vazquez

Name: Joe Vazquez

Screens Used:

Risers Used:

Safety Meeting Held by: signature:

signature:

Comments/Topics: insects / snakes

## **ATTACHMENT C**

**Soil Laboratory Analytical Data**



# McCampbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1310351

**Report Created for:** Ground Zero Analysis, Inc.  
1714 Main Street  
Escalon, CA 95320

**Project Contact:** Greg Stahl

**Project P.O.:**

**Project Name:** #942; Stockbridge The Green

**Project Received:** 10/09/2013

Analytical Report reviewed & approved for release on 10/18/2013 by:

*Question about  
your data?*

[Click here to email  
McCampbell](#)

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory.  
The analytical results relate only to the items tested. Results reported conform to the most  
current NELAP standards, where applicable, unless otherwise stated in the case narrative.*



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ [www.mccampbell.com](http://www.mccampbell.com)

NELAP: 12283CA ♦ ELAP: 1644 ♦ ISO/IEC: 17025:2005 ♦ WSDE: C972-11 ♦ ADEC: UST-098 ♦ UCMR3



## Glossary of Terms & Qualifier Definitions

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**WorkOrder:** 1310351

<u>Glossary Abbreviation</u>	<u>Description</u>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
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.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/9/13 22:03  
**Date Prepared:** 10/11/13

**WorkOrder:** 1310351  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg

### **Chlorinated Herbicides by GC-ECD (Basic Target List)**

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
HAB1-1'	1310351-001A	Soil	10/08/2013 10:57	GC15	82782
<u>Analtes</u>	<u>Result</u>		<u>BL</u>	<u>DE</u>	<u>Date Analyzed</u>
Acifluorfen	ND		0.050	1	10/17/2013 12:01
Bentazon	ND		0.050	1	10/17/2013 12:01
Chloramben	ND		0.050	1	10/17/2013 12:01
2,4-D (Dichlorophenoxyacetic acid)	ND		0.050	1	10/17/2013 12:01
2,4-DB	ND		0.050	1	10/17/2013 12:01
Dalapon	ND		0.050	1	10/17/2013 12:01
DCPA (mono & diacid)	ND		0.050	1	10/17/2013 12:01
Dicamba	ND		0.050	1	10/17/2013 12:01
3,5-Dichlorobenzolic Acid	ND		0.050	1	10/17/2013 12:01
Dichloroprop	ND		0.050	1	10/17/2013 12:01
Dinoseb (DNBP)	ND		0.050	1	10/17/2013 12:01
MCPA	ND		5.0	1	10/17/2013 12:01
MCPP	ND		5.0	1	10/17/2013 12:01
4-Nitrophenol	ND		0.050	1	10/17/2013 12:01
Pentachlorophenol (PCP)	ND		0.050	1	10/17/2013 12:01
Picloram	ND		0.050	1	10/17/2013 12:01
2,4,5-T (Trichlorophenoxy acetic acid)	ND		0.050	1	10/17/2013 12:01
2,4,5-TP (Silvex)	ND		0.050	1	10/17/2013 12:01
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
DCAA	89		60-140		10/17/2013 12:01

(Cont.)



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/9/13 22:03  
**Date Prepared:** 10/11/13

**WorkOrder:** 1310351  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg

### **Chlorinated Herbicides by GC-ECD (Basic Target List)**

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
HAB2-1'	1310351-004A	Soil	10/08/2013 12:35	GC15	82782
<u>Analtes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acifluorfen	ND		0.050	1	10/17/2013 12:43
Bentazon	ND		0.050	1	10/17/2013 12:43
Chloramben	ND		0.050	1	10/17/2013 12:43
2,4-D (Dichlorophenoxyacetic acid)	ND		0.050	1	10/17/2013 12:43
2,4-DB	ND		0.050	1	10/17/2013 12:43
Dalapon	ND		0.050	1	10/17/2013 12:43
DCPA (mono & diacid)	ND		0.050	1	10/17/2013 12:43
Dicamba	ND		0.050	1	10/17/2013 12:43
3,5-Dichlorobenzolic Acid	ND		0.050	1	10/17/2013 12:43
Dichloroprop	ND		0.050	1	10/17/2013 12:43
Dinoseb (DNBP)	ND		0.050	1	10/17/2013 12:43
MCPA	ND		5.0	1	10/17/2013 12:43
MCPP	ND		5.0	1	10/17/2013 12:43
4-Nitrophenol	ND		0.050	1	10/17/2013 12:43
Pentachlorophenol (PCP)	ND		0.050	1	10/17/2013 12:43
Picloram	ND		0.050	1	10/17/2013 12:43
2,4,5-T (Trichlorophenoxy acetic acid)	ND		0.050	1	10/17/2013 12:43
2,4,5-TP (Silvex)	ND		0.050	1	10/17/2013 12:43
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
DCAA	99		80-140		10/17/2013 12:43

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

SS Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/9/13 22:03  
**Date Prepared:** 10/11/13

**WorkOrder:** 1310351  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg

### **Chlorinated Herbicides by GC-ECD (Basic Target List)**

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
HAB3-1'	1310351-007A	Soil	10/08/2013 13:27	GC15	82782
<u>Analtes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acifluorfen	ND		0.25	5	10/17/2013 13:26
Bentazon	ND		0.25	5	10/17/2013 13:26
Chloramben	ND		0.25	5	10/17/2013 13:26
2,4-D (Dichlorophenoxyacetic acid)	ND		0.25	5	10/17/2013 13:26
2,4-DB	ND		0.25	5	10/17/2013 13:26
Dalapon	ND		0.25	5	10/17/2013 13:26
DCPA (mono & diacid)	ND		0.25	5	10/17/2013 13:26
Dicamba	ND		0.25	5	10/17/2013 13:26
3,5-Dichlorobenzolic Acid	ND		0.25	5	10/17/2013 13:26
Dichloroprop	ND		0.25	5	10/17/2013 13:26
Dinoseb (DNBP)	ND		0.25	5	10/17/2013 13:26
MCPA	ND		25	5	10/17/2013 13:26
MCPP	ND		25	5	10/17/2013 13:26
4-Nitrophenol	ND		0.25	5	10/17/2013 13:26
Pentachlorophenol (PCP)	ND		0.25	5	10/17/2013 13:26
Picloram	ND		0.25	5	10/17/2013 13:26
2,4,5-T (Trichlorophenoxy acetic acid)	ND		0.25	5	10/17/2013 13:26
2,4,5-TP (Silvex)	ND		0.25	5	10/17/2013 13:26
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
DCAA	85		60-140		10/17/2013 13:26

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

SS Analyst's Initial

*AR* Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/9/13 22:03  
**Date Prepared:** 10/11/13

**WorkOrder:** 1310351  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg

### **C**hlorinated Herbicides by GC-ECD (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
HAB4-1'	1310351-010A	Soil	10/08/2013 10:07	GC15	82782
<hr/>					
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acifluorfen	ND		0.25	5	10/17/2013 14:08
Bentazon	ND		0.25	5	10/17/2013 14:08
Chloramben	ND		0.25	5	10/17/2013 14:08
2,4-D (Dichlorophenoxyacetic acid)	ND		0.25	5	10/17/2013 14:08
2,4-DB	ND		0.25	5	10/17/2013 14:08
Dalapon	ND		0.25	5	10/17/2013 14:08
DCPA (mono & diacid)	ND		0.25	5	10/17/2013 14:08
Dicamba	ND		0.25	5	10/17/2013 14:08
3,5-Dichlorobenzoic Acid	ND		0.25	5	10/17/2013 14:08
Dichloroprop	ND		0.25	5	10/17/2013 14:08
Dlnoseb (DNBP)	ND		0.25	5	10/17/2013 14:08
MCPA	ND		25	5	10/17/2013 14:08
MCPP	ND		25	5	10/17/2013 14:08
4-Nitrophenol	ND		0.25	5	10/17/2013 14:08
Pentachlorophenol (PCP)	ND		0.25	5	10/17/2013 14:08
Picloram	ND		0.25	5	10/17/2013 14:08
2,4,5-T (Trichlorophenoxy acetic acid)	ND		0.25	5	10/17/2013 14:08
2,4,5-TP (Silvex)	ND		0.25	5	10/17/2013 14:08
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
DCAA	89		60-140		10/17/2013 14:08

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

SS Analyst's Initial

*AK* Angela Rydelius, Lab Manager



## Analytical Report

Client: Ground Zero Analysis, Inc.  
Project: #942; Stockbridge The Green  
Date Received: 10/9/13 22:03  
Date Prepared: 10/11/13

WorkOrder: 1310351  
Extraction Method SW8151A  
Analytical Method: SW8151A  
Unit: mg/kg

### **Chlorinated Herbicides by GC-ECD (Basic Target List)**

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
HAB5-1'	1310351-013A	Soil	10/08/2013 14:57	GC15	82782
<u>Analtes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acifluorfen	ND		0.050	1	10/17/2013 14:51
Bentazon	ND		0.050	1	10/17/2013 14:51
Chloramben	ND		0.050	1	10/17/2013 14:51
2,4-D (Dichlorophenoxyacetic acid)	ND		0.050	1	10/17/2013 14:51
2,4-DB	ND		0.050	1	10/17/2013 14:51
Dalapon	ND		0.050	1	10/17/2013 14:51
DCPA (mono & diacid)	ND		0.050	1	10/17/2013 14:51
Dicamba	ND		0.050	1	10/17/2013 14:51
3,5-Dichlorobenzoic Acid	ND		0.050	1	10/17/2013 14:51
Dichloroprop	ND		0.050	1	10/17/2013 14:51
Dinoseb (DNBP)	ND		0.050	1	10/17/2013 14:51
MCPA	ND		5.0	1	10/17/2013 14:51
MCPP	ND		5.0	1	10/17/2013 14:51
4-Nitrophenol	ND		0.050	1	10/17/2013 14:51
Pentachlorophenol (PCP)	ND		0.050	1	10/17/2013 14:51
Picloram	ND		0.050	1	10/17/2013 14:51
2,4,5-T (Trichlorophenoxy acetic acid)	ND		0.050	1	10/17/2013 14:51
2,4,5-TP (Silvex)	ND		0.050	1	10/17/2013 14:51
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
DCAA	94		60-140		10/17/2013 14:51



## Quality Control Report

<b>Client:</b>	Ground Zero Analysis, Inc.	<b>WorkOrder:</b>	1310351
<b>Date Prepared:</b>	10/11/13	<b>BatchID:</b>	82782
<b>Date Analyzed:</b>	10/14/13	<b>Extraction Method</b>	SW8151A
<b>Instrument:</b>	GC15	<b>Analytical Method:</b>	SW8151A
<b>Matrix:</b>	Soil	<b>Unit:</b>	mg/kg
<b>Project:</b>	#942; Stockbridge The Green	<b>Sample ID:</b>	MB/LCS-82782 1310362-005AMS/MSD

### QC SUMMARY REPORT FOR SW8151A

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aminopyralid	ND	-	0.050	-	-	-	-
Aminopyralid	ND	-	0.050	-	-	-	-
Acifluorfen	ND	-	0.050	-	-	-	-
Bentazon	ND	-	0.050	-	-	-	-
Chloramben	ND	-	0.050	-	-	-	-
2,4-D (Dichlorophenoxyacetic acid)	ND	0.111	0.050	0.10	-	111	60-140
2,4-DB	ND	0.1181	0.050	0.10	-	118	60-140
Dalapon	ND	0.1192	0.050	0.10	-	119	60-140
DCPA (mono & diacid)	ND	-	0.050	-	-	-	-
Dicamba	ND	0.1005	0.050	0.10	-	101	60-140
3,5-Dichlorobenzolic Acid	ND	-	0.050	-	-	-	-
Dichloroprop	ND	-	0.050	-	-	-	-
Dinoseb (DNBP)	ND	-	0.050	-	-	-	-
MCPA	ND	-	5.0	-	-	-	-
MCPP	ND	-	5.0	-	-	-	-
4-Nitrophenol	ND	-	0.050	-	-	-	-
Pentachlorophenol (PCP)	ND	-	0.050	-	-	-	-
Picloram	ND	-	0.050	-	-	-	-
2,4,5-T (Trichlorophenoxy acetic acid)	ND	-	0.050	-	-	-	-
2,4,5-TP (Silvex)	ND	0.1098	0.050	0.10	-	110	60-140

#### Surrogate Recovery

DCAA	0.09482	0.1045	0.10	95	104	60-140
------	---------	--------	------	----	-----	--------

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
2,4-D (Dichlorophenoxyacetic acid)	0.08803	0.09014	0.10	ND	88	90.1	60-140	2.37	30
2,4-DB	0.09209	0.09497	0.10	ND	92.1	95	60-140	3.08	30
Dalapon	0.09537	0.1076	0.10	ND	95.4	108	60-140	12.1	30
Dicamba	0.08262	0.08476	0.10	ND	82.6	84.8	60-140	2.56	30
2,4,5-TP (Silvex)	0.08853	0.09134	0.10	ND	88.5	91.3	60-140	3.13	30

#### Surrogate Recovery

DCAA	0.08699	0.08914	0.10	87	89	60-140	2.44	30
------	---------	---------	------	----	----	--------	------	----

## McCampbell Analytical, Inc.



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 1310351

ClientCode: GZAE

 WaterTrax     WriteOn     EDF     Excel     EQuiS     Email     HardCopy     ThirdParty     J-flag

## Report to:

Greg Stahl  
Ground Zero Analysis, Inc.  
1714 Main Street  
Escalon, CA 95320  
(209) 838-9888 FAX: (209) 838-9883

Email: gstahl@groundzeroanalysis.com  
cc:  
PO:  
ProjectNo: #942; Stockbridge The Green

## Bill to:

Accounts Payable  
Ground Zero Analysis, Inc.  
1714 Main Street  
Escalon, CA 95320

Requested TAT: 5 days  
*Date Received:* 10/09/2013  
*Date Printed:* 10/10/2013

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
1310351-001		HAB1-1'	Soil	10/8/2013 10:57	<input type="checkbox"/>	A										
1310351-004		HAB2-1'	Soil	10/8/2013 12:35	<input type="checkbox"/>	A										
1310351-007		HAB3-1'	Soil	10/8/2013 13:27	<input type="checkbox"/>	A										
1310351-010		HAB4-1'	Soil	10/8/2013 10:07	<input type="checkbox"/>	A										
1310351-013		HAB5-1'	Soil	10/8/2013 14:57	<input type="checkbox"/>	A										

Test Legend:

1	8151A_S	2		3		4		5	
6		7		8		9		10	
11		12							

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.

# GROUND ZERO ANALYSIS

130351

No 1730

## CHAIN OF CUSTODY RECORD ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE						NO. CONTAINERS	ANALYSIS REQUESTED						P.O. #:					
942	Stockbridge The Green							SAMPLE TYPE	BTEX (602/8020)	TPHg (8015)	IPhd (8015)	OXYGENATES (8260)	601/8010		8260 FULL SCAN	Chlorinated herbicides by 8151A	Hold		
SAMPLERS	(SIGN) / (PRINT)																		
Joe Vasquez		Joe Vasquez																	
SAMPLE IDENTIFICATION		DATE	TIME	COMP	GRAB	PRES. USED	ICED									REMARKS			
HAB1-1'		10/8/13	10:57	X	none	X	1	S						X					
HAB1-2'			11:15												X				
HAB1-3'			11:30												X				
HAB2-1'			12:35											X					
HAB2-2'			12:52											X					
<del>HAB</del> HAB2-2.5'			13:05											X					
HAB3-1'			13:27											X					
HAB3-2'			13:37											X					
HAB3-3'			13:46											X					
HAB4-1'			14:07											X					
HAB4-2'			14:20											X					
HAB4-3'			14:30											X					
HAB5-1'		↓	14:57	↓	↓	↓	↓	↓						X					
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:						PLEASE SEND RESULTS TO:									
<i>Joe Vasquez</i>	10/9/13	1148	<i>Maura M</i>	McCampbell Analytical						Ground Zero Analysis 1172 Kansas Ave Modesto, CA 95351									
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME:															
	10/8			Standard															
RELINQUISHED BY:	GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB	DATE	TIME	APPROPRIATE CONTAINERS PRESERVED IN LAB	RECEIVED BY:	REQUESTED TURNAROUND TIME:													
						Standard													
RELINQUISHED BY:	PRESERVATION	DATE	TIME	METALS	OTHER	RECEIVED BY:	RECEIPT CONDITION:						PROJECT MANAGER:						
													<i>Brey Stahl</i>						



### Sample Receipt Checklist

Client Name: **Ground Zero Analysis, Inc.**

Date and Time Received: **10/9/2013 10:03:09 PM**

Project Name: **#942; Stockbridge The Green**

Login Reviewed by: **Zoralda Cortez**

WorkOrder N°: **1310351**

Matrix: **Soil**

Carrier: **Client Drop-In**

#### 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/cooler? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Shipping container/cooler 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: <b>10.8°C</b>              |                             | NA <input 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 checked="" type="checkbox"/> | No <input type="checkbox"/> |  |

(Ice Type: **WET ICE** )

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

Comments:

## **ATTACHMENT D**

**Soil Vapor Laboratory Analytical Data**



# McCampbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1310518

**Report Created for:** Ground Zero Analysis, Inc.  
1172 Kansas Ave  
Modesto, CA 95351

**Project Contact:** Greg Stahl

**Project P.O.:**

**Project Name:** #942; Stockbridge The Green

**Project Received:** 10/16/2013

Analytical Report reviewed & approved for release on 10/22/2013 by:

*Question about  
your data?*

[Click here to email  
McCampbell](#)

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory.  
The analytical results relate only to the items tested. Results reported conform to the most  
current NELAP standards, where applicable, unless otherwise stated in the case narrative.*



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ [www.mccampbell.com](http://www.mccampbell.com)

NELAP: 12283CA ♦ ELAP: 1644 ♦ ISO/IEC: 17025:2005 ♦ WSDE: C972-11 ♦ ADEC: UST-098 ♦ UCMR3



## Glossary of Terms & Qualifier Definitions

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**WorkOrder:** 1310518

### Glossary Abbreviation

<u>Glossary Abbreviation</u>	<u>Description</u>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, If applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the Indicated MDL or RL
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.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value

### Analytical Qualifier

J1 see attached narrative



McCampbell Analytical, Inc.  
"When Quality Counts"

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<http://www.mccampbell.com> / E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

## Case Narrative

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green

**Work Order:** 1310518  
October 22, 2013

### 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 disadvantages are listed in Appendix B of the DTSC Advisory of April 2012.

Sample 1310518-003A and 1310518-004A:

The following analytes were raised due to co-elution with non target peaks interfering with quantitative value.

Acrolein ND<12 µg/m<sup>3</sup>

Tetrahydrofuran ND<5.0 µg/m<sup>3</sup>



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

### Helium

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-3	1310518-001A	Soil Gas/DISS.	10/15/2013 11:42	GC26	83040

**Initial Pressure (psia)**      **Final Pressure (psia)**

182.3	487.4
-------	-------

Analtes	Result	RL	DE	Date Analyzed
Helium	0.31	0.0067	1	10/17/2013 18:38

VW-4	1310518-002A	Soil Gas/DISS.	10/15/2013 12:22	GC26	83040
------	--------------	----------------	------------------	------	-------

**Initial Pressure (psia)**      **Final Pressure (psia)**

12.64	25.18
-------	-------

Analtes	Result	RL	DE	Date Analyzed
Helium	ND	0.0050	1	10/17/2013 18:51

VW-5	1310518-003A	Soil Gas/DISS.	10/15/2013 13:04	GC26	83040
------	--------------	----------------	------------------	------	-------

**Initial Pressure (psia)**      **Final Pressure (psia)**

13.00	25.91
-------	-------

Analtes	Result	RL	DE	Date Analyzed
Helium	ND	0.0050	1	10/17/2013 19:04

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

BB Analyst's Initial

*AR* Angela Rydelius, Lab Manager



## Analytical Report

Client: Ground Zero Analysis, Inc.  
Project: #942; Stockbridge The Green  
Date Received: 10/16/13 10:34  
Date Prepared: 10/17/13

WorkOrder: 1310518  
Extraction Method: ASTM D 1946-90  
Analytical Method: ASTM D 1946-90  
Unit: %

### Helium

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5 DUP	1310518-004A	Soil Gas/DISS.	10/15/2013 13:04	GC26	83040

Initial Pressure (psia) Final Pressure (psia)

13.07	26.04
-------	-------

Analyses	Result	RL	DF	Date Analyzed
Helium	0.050	0.0050	1	10/17/2013 19:16

VW-1	1310518-005A	Soil Gas/DISS.	10/15/2013 13:49	GC26	83040
------	--------------	----------------	------------------	------	-------

Initial Pressure (psia) Final Pressure (psia)

12.72	25.34
-------	-------

Analyses	Result	RL	DF	Date Analyzed
Helium	0.027	0.0050	1	10/17/2013 19:29

VW-2	1310518-006A	Soil Gas/DISS.	10/15/2013 14:25	GC26	83040
------	--------------	----------------	------------------	------	-------

Initial Pressure (psia) Final Pressure (psia)

12.43	24.77
-------	-------

Analyses	Result	RL	DF	Date Analyzed
Helium	0.0060	0.0050	1	10/17/2013 19:42



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-3	1310518-001A	Soil Gas	10/15/2013 11:42	GC24	83090

**Initial Pressure (psia)**      **Final Pressure (psia)**

12.23	24.36
-------	-------

Analtes	Result	RL	DF	Date Analyzed
Acetone	87	60	1	10/17/2013 13:31
Acrolein	7.5	0.23	1	10/17/2013 13:31
Acrylonitrile	ND	1.1	1	10/17/2013 13:31
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/17/2013 13:31
Benzene	3.7	1.6	1	10/17/2013 13:31
Benzyl chloride	ND	2.6	1	10/17/2013 13:31
Bromodichloromethane	ND	3.5	1	10/17/2013 13:31
Bromoform	ND	5.2	1	10/17/2013 13:31
Bromomethane	ND	2.0	1	10/17/2013 13:31
1,3-Butadiene	ND	1.1	1	10/17/2013 13:31
2-Butanone (MEK)	ND	75	1	10/17/2013 13:31
t-Butyl alcohol (TBA)	ND	31	1	10/17/2013 13:31
Carbon Disulfide	ND	1.6	1	10/17/2013 13:31
Carbon Tetrachloride	ND	3.2	1	10/17/2013 13:31
Chlorobenzene	ND	2.4	1	10/17/2013 13:31
Chloroethane	ND	1.3	1	10/17/2013 13:31
Chloroform	ND	2.4	1	10/17/2013 13:31
Chloromethane	ND	1.0	1	10/17/2013 13:31
Cyclohexane	ND	18	1	10/17/2013 13:31
Dibromochloromethane	ND	4.4	1	10/17/2013 13:31
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/17/2013 13:31
1,2-Dibromoethane (EDB)	ND	3.9	1	10/17/2013 13:31
1,2-Dichlorobenzene	ND	3.0	1	10/17/2013 13:31
1,3-Dichlorobenzene	ND	3.0	1	10/17/2013 13:31
1,4-Dichlorobenzene	ND	3.0	1	10/17/2013 13:31
Dichlorodifluoromethane	ND	2.5	1	10/17/2013 13:31
1,1-Dichloroethane	ND	2.0	1	10/17/2013 13:31
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/17/2013 13:31
1,1-Dichloroethene	ND	2.0	1	10/17/2013 13:31
cis-1,2-Dichloroethene	ND	2.0	1	10/17/2013 13:31
trans-1,2-Dichloroethene	ND	2.0	1	10/17/2013 13:31
1,2-Dichloropropane	ND	2.4	1	10/17/2013 13:31
cis-1,3-Dichloropropene	ND	2.3	1	10/17/2013 13:31
trans-1,3-Dichloropropene	ND	2.3	1	10/17/2013 13:31

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-3	1310518-001A	Soil Gas	10/15/2013 11:42	GC24	83090

#### Initial Pressure (psia)

#### Final Pressure (psia)

12.23	24.36
-------	-------

Analyses	Result	RL	DE	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/17/2013 13:31
Diisopropyl ether (DIPE)	ND	2.1	1	10/17/2013 13:31
1,4-Dioxane	ND	1.8	1	10/17/2013 13:31
Ethanol	100	96	1	10/17/2013 13:31
Ethyl acetate	5.6	1.8	1	10/17/2013 13:31
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/17/2013 13:31
Ethylbenzene	ND	2.2	1	10/17/2013 13:31
4-Ethyltoluene	ND	2.5	1	10/17/2013 13:31
Freon 113	ND	3.9	1	10/17/2013 13:31
Heptane	ND	21	1	10/17/2013 13:31
Hexachlorobutadiene	ND	5.4	1	10/17/2013 13:31
Hexane	ND	18	1	10/17/2013 13:31
2-Hexanone	3.2	2.1	1	10/17/2013 13:31
4-Methyl-2-pentanone (MIBK)	22	2.1	1	10/17/2013 13:31
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/17/2013 13:31
Methylene chloride	ND	1.8	1	10/17/2013 13:31
Methyl methacrylate	ND	0.42	1	10/17/2013 13:31
Naphthalene	ND	5.3	1	10/17/2013 13:31
Propene	ND	88	1	10/17/2013 13:31
Styrene	ND	2.2	1	10/17/2013 13:31
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/17/2013 13:31
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/17/2013 13:31
Tetrachloroethene	4.5	3.4	1	10/17/2013 13:31
Tetrahydrofuran	ND	1.5	1	10/17/2013 13:31
Toluene	9.4	1.9	1	10/17/2013 13:31
1,2,4-Trichlorobenzene	ND	3.8	1	10/17/2013 13:31
1,1,1-Trichloroethane	ND	2.8	1	10/17/2013 13:31
1,1,2-Trichloroethane	ND	2.8	1	10/17/2013 13:31
Trichloroethene	ND	2.8	1	10/17/2013 13:31
Trichlorofluoromethane	ND	2.8	1	10/17/2013 13:31
1,2,4-Trimethylbenzene	ND	2.5	1	10/17/2013 13:31
1,3,5-Tri(methylbenzene	ND	2.5	1	10/17/2013 13:31
Vinyl Acetate	ND	1.8	1	10/17/2013 13:31
Vinyl Chloride	ND	1.3	1	10/17/2013 13:31

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

Client: Ground Zero Analysis, Inc.  
Project: #942; Stockbridge The Green  
Date Received: 10/16/13 10:34  
Date Prepared: 10/16/13-10/17/13

WorkOrder: 1310518  
Extraction Method TO15  
Analytical Method: TO15  
Unit:  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-3	1310518-001A	Soil Gas	10/15/2013 11:42	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

12.23	24.36
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Analyses	Result	RL	DF	Date Analyzed
Xylenes, Total	ND	6.6	1	10/17/2013 13:31
Surrogates	REC (%)	Limits		
1,2-DCA-d4	91	70-130		10/17/2013 13:31
Toluene-d8	83	70-130		10/17/2013 13:31
4-BFB	84	70-130		10/17/2013 13:31

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

AR Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-4	1310518-002A	Soil Gas	10/15/2013 12:22	GC24	83090

Initial Pressure (psia)

Final Pressure (psia)

12.64	25.18
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Analyses	Result	RL	DE	Date Analyzed
Acetone	150	60	1	10/16/2013 21:00
Acrolein	10	0.23	1	10/16/2013 21:00
Acrylonitrile	ND	1.1	1	10/16/2013 21:00
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/16/2013 21:00
Benzene	2.9	1.6	1	10/16/2013 21:00
Benzyl chloride	ND	2.6	1	10/16/2013 21:00
Bromodichloromethane	ND	3.5	1	10/16/2013 21:00
Bromoform	ND	5.2	1	10/16/2013 21:00
Bromomethane	4.8	2.0	1	10/16/2013 21:00
1,3-Butadiene	ND	1.1	1	10/16/2013 21:00
2-Butanone (MEK)	ND	75	1	10/16/2013 21:00
t-Butyl alcohol (TBA)	ND	31	1	10/16/2013 21:00
Carbon Disulfide	ND	1.6	1	10/16/2013 21:00
Carbon Tetrachloride	ND	3.2	1	10/16/2013 21:00
Chlorobenzene	ND	2.4	1	10/16/2013 21:00
Chloroethane	ND	1.3	1	10/16/2013 21:00
Chloroform	ND	2.4	1	10/16/2013 21:00
Chloromethane	ND	1.0	1	10/16/2013 21:00
Cyclohexane	ND	18	1	10/16/2013 21:00
Dibromochloromethane	ND	4.4	1	10/16/2013 21:00
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/16/2013 21:00
1,2-Dibromoethane (EDB)	ND	3.9	1	10/16/2013 21:00
1,2-Dichlorobenzene	ND	3.0	1	10/16/2013 21:00
1,3-Dichlorobenzene	ND	3.0	1	10/16/2013 21:00
1,4-Dichlorobenzene	ND	3.0	1	10/16/2013 21:00
Dichlorodifluoromethane	ND	2.5	1	10/16/2013 21:00
1,1-Dichloroethane	ND	2.0	1	10/16/2013 21:00
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/16/2013 21:00
1,1-Dichloroethene	ND	2.0	1	10/16/2013 21:00
cis-1,2-Dichloroethene	ND	2.0	1	10/16/2013 21:00
trans-1,2-Dichloroethene	ND	2.0	1	10/16/2013 21:00
1,2-Dichloropropane	ND	2.4	1	10/16/2013 21:00
cis-1,3-Dichloropropene	ND	2.3	1	10/16/2013 21:00
trans-1,3-Dichloropropene	ND	2.3	1	10/16/2013 21:00

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-4	1310518-002A	Soil Gas	10/15/2013 12:22	GC24	83090

**Initial Pressure (psia)**      **Final Pressure (psia)**

12.64	25.18
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Analytes	Result	RL	DE	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/16/2013 21:00
DlIsopropyl ether (DIPE)	ND	2.1	1	10/16/2013 21:00
1,4-Dioxane	ND	1.8	1	10/16/2013 21:00
Ethanol	140	96	1	10/16/2013 21:00
Ethyl acetate	2.6	1.8	1	10/16/2013 21:00
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/16/2013 21:00
Ethylbenzene	7.2	2.2	1	10/16/2013 21:00
4-Ethyltoluene	ND	2.5	1	10/16/2013 21:00
Freon 113	ND	3.9	1	10/16/2013 21:00
Heptane	ND	21	1	10/16/2013 21:00
Hexachlorobutadiene	ND	5.4	1	10/16/2013 21:00
Hexane	ND	18	1	10/16/2013 21:00
2-Hexanone	ND	2.1	1	10/16/2013 21:00
4-Methyl-2-pentanone (MIBK)	4.2	2.1	1	10/16/2013 21:00
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/16/2013 21:00
Methylene chloride	ND	1.8	1	10/16/2013 21:00
Methyl methacrylate	ND	0.42	1	10/16/2013 21:00
Naphthalene	ND	5.3	1	10/16/2013 21:00
Propene	ND	88	1	10/16/2013 21:00
Styrene	ND	2.2	1	10/16/2013 21:00
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/16/2013 21:00
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/16/2013 21:00
Tetrachloroethene	ND	3.4	1	10/16/2013 21:00
Tetrahydrofuran	ND	1.5	1	10/16/2013 21:00
Toluene	30	1.9	1	10/16/2013 21:00
1,2,4-Trichlorobenzene	ND	3.8	1	10/16/2013 21:00
1,1,1-Trichloroethane	ND	2.8	1	10/16/2013 21:00
1,1,2-Trichloroethane	ND	2.8	1	10/16/2013 21:00
Trichloroethene	ND	2.8	1	10/16/2013 21:00
Trichlorofluoromethane	ND	2.8	1	10/16/2013 21:00
1,2,4-Trimethylbenzene	7.5	2.5	1	10/16/2013 21:00
1,3,5-Trimethylbenzene	3.3	2.5	1	10/16/2013 21:00
Vinyl Acetate	ND	1.8	1	10/16/2013 21:00
Vinyl Chloride	ND	1.3	1	10/16/2013 21:00

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-4	1310518-002A	Soil Gas	10/15/2013 12:22	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

12.64	25.18
-------	-------

Analyses	Result	RL	DE	Date Analyzed
Xylenes, Total	33	6.6	1	10/16/2013 21:00
Surrogates	REC (%)	Limits		
1,2-DCA-d4	84	70-130		10/16/2013 21:00
Toluene-d8	81	70-130		10/16/2013 21:00
4-BFB	82	70-130		10/16/2013 21:00

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CDPH ELAP 1644 ♦ NELAP 12283CA

\_\_\_\_ GM Analyst's Initial

 \_\_\_\_\_ Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5	1310518-003A	Soil Gas	10/15/2013 13:04	GC24	83090

**Initial Pressure (psia)**      **Final Pressure (psia)**

13.00	25.91
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Analyses	Result	RL	DE	Date Analyzed
Acetone	160	60	1	10/16/2013 21:44
Acrolein	ND	12	1	10/16/2013 21:44
Acrylonitrile	ND	1.1	1	10/16/2013 21:44
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/16/2013 21:44
Benzene	9.4	1.6	1	10/16/2013 21:44
Benzyl chloride	ND	2.6	1	10/16/2013 21:44
Bromodichloromethane	ND	3.5	1	10/16/2013 21:44
Bromoform	ND	5.2	1	10/16/2013 21:44
Bromomethane	ND	2.0	1	10/16/2013 21:44
1,3-Butadiene	ND	1.1	1	10/16/2013 21:44
2-Butanone (MEK)	ND	75	1	10/16/2013 21:44
t-Butyl alcohol (TBA)	ND	31	1	10/16/2013 21:44
Carbon Disulfide	ND	1.6	1	10/16/2013 21:44
Carbon Tetrachloride	ND	3.2	1	10/16/2013 21:44
Chlorobenzene	ND	2.4	1	10/16/2013 21:44
Chloroethane	ND	1.3	1	10/16/2013 21:44
Chloroform	ND	2.4	1	10/16/2013 21:44
Chloromethane	ND	1.0	1	10/16/2013 21:44
Cyclohexane	ND	18	1	10/16/2013 21:44
Dibromochloromethane	ND	4.4	1	10/16/2013 21:44
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/16/2013 21:44
1,2-Dibromoethane (EDB)	ND	3.9	1	10/16/2013 21:44
1,2-Dichlorobenzene	ND	3.0	1	10/16/2013 21:44
1,3-Dichlorobenzene	ND	3.0	1	10/16/2013 21:44
1,4-Dichlorobenzene	ND	3.0	1	10/16/2013 21:44
Dichlorodifluoromethane	ND	2.5	1	10/16/2013 21:44
1,1-Dichloroethane	ND	2.0	1	10/16/2013 21:44
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/16/2013 21:44
1,1-Dichloroethene	ND	2.0	1	10/16/2013 21:44
cis-1,2-Dichloroethene	ND	2.0	1	10/16/2013 21:44
trans-1,2-Dichloroethene	ND	2.0	1	10/16/2013 21:44
1,2-Dichloropropane	ND	2.4	1	10/16/2013 21:44
cis-1,3-Dichloropropene	ND	2.3	1	10/16/2013 21:44
trans-1,3-Dichloropropene	ND	2.3	1	10/16/2013 21:44

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5	1310518-003A	Soil Gas	10/15/2013 13:04	GC24	83090

**Initial Pressure (psia)**      **Final Pressure (psia)**

13.00	25.91
-------	-------

Analytes	Result	RL	DE	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/16/2013 21:44
Diisopropyl ether (DIPE)	ND	2.1	1	10/16/2013 21:44
1,4-Dioxane	ND	1.8	1	10/16/2013 21:44
Ethanol	ND	96	1	10/16/2013 21:44
Ethyl acetate	2.5	1.8	1	10/16/2013 21:44
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/16/2013 21:44
Ethylbenzene	17	2.2	1	10/16/2013 21:44
4-Ethyltoluene	4.4	2.5	1	10/16/2013 21:44
Freon 113	ND	3.9	1	10/16/2013 21:44
Heptane	ND	21	1	10/16/2013 21:44
Hexachlorobutadiene	ND	5.4	1	10/16/2013 21:44
Hexane	ND	18	1	10/16/2013 21:44
2-Hexanone	2.4	2.1	1	10/16/2013 21:44
4-Methyl-2-pentanone (MIBK)	21	2.1	1	10/16/2013 21:44
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/16/2013 21:44
Methylene chloride	ND	1.8	1	10/16/2013 21:44
Methyl methacrylate	ND	0.42	1	10/16/2013 21:44
Naphthalene	ND	5.3	1	10/16/2013 21:44
Propene	ND	88	1	10/16/2013 21:44
Styrene	ND	2.2	1	10/16/2013 21:44
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/16/2013 21:44
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/16/2013 21:44
Tetrachloroethene	ND	3.4	1	10/16/2013 21:44
Tetrahydrofuran	ND	5.0	1	10/16/2013 21:44
Toluene	75	1.9	1	10/16/2013 21:44
1,2,4-Trichlorobenzene	ND	3.8	1	10/16/2013 21:44
1,1,1-Trichloroethane	ND	2.8	1	10/16/2013 21:44
1,1,2-Trichloroethane	ND	2.8	1	10/16/2013 21:44
Trichloroethene	ND	2.8	1	10/16/2013 21:44
Trichlorofluoromethane	ND	2.8	1	10/16/2013 21:44
1,2,4-Trimethylbenzene	15	2.5	1	10/16/2013 21:44
1,3,5-Trimethylbenzene	6.4	2.5	1	10/16/2013 21:44
Vinyl Acetate	ND	1.8	1	10/16/2013 21:44
Vinyl Chloride	ND	1.3	1	10/16/2013 21:44

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

*AK* Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5	1310518-003A	Soil Gas	10/15/2013 13:04	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

13.00	25.91
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Analtes	Result	RL	DE	Date Analyzed
Xylenes, Total	78	6.6	1	10/16/2013 21:44
Surrogates	REC (%)	Limits	Analytical Comments: J1	
1,2-DCA-d4	82	70-130	10/16/2013 21:44	
Toluene-d8	80	70-130	10/16/2013 21:44	
4-BFB	76	70-130	10/16/2013 21:44	

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5 DUP	1310518-004A	Soil Gas	10/15/2013 13:04	GC24	83090

**Initial Pressure (psia)**      **Final Pressure (psia)**

13.07	26.04
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Analyses	Result	RL	DF	Date Analyzed
Acetone	160	60	1	10/16/2013 22:30
Acrolein	ND	12	1	10/16/2013 22:30
Acrylonitrile	ND	1.1	1	10/16/2013 22:30
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/16/2013 22:30
Benzene	9.5	1.6	1	10/16/2013 22:30
Benzyl chloride	ND	2.6	1	10/16/2013 22:30
Bromodichloromethane	ND	3.5	1	10/16/2013 22:30
Bromoform	ND	5.2	1	10/16/2013 22:30
Bromomethane	11	2.0	1	10/16/2013 22:30
1,3-Butadiene	ND	1.1	1	10/16/2013 22:30
2-Butanone (MEK)	ND	75	1	10/16/2013 22:30
t-Butyl alcohol (TBA)	ND	31	1	10/16/2013 22:30
Carbon Disulfide	ND	1.6	1	10/16/2013 22:30
Carbon Tetrachloride	ND	3.2	1	10/16/2013 22:30
Chlorobenzene	ND	2.4	1	10/16/2013 22:30
Chloroethane	ND	1.3	1	10/16/2013 22:30
Chloroform	ND	2.4	1	10/16/2013 22:30
Chloromethane	ND	1.0	1	10/16/2013 22:30
Cyclohexane	ND	18	1	10/16/2013 22:30
Dibromochloromethane	ND	4.4	1	10/16/2013 22:30
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/16/2013 22:30
1,2-Dibromoethane (EDB)	ND	3.9	1	10/16/2013 22:30
1,2-Dichlorobenzene	ND	3.0	1	10/16/2013 22:30
1,3-Dichlorobenzene	ND	3.0	1	10/16/2013 22:30
1,4-Dichlorobenzene	ND	3.0	1	10/16/2013 22:30
Dichlorodifluoromethane	ND	2.5	1	10/16/2013 22:30
1,1-Dichloroethane	ND	2.0	1	10/16/2013 22:30
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/16/2013 22:30
1,1-Dichloroethene	ND	2.0	1	10/16/2013 22:30
cis-1,2-Dichloroethene	ND	2.0	1	10/16/2013 22:30
trans-1,2-Dichloroethene	ND	2.0	1	10/16/2013 22:30
1,2-Dichloropropane	ND	2.4	1	10/16/2013 22:30
cis-1,3-Dichloropropene	ND	2.3	1	10/16/2013 22:30
trans-1,3-Dichloropropene	ND	2.3	1	10/16/2013 22:30

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

*AR* Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5 DUP	1310518-004A	Soil Gas	10/15/2013 13:04	GC24	83090

Initial Pressure (psia)

Final Pressure (psia)

13.07	26.04
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Analtes	Result	RL	DE	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/16/2013 22:30
Diisopropyl ether (DIPE)	ND	2.1	1	10/16/2013 22:30
1,4-Dioxane	ND	1.8	1	10/16/2013 22:30
Ethanol	ND	96	1	10/16/2013 22:30
Ethyl acetate	3.2	1.8	1	10/16/2013 22:30
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/16/2013 22:30
Ethylbenzene	17	2.2	1	10/16/2013 22:30
4-Ethyltoluene	5.0	2.5	1	10/16/2013 22:30
Freon 113	ND	3.9	1	10/16/2013 22:30
Heptane	ND	21	1	10/16/2013 22:30
Hexachlorobutadiene	ND	5.4	1	10/16/2013 22:30
Hexane	ND	18	1	10/16/2013 22:30
2-Hexanone	3.1	2.1	1	10/16/2013 22:30
4-Methyl-2-pentanone (MIBK)	21	2.1	1	10/16/2013 22:30
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/16/2013 22:30
Methylene chloride	ND	1.8	1	10/16/2013 22:30
Methyl methacrylate	ND	0.42	1	10/16/2013 22:30
Naphthalene	ND	5.3	1	10/16/2013 22:30
Propene	ND	88	1	10/16/2013 22:30
Styrene	ND	2.2	1	10/16/2013 22:30
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/16/2013 22:30
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/16/2013 22:30
Tetrachloroethene	ND	3.4	1	10/16/2013 22:30
Tetrahydrofuran	ND	5.0	1	10/16/2013 22:30
Toluene	75	1.9	1	10/16/2013 22:30
1,2,4-Trichlorobenzene	ND	3.8	1	10/16/2013 22:30
1,1,1-Trichloroethane	ND	2.8	1	10/16/2013 22:30
1,1,2-Trichloroethane	ND	2.8	1	10/16/2013 22:30
Trichloroethene	ND	2.8	1	10/16/2013 22:30
Trichlorofluoromethane	ND	2.8	1	10/16/2013 22:30
1,2,4-Trimethylbenzene	16	2.5	1	10/16/2013 22:30
1,3,5-Trimethylbenzene	6.3	2.5	1	10/16/2013 22:30
Vinyl Acetate	ND	1.8	1	10/16/2013 22:30
Vinyl Chloride	ND	1.3	1	10/16/2013 22:30

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-5 DUP	1310518-004A	Soil Gas	10/15/2013 13:04	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

13.07	26.04
-------	-------

Analtes	Result	RL	DF	Date Analyzed
Xylenes, Total	79	6.6	1	10/16/2013 22:30
Surrogates	REC (%)	Limits	Analytical Comments: J1	
1,2-DCA-d4	82	70-130	10/16/2013 22:30	
Toluene-d8	80	70-130	10/16/2013 22:30	
4-BFB	81	70-130	10/16/2013 22:30	

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CDPH ELAP 1644 ♦ NELAP 12283CA

\_\_\_\_ GM Analyst's Initial

*AR* Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-1	1310518-005A	Soil Gas	10/15/2013 13:49	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

12.72	25.34
-------	-------

Analytes	Result	RL	DE	Date Analyzed
Acetone	270	60	1	10/16/2013 23:13
Acrolein	ND	0.23	1	10/16/2013 23:13
Acrylonitrile	ND	1.1	1	10/16/2013 23:13
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/16/2013 23:13
Benzene	3.0	1.6	1	10/16/2013 23:13
Benzyl chloride	ND	2.6	1	10/16/2013 23:13
Bromodichloromethane	ND	3.5	1	10/16/2013 23:13
Bromoform	ND	5.2	1	10/16/2013 23:13
Bromomethane	8.6	2.0	1	10/16/2013 23:13
1,3-Butadiene	ND	1.1	1	10/16/2013 23:13
2-Butanone (MEK)	76	75	1	10/16/2013 23:13
t-Butyl alcohol (TBA)	ND	31	1	10/16/2013 23:13
Carbon Disulfide	5.2	1.6	1	10/16/2013 23:13
Carbon Tetrachloride	ND	3.2	1	10/16/2013 23:13
Chlorobenzene	ND	2.4	1	10/16/2013 23:13
Chloroethane	ND	1.3	1	10/16/2013 23:13
Chloroform	ND	2.4	1	10/16/2013 23:13
Chloromethane	ND	1.0	1	10/16/2013 23:13
Cyclohexane	ND	18	1	10/16/2013 23:13
Dibromochloromethane	ND	4.4	1	10/16/2013 23:13
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/16/2013 23:13
1,2-Dibromoethane (EDB)	ND	3.9	1	10/16/2013 23:13
1,2-Dichlorobenzene	ND	3.0	1	10/16/2013 23:13
1,3-Dichlorobenzene	ND	3.0	1	10/16/2013 23:13
1,4-Dichlorobenzene	ND	3.0	1	10/16/2013 23:13
Dichlorodifluoromethane	ND	2.5	1	10/16/2013 23:13
1,1-Dichloroethane	ND	2.0	1	10/16/2013 23:13
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/16/2013 23:13
1,1-Dichloroethene	ND	2.0	1	10/16/2013 23:13
cis-1,2-Dichloroethene	ND	2.0	1	10/16/2013 23:13
trans-1,2-Dichloroethene	ND	2.0	1	10/16/2013 23:13
1,2-Dichloropropane	ND	2.4	1	10/16/2013 23:13
cis-1,3-Dichloropropene	ND	2.3	1	10/16/2013 23:13
trans-1,3-Dichloropropene	ND	2.3	1	10/16/2013 23:13

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-1	1310518-005A	Soil Gas	10/15/2013 13:49	GC24	83090

**Initial Pressure (psia)**      **Final Pressure (psia)**

12.72      25.34

Analyses	Result	RL	DE	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/16/2013 23:13
Dilisopropyl ether (DIPE)	ND	2.1	1	10/16/2013 23:13
1,4-Dioxane	ND	1.8	1	10/16/2013 23:13
Ethanol	ND	96	1	10/16/2013 23:13
Ethyl acetate	ND	1.8	1	10/16/2013 23:13
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/16/2013 23:13
Ethylbenzene	5.2	2.2	1	10/16/2013 23:13
4-Ethyltoluene	3.2	2.5	1	10/16/2013 23:13
Freon 113	ND	3.9	1	10/16/2013 23:13
Heptane	ND	21	1	10/16/2013 23:13
Hexachlorobutadiene	ND	5.4	1	10/16/2013 23:13
Hexane	ND	18	1	10/16/2013 23:13
2-Hexanone	ND	2.1	1	10/16/2013 23:13
4-Methyl-2-pentanone (MIBK)	8.6	2.1	1	10/16/2013 23:13
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/16/2013 23:13
Methylene chloride	ND	1.8	1	10/16/2013 23:13
Methyl methacrylate	ND	0.42	1	10/16/2013 23:13
Naphthalene	ND	5.3	1	10/16/2013 23:13
Propene	ND	88	1	10/16/2013 23:13
Styrene	ND	2.2	1	10/16/2013 23:13
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/16/2013 23:13
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/16/2013 23:13
Tetrachloroethene	ND	3.4	1	10/16/2013 23:13
Tetrahydrofuran	ND	1.5	1	10/16/2013 23:13
Toluene	18	1.9	1	10/16/2013 23:13
1,2,4-Trichlorobenzene	ND	3.8	1	10/16/2013 23:13
1,1,1-Trichloroethane	ND	2.8	1	10/16/2013 23:13
1,1,2-Trichloroethane	ND	2.8	1	10/16/2013 23:13
Trichloroethene	ND	2.8	1	10/16/2013 23:13
Trichlorofluoromethane	ND	2.8	1	10/16/2013 23:13
1,2,4-Trimethylbenzene	10	2.5	1	10/16/2013 23:13
1,3,5-Trimethylbenzene	ND	2.5	1	10/16/2013 23:13
Vinyl Acetate	ND	1.8	1	10/16/2013 23:13
Vinyl Chloride	ND	1.3	1	10/16/2013 23:13

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-1	1310518-005A	Soil Gas	10/15/2013 13:49	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

12.72	25.34
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Analyses	Result	RL	DF	Date Analyzed
Xylenes, Total	28	6.6	1	10/16/2013 23:13
Surrogates	REC (%)	Limits		
1,2-DCA-d4	84	70-130		10/16/2013 23:13
Toluene-d8	82	70-130		10/16/2013 23:13
4-BFB	83	70-130		10/16/2013 23:13

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CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

AR Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-2	1310518-006A	Soil Gas	10/15/2013 14:25	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

12.43	24.77
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Analyses	Result	RL	DF	Date Analyzed
Acetone	110	60	1	10/16/2013 23:58
Acrolein	8.0	0.23	1	10/16/2013 23:58
Acrylonitrile	ND	1.1	1	10/16/2013 23:58
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/16/2013 23:58
Benzene	12	1.6	1	10/16/2013 23:58
Benzyl chloride	ND	2.6	1	10/16/2013 23:58
Bromodichloromethane	ND	3.5	1	10/16/2013 23:58
Bromoform	ND	5.2	1	10/16/2013 23:58
Bromomethane	4.9	2.0	1	10/16/2013 23:58
1,3-Butadiene	ND	1.1	1	10/16/2013 23:58
2-Butanone (MEK)	ND	75	1	10/16/2013 23:58
t-Butyl alcohol (TBA)	ND	31	1	10/16/2013 23:58
Carbon Disulfide	ND	1.6	1	10/16/2013 23:58
Carbon Tetrachloride	ND	3.2	1	10/16/2013 23:58
Chlorobenzene	ND	2.4	1	10/16/2013 23:58
Chloroethane	ND	1.3	1	10/16/2013 23:58
Chloroform	ND	2.4	1	10/16/2013 23:58
Chloromethane	ND	1.0	1	10/16/2013 23:58
Cyclohexane	ND	18	1	10/16/2013 23:58
Dibromochloromethane	ND	4.4	1	10/16/2013 23:58
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/16/2013 23:58
1,2-Dibromoethane (EDB)	ND	3.9	1	10/16/2013 23:58
1,2-Dichlorobenzene	ND	3.0	1	10/16/2013 23:58
1,3-Dichlorobenzene	ND	3.0	1	10/16/2013 23:58
1,4-Dichlorobenzene	ND	3.0	1	10/16/2013 23:58
Dichlorodifluoromethane	ND	2.5	1	10/16/2013 23:58
1,1-Dichloroethane	ND	2.0	1	10/16/2013 23:58
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/16/2013 23:58
1,1-Dichloroethene	ND	2.0	1	10/16/2013 23:58
cis-1,2-Dichloroethene	ND	2.0	1	10/16/2013 23:58
trans-1,2-Dichloroethene	ND	2.0	1	10/16/2013 23:58
1,2-Dichloropropane	ND	2.4	1	10/16/2013 23:58
cis-1,3-Dichloropropene	ND	2.3	1	10/16/2013 23:58
trans-1,3-Dichloropropene	ND	2.3	1	10/16/2013 23:58

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

 Angela Rydelius, Lab Manager



## Analytical Report

**Client:** Ground Zero Analysis, Inc.  
**Project:** #942; Stockbridge The Green  
**Date Received:** 10/16/13 10:34  
**Date Prepared:** 10/16/13-10/17/13

**WorkOrder:** 1310518  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:**  $\mu\text{g}/\text{m}^3$

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-2	1310518-006A	Soil Gas	10/15/2013 14:25	GC24	83090

#### Initial Pressure (psia)      Final Pressure (psia)

12.43	24.77
-------	-------

Analtes	Result	RL	DE	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/16/2013 23:58
Dilisopropyl ether (DIPE)	ND	2.1	1	10/16/2013 23:58
1,4-Dioxane	ND	1.8	1	10/16/2013 23:58
Ethanol	ND	96	1	10/16/2013 23:58
Ethyl acetate	3.3	1.8	1	10/16/2013 23:58
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/16/2013 23:58
Ethylbenzene	11	2.2	1	10/16/2013 23:58
4-Ethyltoluene	3.2	2.5	1	10/16/2013 23:58
Freon 113	ND	3.9	1	10/16/2013 23:58
Heptane	ND	21	1	10/16/2013 23:58
Hexachlorobutadiene	ND	5.4	1	10/16/2013 23:58
Hexane	ND	18	1	10/16/2013 23:58
2-Hexanone	2.6	2.1	1	10/16/2013 23:58
4-Methyl-2-pentanone (MIBK)	26	2.1	1	10/16/2013 23:58
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/16/2013 23:58
Methylene chloride	ND	1.8	1	10/16/2013 23:58
Methyl methacrylate	ND	0.42	1	10/16/2013 23:58
Naphthalene	ND	5.3	1	10/16/2013 23:58
Propane	ND	88	1	10/16/2013 23:58
Styrene	ND	2.2	1	10/16/2013 23:58
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/16/2013 23:58
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/16/2013 23:58
Tetrachloroethene	ND	3.4	1	10/16/2013 23:58
Tetrahydrofuran	ND	1.5	1	10/16/2013 23:58
Toluene	42	1.9	1	10/16/2013 23:58
1,2,4-Trichlorobenzene	ND	3.8	1	10/16/2013 23:58
1,1,1-Trichloroethane	ND	2.8	1	10/16/2013 23:58
1,1,2-Trichloroethane	ND	2.8	1	10/16/2013 23:58
Trichloroethene	ND	2.8	1	10/16/2013 23:58
Trichlorofluoromethane	ND	2.8	1	10/16/2013 23:58
1,2,4-Trimethylbenzene	9.8	2.5	1	10/16/2013 23:58
1,3,5-Trimethylbenzene	4.3	2.5	1	10/16/2013 23:58
Vinyl Acetate	ND	1.8	1	10/16/2013 23:58
Vinyl Chloride	ND	1.3	1	10/16/2013 23:58

(Cont.)

CDPH ELAP 1644 ♦ NELAP 12283CA

GM Analyst's Initial

*AR* Angela Rydelius, Lab Manager



## Analytical Report

Client: Ground Zero Analysis, Inc.  
Project: #942; Stockbridge The Green  
Date Received: 10/16/13 10:34  
Date Prepared: 10/16/13-10/17/13

WorkOrder: 1310518  
Extraction Method TO15  
Analytical Method: TO15  
Unit: µg/m³

### Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
VW-2	1310518-006A	Soil Gas	10/15/2013 14:25	GC24	83090

#### Initial Pressure (psia)                          Final Pressure (psia)

12.43	24.77
-------	-------

Analyses	Result	RL	DF	Date Analyzed
Xylenes, Total	52	6.6	1	10/16/2013 23:58
Surrogates	REC (%)	Limits		
1,2-DCA-d4	86	70-130		10/16/2013 23:58
Toluene-d8	80	70-130		10/16/2013 23:58
4-BFB	81	70-130		10/16/2013 23:58



## Quality Control Report

**Client:** Ground Zero Analysis, Inc.

**WorkOrder:** 1310518

**Date Prepared:** 10/17/13

**BatchID:** 83040

**Date Analyzed:** 10/17/13

**Extraction Method:** ASTM D 1946-90

**Instrument:** GC26

**Analytical Method:** ASTM D 1946-90

**Matrix:** Soilgas

**Unit:** %

**Project:** #942; Stockbridge The Green

**Sample ID:** MB/LCS-83040

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### QC SUMMARY REPORT FOR ASTM D 1946-90

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Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.009439	0.0050	0.010	-	94.4	60-140

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## Quality Control Report

**Client:** Ground Zero Analysis, Inc.

**WorkOrder:** 1310518

**Date Prepared:** 10/16/13

**BatchID:** 83090

**Date Analyzed:** 10/16/13 - 10/17/13

**Extraction Method:** TO15

**Instrument:** GC24

**Analytical Method:** TO15

**Matrix:** Soilgas

**Unit:** nL/L

**Project:** #942; Stockbridge The Green

**Sample ID:** MB/LCS-83090

### QC SUMMARY REPORT FOR TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	25	-	-	-	-
Acrylonitrile	ND	28.7	0.50	25	-	107	60-140
tert-Amyl methyl ether (TAME)	ND	27.19	0.50	25	-	109	60-140
Benzene	ND	25.24	0.50	25	-	101	60-140
Benzyl chloride	ND	28.53	0.50	25	-	114	60-140
Bromodichloromethane	ND	23.12	0.50	25	-	92.5	60-140
Bromoform	ND	28.18	0.50	25	-	113	60-140
Bromomethane	ND	-	0.50	-	-	-	-
1,3-Butadiene	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	25	-	-	-	-
t-Butyl alcohol (TBA)	ND	24.91	10	25	-	99.6	60-140
Carbon Disulfide	ND	25.6	0.50	25	-	102	60-140
Carbon Tetrachloride	ND	28.16	0.50	25	-	113	60-140
Chlorobenzene	ND	23.87	0.50	25	-	95.5	60-140
Chloroethane	ND	22.99	0.50	25	-	92	60-140
Chloroform	ND	21.17	0.50	25	-	84.7	60-140
Chloromethane	ND	23.42	0.50	25	-	93.7	60-140
Cyclohexane	ND	-	5.0	-	-	-	-
Dibromochloromethane	ND	30.09	0.50	25	-	120	60-140
1,2-Dibromo-3-chloropropane	ND	34.24	0.012	25	-	137	60-140
1,2-Dibromoethane (EDB)	ND	23.56	0.50	25	-	94.2	60-140
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	25.68	0.50	25	-	103	60-140
1,4-Dichlorobenzene	ND	22.53	0.50	25	-	90.1	60-140
Dichlorodifluoromethane	ND	23.86	0.50	25	-	95.4	60-140
1,1-Dichloroethane	ND	24.31	0.50	25	-	97.3	60-140
1,2-Dichloroethane (1,2-DCA)	ND	21.38	0.50	25	-	85.5	60-140
1,1-Dichloroethene	ND	-	0.50	-	-	-	-
cis-1,2-Dichloroethene	ND	25.55	0.50	25	-	102	60-140
trans-1,2-Dichloroethene	ND	25.88	0.50	25	-	104	60-140
1,2-Dichloropropane	ND	21.34	0.50	25	-	85.4	60-140
cis-1,3-Dichloropropene	ND	28.17	0.50	25	-	113	60-140
trans-1,3-Dichloropropene	ND	26.19	0.50	25	-	105	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	23.3	0.50	25	-	93.2	60-140
Diisopropyl ether (DIPE)	ND	32.53	0.50	25	-	130	60-140
1,4-Dioxane	ND	24.82	0.50	25	-	99.3	60-140
Ethanol	ND	-	50	-	-	-	-
Ethyl acetate	ND	25.42	0.50	25	-	102	60-140
Ethyl tert-butyl ether (ETBE)	ND	27.14	0.50	25	-	109	60-140
Ethylbenzene	ND	24.8	0.50	25	-	99.2	60-140

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CDPH ELAP 1644 ♦ NELAP 12283CA

*Sgt*

QA/QC Officer

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## Quality Control Report

<b>Client:</b>	Ground Zero Analysis, Inc.	<b>WorkOrder:</b>	1310518
<b>Date Prepared:</b>	10/16/13	<b>BatchID:</b>	83090
<b>Date Analyzed:</b>	10/16/13 - 10/17/13	<b>Extraction Method:</b>	TO15
<b>Instrument:</b>	GC24	<b>Analytical Method:</b>	TO15
<b>Matrix:</b>	Soilgas	<b>Unit:</b>	nL/L
<b>Project:</b>	#942; Stockbridge The Green	<b>Sample ID:</b>	MB/LCS-83090

### QC SUMMARY REPORT FOR TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
4-Ethyltoluene	ND	-	0.50	-	-	-	-
Freon 113	ND	24.21	0.50	25	-	96.8	60-140
Heptane	ND	-	5.0	-	-	-	-
Hexachlorobutadiene	ND	26.56	0.50	25	-	108	60-140
Hexane	ND	-	5.0	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	29.26	0.50	25	-	117	60-140
Methyl-t-butyl ether (MTBE)	ND	27.17	0.50	25	-	109	60-140
Methylene chloride	ND	22.02	0.50	25	-	88.1	60-140
Naphthalene	ND	53.04	1.0	50	-	106	60-140
Propene	ND	-	50	-	-	-	-
Styrene	ND	27.29	0.50	25	-	109	60-140
1,1,1,2-Tetrachloroethane	ND	27.98	0.50	25	-	112	60-140
1,1,2,2-Tetrachloroethane	ND	21.21	0.50	25	-	84.8	60-140
Tetrachloroethene	ND	24.4	0.50	25	-	97.6	60-140
Tetrahydrofuran	ND	22.27	0.50	25	-	89.1	60-140
Toluene	ND	23.27	0.50	25	-	93.1	60-140
1,2,4-Trichlorobenzene	ND	27.26	0.50	25	-	109	60-140
1,1,1-Trichloroethane	ND	27.75	0.50	25	-	111	60-140
1,1,2-Trichloroethane	ND	22.12	0.50	25	-	88.5	60-140
Trichloroethene	ND	20.08	0.50	25	-	80.3	60-140
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	25.31	0.50	25	-	101	60-140
1,3,5-Trimethylbenzene	ND	25.65	0.50	25	-	103	60-140
Vinyl Acetate	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	19.48	0.50	25	-	77.9	60-140
Xylenes, Total	ND	76.18	1.5	75	-	102	60-140
<b>Surrogate Recovery</b>							
1,2-DCA-d4	418.9	421.6		500	84	84	60-140
Toluene-d8	415.8	417.5		500	83	84	60-140
4-BFB	395	410.8		500	79	82	60-140

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1310518

ClientCode: GZAE

 WaterTrax     WriteOn     EDF     Excel     EQuIS     Email     HardCopy     ThirdParty     J-flag

## Report to:

Greg Stahl  
Ground Zero Analysis, Inc.  
1714 Main Street  
Escalon, CA 95320  
(209) 838-9888 FAX: (209) 838-9883

Email: gstahl@groundzeroanalysis.com  
cc:  
PO:  
ProjectNo: #942; Stockbridge The Green

## Bill to:

Accounts Payable  
Ground Zero Analysis, Inc.  
1714 Main Street  
Escalon, CA 95320

Requested TAT: 5 days

Date Received: 10/16/2013

Date Printed: 10/16/2013

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
1310518-001	VW-3	Soil Gas	10/15/2013 11:42	<input type="checkbox"/>	A	A										
1310518-002	VW-4	Soil Gas	10/15/2013 12:22	<input type="checkbox"/>	A	A										
1310518-003	VW-5	Soil Gas	10/15/2013 13:04	<input type="checkbox"/>	A	A										
1310518-004	VW-5 DUP	Soil Gas	10/15/2013 13:04	<input type="checkbox"/>	A	A										
1310518-005	VW-1	Soil Gas	10/15/2013 13:49	<input type="checkbox"/>	A	A										
1310518-006	VW-2	Soil Gas	10/15/2013 14:25	<input type="checkbox"/>	A	A										

Test Legend:

1 PRHELUM SHROUD	2 O15_Scan-SIM_SOIL(UG/M)	3	4	5
6	7	8	9	10
11	12			

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

Prepared by: Maria Venegas

## 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.

1310518



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: Greg Stahl Bill To: Ground Zero Analysis

Company: Ground Zero Analysis, Inc.

1172 Kansas Ave., Redondo, CA 90278

gstahl@groundzeranalysis.com E-Mail:

Tele: (209) 522-4119 Fax: (209) 522-4227

Project #: 942 Project Name: Stockbridge The Green

Project Location: 5411 Martinelli Way, Dublin

Sampler Signature: Joe Usrey

## 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

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)
VW-3	10/15/13	11:42	CAN7509-857	MAN316T-994	NOLI 67 TO-15, He by	X	-29	-5			
					ASTM D 1946-90						
VW-4	10/15/13	12:22	CAN6421-852	MAN316T-999		X	-30	-5			
VW-5	10/15/13	13:04	CAN6303-783	MAN316-728		X	-30	-5			
VW-5 Dup	10/15/13	13:04	CAN5807-738	MAN316-728		X	-30	-5			
VW-1	10/15/13	17:49	CAN6310-790	MAN714-821		X	-30	-5			
VW-2	10/15/13	14:25	CAN60163-749	MAN316-711		X	-30	-5			
Relinquished By:	Date:	Time:	Received By:								
	10/16/13	10:17									
Relinquished By:	Date:	Time:	Received By:								
Relinquished By:	Date:	Time:	Received By:								

Temp (°C): \_\_\_\_\_ Work Order #: \_\_\_\_\_

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

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



## Sample Receipt Checklist

Client Name: **Ground Zero Analysis, Inc.**

Date and Time Received: **10/16/2013 10:34:04 AM**

Project Name: **#942; Stockbridge The Green**

Login Reviewed by:

**Maria Venegas**

WorkOrder N°: **1310518**

Matrix: **Soil Gas**

Carrier: **Client Drop-In**

### 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/cooler? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Shipping container/cooler 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: