# NDR

#### ADDITIONAL SUBSURFACE INVESTIGATION AND INDOOR AIR QUALITY SURVEY FOR

#### FORMER ONE HOUR MARTINIZING (TWO LOCATIONS) AND FORMER WILLIS DRY CLEANERS

Colonia Verde Shopping Center 7113, 7115, 7181, and 7189 East Tanque Verde Road Tucson, Arizona 85715

ADEQ Site Code: 512819-00

Project Number: WWFC 01-16-327-AZ (A-3)

October 31, 2017

Prepared For

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#### TABLE OF CONTENTS

1 EXECUTIVE SUMMARY	1
2 INTRODUCTION	2
3 BACKGROUND	3
3.1 Site Description         3.2 Previous Environmental Investigations	3
3.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS         3.3 GEOLOGIC AND HYDROGEOLOGIC SETTING	3 4
4 SCOPE OF WORK	6
5 FIELD WORK	
6 RESULTS OF LABORATORY ANALYSES	9
7 INDOOR AIR QUALITY SURVEY	13
8 RESULTS OF AIR LABORATORY ANALYSES	15
9 SUMMARY AND CONCLUSIONS	16
10 RELIANCE AND LIMITATIONS	17
11 SIGNATURE PAGE	18

FIGURES

APPENDICES

APPENDIX A	SAMPLING METHODS AND FIELD PROCEDURES
APPENDIX B	BORING LOGS
APPENDIX C	LABORATORY ANALYSIS REPORTS AND CHAIN-OF-CUSTODY FORMS
APPENDIX D	BUILDING SURVEYS AND CHEMICAL INVENTORY

#### **1 EXECUTIVE SUMMARY**

ADR Environmental Group, Inc. (ADR) is pleased to present this report describing the results of a subsurface investigation of soil vapor and an indoor air quality survey at the historical location of three former dry cleaning facilities (One Hour Martinizing, at two locations; and Wallis Cleaners), located within the Colonia Verde shopping complex at 7111 - 7181 East Tanque Verde Road in Tucson, Arizona (the "subject Property"). The two former One Hour Martinizing tenant spaces are currently occupied by a Walgreens, Cold Stone Creamery, and The Vape Zone Smokeless. The former Wallis Cleaners was located in the vicinity of Any Lab Test Now and Beltone Hearing Aids.

As discussed in detail below, the results of the laboratory analysis of the soil vapor samples collected from vapor wells VW-1 through VW-6 indicated the presence of the dry cleaning solvent tetrachloroethene (PCE) at concentrations ranging from 281 to 10,440  $\mu$ g/m<sup>3</sup>. Generally, the highest concentrations were detected in vapor well VW-4, located near the former Wallis Cleaners (near Beltone Hearing Aids). The remaining dry cleaning related VOCs, including TCE, were below laboratory reporting limits.

However –no dry cleaning related VOCs, including PCE, were reported in indoor air (*i.e.*, the results were "non-detect"). The results were also non-detect for the presence of VOCs in the background air samples. Based on the absence of VOC compounds in indoor air in all samples, no apparent health hazard exists for the employees and customers of these businesses.

This report should be provided to the Arizona Department of Environmental Quality (ADEQ) in order to determine the next phase of work required for achieving written regulatory closure in the form of a "No Further Action" letter.

#### 2 INTRODUCTION

ADR Environmental Group, Inc. (ADR) is pleased to present this report describing the results of a subsurface soil vapor investigation and indoor air quality survey at the historical location of three former dry cleaning facilities (One Hour Martinizing, at two locations; and Wallis Cleaners), located within the Colonia Verde shopping complex at 7111 - 7181 East Tanque Verde Road in Tucson, Arizona (subject Property, Figure 1).

This work was conducted in response to a May 23, 2017, letter issued by the Arizona Department of Environmental Quality (ADEQ) requiring the performance of additional work at the subject Property. The two former One Hour Martinizing tenant spaces are currently occupied by a Walgreens, Cold Stone Creamery, and The Vape Zone Smokeless. The former Wallis Cleaners was located in the vicinity of Any Lab Test Now and Beltone Hearing Aids.

In light of potential environmental concerns related to dry cleaning facilities and the result of ADR's July 2016 subsurface investigation, ADR conducted an additional subsurface investigation to evaluate whether dry cleaning-related volatile organic compounds (VOCs) were present in soil vapor beneath the building slab of the former dry cleaners at levels exceeding applicable regulatory guidance. Additionally, ADR performed an indoor air quality survey to evaluate potential health risks to human receptors from the inhalation of dry cleaning related VOCs emanating from soil vapor beneath the subsurface to indoor air within the three former dry cleaner sites. Fieldwork for the soil vapor investigation and indoor air quality survey was conducted between September 28 and October 9, 2017, in accordance with ADR's proposal, dated August 31, 2017.

This report includes a summary of site background information, a description of the boring advancement, a description of the indoor air survey sampling strategy, soil vapor and indoor air sample collection methods, the results of laboratory analyses, and ADR's conclusions and recommendations. Under contract to ADR, Mr. Gary Bender, an Arizona Registered Geologist employed by Bender Environmental Consulting (Arizona State Board of Technical Registration, Firm Registration #10154-0), directed the installation of the soil boring vapor probes, conducted the indoor air survey, and collected the soil vapor and indoor air samples. The project was coordinated by ADR Project Geologist Larry A. Flora and ADR Project Manager Kevin F. Gallagher.

#### 3 BACKGROUND

#### **3.1 Site Description**

Colonia Verde, located in a commercial and residential area of Tucson, consists of an irregular-shaped parcel of land totaling approximately 8.6 acres and is occupied by several retail buildings totaling approximately 98,950 square feet. Colonia Verde is a neighborhood shopping center anchored by a Safeway store.

The remaining portion of the site consists of asphalt-paved parking areas, concrete-paved truck loading pads and walkways, and landscaped areas. Two driveways off East Tanque Verde Road to the south, one driveway off North Sabino Canyon Road to the west, one driveway off East Camino Bacelar to the north, and two driveways off North Camino Valle Verde to the east provide vehicle access to the shopping center. The elevation of the shopping center is approximately 2,520 feet above mean sea level with a topographic gradient toward the north.

#### **3.2 Previous Environmental Investigations**

In September 1992, Environmental Engineering Consultants, Inc. (EEC) collected four soil samples from the Fersha Corp. tenant space (then doing business as one Hour Martinizing) located within the Colonia Verde shopping center at 7113 East Tanque Verde Road. The soil samples, collected at a depth of 18 inches below ground surface (bgs), were analyzed for tetrachloroethene (PCE). EEC reported that one sample contained a detectable concentration of 2.0 parts per million (ppm) of PCE. EEC recommended additional sampling to determine the extent of soil contamination.

Accordingly, six additional soil samples were collected – three at depths of 5 feet bgs and three at 18 inches bgs. PCE was detected at concentrations up to 50 ppm in three shallow samples; however, EEC believed the reported 50 ppm concentration was erroneous since another sample taken within 3 inches of this sample had a reported concentration of 1.61 ppm. The then-current Arizona Department of Environmental Quality (ADEQ) Health-Based Guidance Level for PCE in soils was 27 ppm. EEC estimated the vertical extent of PCE-contamination to be 2 feet and the lateral extent to be an area no greater than 10 feet by 20 feet.

Subsequently, EEC excavated approximately 400 cubic feet of soils from the contaminated area. Four samples were collected from the floor of the excavation and analyzed for PCE; no PCE was detected in three samples and PCE was reported at 0.35 ppm in one sample. An additional one foot of soil was therefore removed from the area where the PCE was detected and the floor of this excavation was re-sampled; no PCE was detected.

In February 2002, EEC collected two soil samples at the relocated One Hour Martinizing tenant space (relocated from its original space to another building but maintaining the 7113 East Tanque Verde Road address). The samples were collected from approximately 12 inches bgs. One of these samples was collected near the front of the out-of-service dry cleaning machine and the second sample was collected from the former PCE storage area in the rear of the machine. The samples were analyzed for PCE. PCE was reported at a concentration of 0.13 ppm in the sample collected from the former PCE storage area.

In light of the previous investigations conducted by EEC, which documented soil contamination beneath the former One Hour Martinizing tenant spaces and Wallis Cleaners

(what sampling was ever done at the former Wallis Cleaners?), ADR performed a sub-slab vapor investigation at the historical location of the former cleaners in order to determine whether releases of PCE could represent a potential vapor intrusion concern.

On July 20, 2016, to evaluate the presence or absence of dry cleaning-related VOCs in subslab vapors beneath both former One Hour Martinizing tenant spaces (Walgreens and Cold Stone Creamery/vacant unit) and within the general vicinity of former Wallis Cleaners (Mayfield Florist and Beltone - Hearing Aid), 10 vapor implants (designated SG-01 through SG-10) were installed, as shown in Figure 2. More specifically, vapor implants SG-01, SG-02, and SG-03 were installed within the southwest portion of Walgreens, vapor implants SG-04 and SG-05 were installed within the Beltone – Hearing Aid tenant space, implants SG-06 and SG-07 were installed within the Mayfield Florist tenant space, vapor implant SG-08 was installed near the adjoining wall of vacant tenant space A102 and Cold Stone Creamery, and vapor implants SG-09 and SG-10 were installed within the Cold Stone Creamery space. The sub-slab borings were subsequently converted to sub-slab vapor wells.

Laboratory analysis of sub-slab vapor samples SG-01 through SG-10 detected the presence of the dry cleaning solvent PCE at concentrations ranging from 80 to 12,750 micrograms/cubic meter ( $\mu$ g/m<sup>3</sup>). The highest concentration was detected in sample SG-03, located within Walgreens; the original location of One Hour Martinizing. Trichloroethene (TCE), a breakdown product of PCE, was detected in sample SG-03 at a concentration of 17.8  $\mu$ g/m<sup>3</sup>. The remaining dry cleaning related VOCs in the samples were below laboratory reporting limits. As shown in Table 1 of attachment A, the concentration of PCE detected in samples SG-01 and SG-03 exceed the established EPA VISL for commercial buildings with a risk factor of 1x10<sup>-6</sup> of 1,600  $\mu$ g/m<sup>3</sup>.

Based on these exceedances of applicable regulatory thresholds, ADR reported the elevated PCE concentrations to ADEQ. After evaluation of ADR's results, in a letter dated May 23, 2017, ADEQ required an additional investigation of the subject Property. The additional investigation was to consist of collecting air samples and soil vapor samples from the three former dry cleaning tenant spaces. According to ADEQ, the contaminants of concern (COC) at this time are PCE and TCE.

Accordingly, ADR submitted a July 26, 2017 *Work Plan to Perform Additional Subsurface Investigation and Conduct an Indoor Air Quality Survey* (the Work Plan) to the ADEQ. The ADEQ approved the Work Plan on August 25, 2017 with a note indicating that soil vapor samples should be collected until three consecutive samples of decreasing concentration are encountered.

#### 3.3 Geologic and Hydrogeologic Setting

According to the 1973 "Geohydrology and Water Resources of the Tucson Basin, Arizona" report prepared by E. S. Davidson, the subject Property is located in the Tucson Basin, an alluvium-filled valley bounded by mountainous areas. This structural basin was formed by faulting along the western margin. Episodic faulting over an extended time period created a deepening basin with internal drainage.

Site specific groundwater information was not available for the subject Property. According to information provided by Arizona Department of Water Resources (ADWR) for a well (D-13-15 31DDA) located approximately 1000 feet west of the shopping center, the depth to

groundwater at that well was measured at approximately 231 feet bgs in January 2017. Based on topography, the localized groundwater flow direction is likely toward the north.

It should be noted that estimated groundwater levels may vary due to fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations.

#### 4 SCOPE OF WORK

In accordance with ADR's July 26, 2017, *Work Plan to Perform Additional Subsurface Investigation and Conduct an Indoor Air Quality Survey* (Work Plan), ADR conducted an indoor air quality survey to evaluate potential health risks to human receptors from the inhalation of dry-cleaning related VOCs emanating from soil vapor beneath the subsurface to indoor air within the three former dry cleaner sites and advanced two soil vapor borings adjacent each of the former dry cleaner tenant spaces. Soil boring fieldwork was conducted in accordance with the drilling and sampling methods described in Attachment A.

The completed scope of work for the subsurface investigation and air quality survey included the following:

- Preparation of an updated Site Assessment Work Plan/Health and Safety Plan.
- Notification of public underground utility services and utilization of a private utility locating service to insure drilling did not encounter utility lines.
- Advancement of six hollow-stem soil vapor borings to depths of 40 feet bgs at two locations adjacent to the each of the three former dry cleaning tenant spaces.
- For descriptive purposes, collection of soil samples at vertical intervals of 5 feet bgs as the boring were advanced. Recovered soil samples were screened in the field for the presence of organic vapors with a portable photoionization detector (PID).
- Conversion of the soil borings into 40-foot deep nested soil vapor wells with sampling probes set at 5, 10, 15, 20, 25, 30, 35, and 40 feet bgs.
- Collection of discrete soil vapor samples from the vapor borings at 5, 10, 15, 20, 25, 30, 35, and 40 feet bgs
- Preparation of a building survey and chemical inventory survey of the Walgreens, The Vape Zone Smokeless, and Beltone Hearing Aids tenant spaces.
- Collecting five indoor air samples (three samples from Walgreens (including 1 duplicate sample), one sample from The Vape Zone Smokeless, one sample from Beltone Hearing Aids) and collecting one outdoor air sample upgradient of the prevailing wind direction from each former dry cleaner site (total of three background samples)
- Analysis of selected soil vapor and indoor samples for dry cleaning related VOCs (PCE, TCE, trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,1-dichloroethene and vinyl chloride) in accordance with EPA Method TO-15.
- Analysis of selected soil samples collected from the drummed auger soil cuttings by a state-certified laboratory in accordance with EPA Method 8260.
- Preparation of this report summarizing the findings of the investigation.

#### 5 FIELD WORK

On September 28 and 29, 2017, using truck-mounted hollow stem auger drilling methods, ADR directed the advancement of six 6-inch diameter soil vapor borings (two per former dry cleaning site) to a depth of 40 feet bgs. More specifically, four of the soil borings (designated VW-1, VW-2, VW-5 and VW-6) were located adjacent to the two former One Hour Martinizing tenant spaces, currently occupied by a Walgreens, Cold Stone Creamery, and The Vape Zone Smokeless. Two additional soil vapor borings (VW-3 and VW-3) were located adjacent the former Wallis Cleaners, located in the vicinity of Any Lab Test Now and Beltone Hearing Aids. Soil vapor boring locations are shown in Figure 2.

Soil samples were collected from each vapor boring at vertical depths of 5 feet or less as the borings were advanced. The soil recovered was used for soil classification (in accordance with the guidelines of ASTM D-2487-85) and PID screening. Subjective field observations of soil samples did not indicated the presence of staining or odors in any of the recovered soil samples. Screening of the recovered soil samples in the field using a PID did not indicate the presence of organic vapors.

Soils encountered in borings B-1 through B-6 to a depth of 40 feet bgs were generally similar in character, consisting of an interbedded sequence of light brown to reddish brown, slightly damp to damp, gravelly sand, sand, and silt to approximately 30-35 feet bgs, at approximately 35 feet bgs the soils changed to a clayey sand. Groundwater was not encountered in any of the soil vapor borings advanced at the site. Soil boring logs describing soil types encountered in each borehole are contained in Appendix B.

To characterize the vertical extent of the dry cleaning VOCs in soil vapor beneath the subject Property soil borings B-1 through B-6 were completed as 40-foot deep nested soil vapor wells (designated VW-1 through VW-6). To construct the nested vapor wells, 1-inch long probe tips, attached to 1/4-inch outside diameter polyethylene tubing, were placed into the boreholes at the planned depths of 5, 10, 15, 20, 25, 30, 35, and 40 feet bgs. A sand pack was placed around the probes (extending 6-inches above and below the probe tips). Each sampling interval was sealed with bentonite grout above and below the sand pack in the annulus of the boring. Soil probe tubing was properly marked at the surface to identify the probe location and depth. The nested vapor wells were subsequently covered by a traffic rated well boxes. In accordance with ADEQ's April 21, 2017 *Soil Vapor Sampling Guidance* document, soil vapor sampling was not conducted for at least 48 hours following vapor probe installation. Soil cuttings generated from the drilling were placed in 55-gallon DOT drums and stored on site pending chemical analysis of the drummed soil.

#### Soil Vapor Sampling

On October 6, 2017, soil vapor samples were collected from vapor wells VW-1 through VW-6. Vapor samples were initially collected from probes installed at 5, 10, 15, and 20 feet bgs. Prior to sampling, to obtain a sample that represents equilibrated vapor concentrations of the soil surrounding the sampling probe, the well probes were purged at a 200 mL/min default rate 3 to 5 calculated internal well volumes. The purging was conducted using an electric pump supplied by Airtech Environmental Laboratories (AEL). Following the purging, soil vapor samples were then collected from each 5, 10, 15, and 20 foot probe in 1-liter summa canisters equipped with 200 mL/min flow controllers. Duplicate vapor samples were collected from the probe installed in well VW-5 at 20 feet. The summa canisters and flow controllers were supplied by AEL. To evaluate whether ambient air was inadvertently introduced into the soil vapor sample during the collection process, rags moistened with the

leak detection chemical difluoroethane (DFA) were exposed adjacent to the bentonite seal and at all connections of the sampling train. After approximately five minutes the Summa canister valves were closed. The summa canisters were subsequently labeled and transported to an off-site analytical laboratory under chain of custody protocols.

Based on the results of the October 6, 2017 vapor sampling (indicating the continued presence of VOC vapors at depth and no decreasing trend), on October 19, 2017 additional soil vapor samples were collected by ADR from each vapor well probe installed at 25, 30, 35, and 40 feet bgs. The sampling protocol was identical to the October 6 sample collection methods, with a duplicate sample collected again from VW-5, at 40 feet.

#### 6 RESULTS OF LABORATORY ANALYSES

During each of the two sampling events (October 9 and October 19, 2017), ADR submitted a total of 25 soil vapor samples to State of Arizona certified AEL, an analytical lab located in Phoenix, Arizona. Each soil vapor sample collected was analyzed for dry cleaning related VOCs by EPA TO-15. Results of the vapor analyses are compiled in Table 1. Copies of the certified analytical reports for the analyses are contained in Appendix B.

# TABLE 1Soil Vapor Sample Analytical Results7113, 7115, 7181 & 7189 E. Tanque Verde Road

Tucson, AZ 85715

Vapor concentrations in micrograms per cubic Meter (µg/m<sup>3</sup>)

Soil Vapor Sample ID and Location	Sample Depth (Feet bgs)	PCE <sup>1</sup>	TCE <sup>2</sup>	trans-1,2- DCE <sup>3</sup>	cis-1,2- DCE <sup>4</sup>	1,1-DCE <sup>5</sup>	Vinyl Chloride	DFA <sup>6</sup>
Second Location of Former	One Hour	Martinizing	(near Cold	Stone Cre	eamery and	d The Vape	e Zone Sm	okeless)
VW-1-5'	5	1290	<26.9 <sup>7</sup>	<19.8	<19.8	<19.9	<12.8	<270
VW-1-10'	10	2380	<26.9 <sup>6</sup>	<19.8	<19.8	<19.9	<12.8	<270
VW-1-15'	15	2150	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-1-20'	20	2480	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-1-25'	25	4997	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-1-30'	30	3560	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-1-35'	35	4285	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-1-40'	40	6475	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-5'	5	2340	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-10'	10	2610	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-15'	15	2710	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-20'	20	2990	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-25'	25 <b>3587</b>		<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-30'	30	4174	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-35'	35	5166	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-2-40'	40	6461	<26.9	<19.8	<19.8	<19.9	<12.8	<270
General Vicinity of Former V (near Beltone Hearing Aids,			nd Mayfield	Florist)				
VW-3-5'	5	290	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-3-10'	10	1210	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-3-15'	15	820	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-3-20'	20	1170	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-3-25'	25	955	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-3-30'	30	1092	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-3-35'	35	1413	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-3-40'	40	1313	<26.9	<19.8	<19.8	<19.9	<12.8	<270
VW-4-5'	5	2460	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-4-10'	10	4110	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-4-15'	15	5860	<53.7	<39.6	<39.6	<39.7	<25.6	<540
VW-4-20'	20	4460	<53.7	<39.6	<39.6	<39.7	<25.6	<540

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Soil Vapor Sample ID and Location	Sample Depth (Feet bgs)	PCE <sup>1</sup>	TCE <sup>2</sup>	trans-1,2- DCE <sup>3</sup>	cis-1,2- DCE <sup>4</sup>	1,1-DCE <sup>5</sup>	Vinyl Chloride	DFA <sup>6</sup>			
VW-4-25'	25	8678	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-4-30'	30	7933	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-4-35'	35	10440	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-4-40'	40	6848	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
Original Location of Former One Hour Martinizing (near Walgreens)											
VW-5-5' 5 1070 <26.9 <19.8 <19.8 <19.9 <12.8 <											
VW-5-10'	10	1130	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-15'	15	1180	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-20'	20	1010	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-20' (duplicate) Aka VW-7-20'	20	831	<26.9	5.9 <19.8 <1		<19.9	<12.8	<270			
VW-5-25'	25	3122	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-30'	30	3391	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-35'	35	2397	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-40'	40	2614	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-5-40' (duplicate) Aka VW-7-20'	40	2750	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-5'	5	281	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW6-10'	10	496	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-15'	15	584	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-20'	20	504	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-25'	25	972	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-30'	30	1173	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-35'	35	1091	<26.9	<19.8	<19.8	<19.9	<12.8	<270			
VW-6-40'	40	1460	<26.9	<19.8	<19.8	<19.9	<12.8	<270			

PCE <sup>1</sup>	=	Tetrachloroethene
TCE <sup>2</sup>	=	Trichloroethene
trans-1,2-DC	$E^3 =$	trans-1,2-dichloroethene
cis-1,2-DCE <sup>4</sup>	=	cis-1,2-dichloroethene
1,1-DCE <sup>5</sup>	=	1,1-dichloroethene
DFA <sup>6</sup>	=	Difluoroethane
<26.9 <sup>7</sup>	=	Compound not detected at indicated method detection limit (MDL)
VISLs <sup>8</sup>	=	Vapor Intrusion Screening Level (VISL) concentrations for exterior soil gas collected from soil borings
		and/or sub-slab vapors corresponding to a commercial building target indoor risk of $1 \times 10^{-6}$ ,
		established by EPA Office of Solid Waste and Emergency Response (OSWER), May 2016 VISL
		calculator
NSL <sup>9</sup>	=	No screening level established

As shown in Table 1, laboratory analysis of vapor samples collected from VW-1 through VW-6 detected the presence of the dry cleaning solvent PCE at concentrations ranging from 281 to 10,440 micrograms per cubic meter ( $\mu$ g/m<sup>3</sup>). Generally, the highest concentrations were detected in vapor well VW-4, located near the former Wallis Cleaner (near current Beltone Hearing Aids Any Lab Test Now and Mayfield Florist). The remaining dry cleaning related VOCs, including TCE, were below laboratory reporting limits.

According to Arizona Administrative Code, Title 18, Chapter 7, soil vapor concentration may be used to estimate the total contaminant concentration in soil if the ADEQ determines that the soil vapor concentration methodology will not be invalidated by the soil, hydrogeology, or other characteristics of the site. As a result, ADR calculated the theoretical PCE concentrations in soil using equation from the "ADEQ Soil Vapor Sampling Guidance", dated July 10, 2008, (Revised May 19, 2011), (Revised April 21, 2017). The results are presented in the table below.

TABLE 2										
Theoretical PCE Concentrations in Soil										
7113, 7115, 7181 & 7189 E. Tanque Verde Road										
Tucson, AZ 85715										
Vapor concentrations in micrograms per cubic Meter (µg/m <sup>3</sup> ) Theoretical Soil concentrations in micrograms per kilogram (µg/kg)										

Soil Vapor Sample ID and Location	Sample Depth (Feet bgs)	PCE <sup>1</sup> In Soil Vapor	Theoretical PCE in Soil <sup>2</sup>								
Second Location of Former One Hour Martinizing (near Cold Stone Creamery and The Vape Zone Smokeless)											
VW-1-5'	5	1290	2.0								
VW-1-10'	10	2380	3.7								
VW-1-15'	15	2150	3.3								
VW-1-20'	20	2480	3.9								
VW-1-25'	25	4997	7.8								
VW-1-30'	30	3560	5.5								
VW-1-35'	35	4285	6.7								
VW-1-40'	40	6475	10.1								
VW-2-5'	5	2340	3.6								
VW-2-10'	10	2610	4.1								
VW-2-15'	15	2710	4.2								
VW-2-20'	20	2990	4.6								
VW-2-25'	25	3587	5.6								
VW-2-30'	30	4174	6.5								
VW-2-35'	35	5166	8.0								
VW-2-40'	40	6461	10.0								
General Vicinity of Former Wallis Cleaners (near Beltone Hearing Aids, Any Lab Test Now and	Mayfield Florist)										
VW-3-5'	5	290	0.5								
VW-3-10'	10	1210	1.9								
VW-3-15'	15	820	12.7								
VW-3-20'	20	1170	1.8								
VW-3-25'	25	955	1.5								
VW-3-30'	30	1092	1.7								
VW-3-35'	35	1413	2.2								
VW-3-40'	40	1313	2.0								
VW-4-5'	5	2460	3.8								
VW-4-10'	10	4110	6.4								

Soil Vapor Sample ID and Location	Sample Depth (Feet bgs)	PCE <sup>1</sup> In Soil Vapor	Theoretical PCE in Soil <sup>2</sup>
VW-4-15'	15	5860	9.1
VW-4-20'	20	4460	6.9
VW-4-25'	25	8678	13.5
VW-4-30'	30	7933	12.3
VW-4-35'	35	10440	16.2
VW-4-40'	40	6848	10.6
Driginal Location of Former One Hour Martiniz	ing (near Walgreens)		
VW-5-5'	5	1070	1.7
VW-5-10'	10	1130	1.8
VW-5-15'	15	1180	1.8
VW-5-20'	20	1010	1.6
VW-5-20' (duplicate) Aka VW-7-20'	20	831	1.3
VW-5-25'	25	3122	4.9
VW-5-30'	30	3391	5.3
VW-5-35'	35	2397	3.7
VW-5-40'	40	2614	4.1
VW-5-40' (duplicate) Aka VW-7-20'	40	2750	4.3
VW-6-5'	5	281	0.4
VW6-10'	10	496	0.8
VW-6-15'	15	584	0.9
VW-6-20'	20	504	0.8
VW-6-25'	25	972	1.5
VW-6-30'	30	1173	1.82
VW-6-35'	35	1091	1.69
VW-6-40'	40	1460	2.3
Regulatory Guidance			
ADEQ – Remedial Action - Soil	Remediation Levels (SR	Ls)	13,000

 $PCE^{1}$ 

Tetrachloroethene

=

=

Calculated using equation from the "ADEQ Soil Vapor Sampling Guidance," dated July 10, 2008, (Revised May 19, 2011), (Revised April 21, 2017)

#### 7 INDOOR AIR QUALITY SURVEY

On October 6, 2017, ADR conducted an indoor air quality survey within the interior of Walgreens, the Vape Zone Smokeless, and Beltone Hearing Aids. Additionally, to evaluate the potential for outside ambient air to impact the indoor air sampling, one outdoor (background) sample was collected from Summa canisters placed upgradient of the prevailing wind direction (north/northwest) from each former dry cleaner site (total of three background samples). ADR's employed sampling strategy was intended to evaluate the potential for migration of subsurface PCE and related VOC vapors into the aforementioned tenant spaces. Prior to conducting the indoor air sampling, ADR coordinated with property management to ensure that the tenant spaces where sampling was to be performed were brought to representative operational conditions by activating the ventilation system at least 24 hours before sample collection.

Air samples were collected from the tenant spaces and outdoor areas over an 8-hour period in accordance with ADEQ's April 21, 2017 Soil Vapor Sampling Guidance document.

#### Walk-Through Inspection

On October 6, 2017, Mr. Gary Bender of Bender Environmental Consulting (under contract to ADR) conducted a walk-through inspection of Walgreens, The Vape Zone Smokeless, and Beltone Hearing Aid tenant spaces. The purpose of the walk-through inspection was to identify appropriate air sampling locations within the areas of concern as well as suitable background and control locations. Each of the site locations was visually inspected for activities, circumstances, and/or chemical operations that could influence the integrity of the indoor air samples. In addition, the visual inspection assessed the overall integrity of the installed flooring to identify potential vapor migration pathways (e.g., conduit/piping transitions, cracks, etc.). Initial screening of background indoor air for each space, using a PID, were non-detect. Building surveys and chemical inventory of each tenant space were recorded on Vapor Intrusion Guidance forms (see Appendix D). Specific issues relative to chemical operations and migration pathways are discussed below.

Walgreen – Walgreens sells a wide variety of products which might include small quantities of VOCs including medical supplies, cosmetics, and auto supplies.

The Vape Zone Smokeless - The walk through inspection of this tenant space did not identify the presence of any products containing VOCs in the tenant space.

Beltone Hearing Aids – Beltone sells and services hearing aids and has no chemicals other than non-VOC cleaning supplies.

#### Climate Data

The climatic conditions for the Tucson area were obtained from Colonia Verde Weather Station KAZTUCS0434, a commercial weather service located in Tucson, Arizona. A summary of climatic data on October 6, 2017, is presented below:

<u>Temperature</u> – The average outdoor temperature for the day of the sampling was 76 degrees Fahrenheit (F) with a high of approximately 95 degrees F.

<u>Wind</u> – The average wind speed ranged from 5 miles per hour gusting to 9 miles per hour, generally from the east and north-northeast. It is not anticipated that the low wind speed would have impacted the indoor air results.

<u>Barometric Pressure</u> – The barometric pressure ranged from 29.73 to 29.85 inches of mercury. Since the changes of barometric pressure during the sampling event were less than 0.2 inches of mercury, the indoor air samples were likely not affected by barometric changes.

Precipitation – There was no measurable precipitation during the sampling event.

<u>Heating</u>, <u>Ventilation and Air Conditioning</u> – The HVAC system was turned on for Walgreens, The Vape Zone Smokeless, and Beltone Hearing Aids during the period of the indoor air survey. The indoor temperatures for all three sites ranged from 70 to 80 degrees F.

#### Air Sampling

A total of eight air samples (designated Background-1, -2, -3, Walgreens-1, -2, -3, Vape-1, and Beltone-1) were collected at various locations within the designated tenant spaces and outside the building.

- Three outdoor background samples, intended as ambient or background in the prevailing upwind direction, were collected. Sample Background-1 was collected approximately 15 feet north of the rear of Walgreens, Background-2 was collected approximately 20 feet north of Beltone Hearing Aids, and Background-3 was collected approximately 25 feet northwest of The Vape Zone Smokeless.
- Three indoor air samples were collected within Walgreens. Sample Walgreen-1 was collected near the central portion of the southwest wall of the store and Walgreen-2 and Walgreen-3 (a duplicate sample) were collected within the manager's office near the northwest corner of the tenant space.
- One indoor air sample (designated Vape-1) was collected within The Vape Zone Smokeless tenant space. The sample was located within a storage room, near the central portion of the tenant space.
- One indoor air sample was collected from the Beltone Hearing Aid tenant space. Sample Beltone-1 was collected within the northwestern portion of the tenant space.

Air samples were collected at each of the sampling locations using evacuated, six liter Summa polished stainless steel canisters. Each of the Summa canisters and flow controllers were batch certified as clean at the analytical laboratory prior to use in the field. Pre-set flow controllers were connected to the canisters to meter airflow into the canisters over the course of the approximate 8-hour sampling period. Dedicated vacuum gauges were used to monitor the canister fill rates. The sample inlets of the Summa canisters were positioned within the breathing zone, approximately five feet above grade. At the completion of the sampling period, the final vacuum readings were recorded, the sample valves were closed, the flow controllers were removed and the sample inlets were capped.

At the completion of the sampling, the sampling canisters were sealed and transported to AEL for analyses.

#### 8 RESULTS OF AIR LABORATORY ANALYSES

ADR submitted a total of eight air samples to the State of Arizona certified laboratory (AEL), located in Phoenix, Arizona for dry cleaning related VOC analysis by EPA Method TO-15. The results of the air sample analyses are compiled in Table 3. Copies of the certified analytical reports for the analyses are contained in Appendix C.

## TABLE 3 Indoor and Outdoor Air Sample Analytical Results

7113, 7115, 7181 & 7189 E. Tanque Verde Road Tucson, AZ 85715 Vapor concentrations in micrograms per cubic Meter (µg/m<sup>3</sup>)

Sample Number	Location of Sample	Date Sampled	Sample Duration	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride	Remaining VOCs <sup>1</sup>
Walgreens-1	Interior Walgreens, Retail area	10/6/17	8-hr	<3.39 <sup>2</sup>	<2.69	<1.28	ND <sup>3</sup>
Walgreens-2	Interior Walgreens, Manager Office	10/6/17	8-hr	<3.39	<2.69	<1.28	ND
Walgreens-3	Duplicate of AIR- 2	10/6/17	8-hr	<3.39	<2.69	<1.28	ND
Vape-1	Interior The Vape Zone Smokeless – north end	10/6/17	8-hr	<3.39	<2.69	<1.28	ND
Beltone-1	Interior Beltone, Near rear	10/6/17	8-hr	<3.39	<2.69	<1.28	ND
Background-1	Outside - Northwest of Coldstone (in dumpster area)	10/6/17	8-hr	<3.39	<2.69	<1.28	ND
Background-2	Outside – North of Beltone	10/6/17	8-hr	<3.39	<2.69	<1.28	ND
Background-3	Outside – North of Walgreens	10/6/17	8-hr	<3.39	<2.69	<1.28	ND

VOCs1	
< 3.39 <sup>2</sup>	
ND <sup>3</sup>	

=

=

=

Volatile Organic Compounds

Compound not detected at indicated method detection limit

Not detected; see Attachment B for constituent reporting limits

As indicated in Table 3, none of the dry cleaning related VOCs, including PCE, were detected in the indoor and background air samples collected.

#### 9 SUMMARY AND CONCLUSIONS

On September 28 and 29, 2017, as required by ADEQ, ADR directed the advancement of six 6-inch diameter soil vapor borings (two per former dry cleaning site) to a depth of 40 feet bgs. Groundwater, reportedly present at a depth exceeding 230 feet bgs, was not encountered by any of the borings advanced at the site. Soils encountered in borings B-1 through B-6 to a depth of 40 feet bgs were generally similar in character, consisting of an interbedded sequence of light brown to reddish brown, slightly damp to damp, gravelly sand, sand, and silt to approximately 30-35 feet bgs, at approximately 35 feet bgs the soils changed to a clayey sand.

#### Soil Vapor Results

To characterize the vertical extent of the dry cleaning VOCs in soil vapor beneath the subject Property, soil borings B-1 through B-6 were completed as 40-foot deep nested soil vapor wells (designated VW-1 through VW-6). Soil vapor probes were installed in each well at depths of 5, 10, 15, 20, 25, 30, 35, and 40 feet bgs

Laboratory analysis of vapor samples collected from VW-1 through VW-6 detected the presence of the dry cleaning solvent PCE at concentrations ranging from 281 to 10,440  $\mu$ g/m<sup>3</sup>, with an increasing trend as the samples went deeper. Generally, the highest concentrations were detected in vapor well VW-4, located near the former Wallis Cleaner (near current Beltone Hearing Aids Any Lab Test Now and Mayfield Florist). The remaining dry cleaning related VOCs, including TCE, were below laboratory reporting limits.

Based on the results of the subsurface investigation which do not indicate a decreasing trend of PCE concentrations, ADR anticipates requirements from ADEQ to complete an additional assessment that will include additional soil vapor investigations. The additional investigation would consist of advancing and sampling deeper vapor wells in the areas of concern identified in this report. In accordance with ADEQ's Work Plan approval (for this sampling round), soil vapor samples should be collected until three consecutive samples of decreasing concentration are encountered. Following the results of the additional assessment, the course of further action, if any, could be determined.

#### Air Sample Quality Survey

An 8-hour indoor air monitoring survey was completed by ADR at Walgreen, The Vape Zone Smokeless, and Beltone Hearing Aids on October 6, 2017. The purpose of the air sampling was intended to evaluate potential health risks to human receptors posed by the inhalation of dry cleaning VOCs in air within the tenant spaces. The air samples collected were analyzed for dry cleaning related VOCs, including the solvent PCE.

As indicated in Table 3, none of the dry cleaning related VOCs, including PCE were detected in any of the indoor or background air samples collected. Based on the absence of VOC compounds identified in indoor air in all samples no apparent health hazard exists for the employees and customers of these businesses. Based on the results, no additional indoor air sampling appears necessary.

#### **10 RELIANCE AND LIMITATIONS**

The conclusions presented in this report are professional opinions based solely upon the Scope of Services described in this report. They are intended exclusively for the use of Westwood Financial LLC or agents specified by it. The Scope of Services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any re-use of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user. It should be recognized that his study was not intended to be a definitive investigation of potential contamination at the subject Property. Given that the Scope of Services for this investigation was limited, it is possible that currently unrecognized contamination might exist at the site.

Services performed by ADR were conducted in a manner consistent with that of the same care and skill ordinarily exercised by members of the same profession currently practicing in the same locality under the same conditions. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental liabilities on a particular site and that ADR cannot "certify" that a site is free of all environmental contamination. No expressed or implied representation or warranty is included or intended in our reports except that our services were performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession. In the event of any conflict between the terms and conditions of this report and the terms and conditions of the master services agreement between Westwood Financial LLC and ADR (the "MSA), the MSA shall control.

#### **11 SIGNATURE PAGE**

This Report was prepared in accordance with generally accepted environmental practices and procedures, employing the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental professionals practicing in this area, as of the date of this Report.

Report Prepared By:

Report Reviewed By:

Larry A. Elora

Project Geologist

Report Reviewed By:



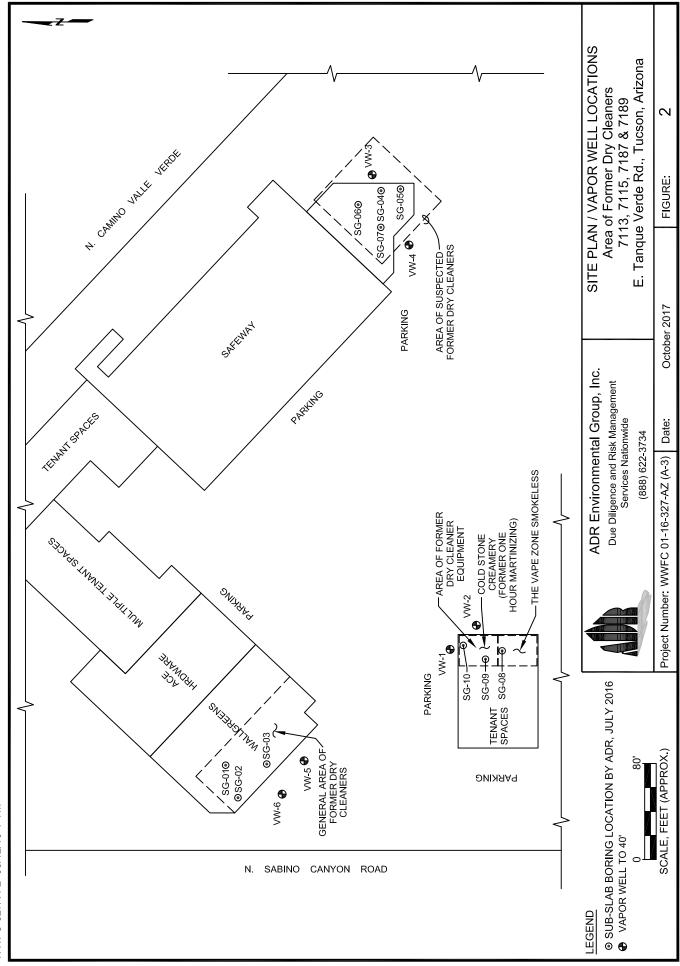


Gary Bender Arizona Registered Geologist #26762

ADDITIONAL SUBSURFACE INVESTIGATION AND INDOOR AIR QUALITY SURVEY

Page 18

## FIGURES



WWFC-327A-F2 08/12/16 PYM

## ATTACHMENT A

## SAMPLING METHODS AND FIELD PROCEDURES

#### SAMPLING METHODS AND FIELD PROCEDURES

This attachment describes procedures to be followed by ADR Environmental Group, Inc. (ADR), during collection of samples of subsurface soil. Sampling procedures were based on sampling guidance documents from the American Society of Testing and Materials (ASTM) and ADEQ guidance documents

#### A. EXPLORATION BORING/AND SOIL VAPOR SAMPLING PROCEDURES

Soil vapor sampling will be performed under the direction of an ADR geologist. The soil borings will be advanced using truck-mounted hollow stem auger (HSA) drilling techniques as specified in the project Work Plan. Soil samples will be collected from each soil boring at five-foot intervals as the borings are advanced with a 2" diameter split-spoon sampler. After sampler retrieval the soil recovered will be used for soil classification (in accordance with the guidelines of ASTM D-2487-85) and photoionization detector (PID) screening.

Forty foot nested vapor wells will be installed into each borehole (with probes installed at five-foot intervals). Following a 48-hour wait period, selected vapor samples will be collected from each boring in 1-Liter summa canisters.

The HSA soil sampling assembly will be cleaned to prevent contamination across sampling intervals using procedures described in Section B. Any soil generated from the soil borings will be stored in 55-gallon drums (unless otherwise directed by agencies or the client) or other appropriate containers and labeled with the corresponding boring number, date, and address of the facility.

#### B. DECONTAMINATION AND DISPOSAL PROCEDURES

All equipment that comes into contact with potentially contaminated soil, drilling fluid, air, or water will be decontaminated before each use.

Drilling and sampling equipment will be decontaminated as follows:

- 1. Drill rig rods and samplers will be washed with a TSP solution prior to use and between borings. Visible soil, grease, and other impurities will be removed.
- 2. Soil sampling equipment will be washed with a TSP solution prior to use and between each boring. Prior to individual sample collection, any sampling device will also cleaned in a TSP solution and rinsed twice in clean water. Any visible soil residue will be removed.
- B.1 Buried Utility Locations

Prior to commencement of work on site, ADR will notify Arizona 811 which will contact the appropriate utility companies to have underground utility lines located. ADR may also contract with a private utility locator, for the location of utilities beyond meters. ADR will also visually survey the site to estimate the locations of potentially unmarked underground utilities.

B.2 Lithologic Logging

Logs of soil conditions encountered during the drilling and sample collection will be maintained using the ASTM D-2487-85 classification system by an ADR geologist.

The collected soil samples will be examined and the following information recorded: boring location, sample interval and depth, color, soil type, moisture content (qualitative), and depth at which groundwater (if present) is first encountered. Also recorded on the soil boring logs will be the field screening results derived from the use of a portable PID.

#### B.3 Disposal Procedures

Residual substances generated during cleaning procedures (if any) that are known or suspected to pose a threat to human health or the environment will be placed in appropriate containers until chemical testing has been completed to determine the proper means for their disposal.

#### C. SAMPLE CUSTODY

Soil vapor sample custody procedures will be followed through sample collection, transfer, analysis, and ultimate disposal. The purpose of these procedures is to assure that (1 the integrity of samples is maintained during their collection, transportation, and storage prior to analysis and (2 post-analysis sample material is properly disposed of. Sample custody is divided into field procedures and laboratory procedures, as described below.

#### C.1 Field Custody Procedures

Soil vapor sample quantities, types, and locations will be determined before the actual fieldwork commenced. As few personnel as possible will handle the samples. The field sampler will be personally responsible for the care and custody of the collected samples until they were properly transferred.

#### C.1.1 Field Documentation

Each vapor sample will be labeled and sealed properly immediately after collection. Sample identification documents will be carefully prepared so that identification and chain-of-custody records can be maintained and sample disposition can be controlled. Forms will be filled out with waterproof ink. The following sample identification documents will be utilized.

Field notebook or soil boring logs Chain-of-custody forms

#### C.1.2 Sample Labels

The intact vapor samples will be labeled with the following information:

Name of collector Date and time of collection Place of collection and/or ADR project number Sample number

#### C.1.3 Chain-of-Custody Record

A chain-of-custody record will be filled out for and accompanied every sample and every shipment of samples to the analytical laboratories in order to establish the documentation necessary to trace sample possession from the time of collection. The record will contain the following information:

Sample number or sample I.D. Signature of collector, sampler, or recorder. Date and time of collection. Place of collection. Sample type. Signatures of persons involved in the chain of possession. Inclusive dates of possession.

#### C.1.4 Sample Transfer and Shipment

A chain-of-custody record will always accompany the samples. When transferring samples, the individuals relinquishing and receiving the samples will sign, date, and note the time on the chain-of-custody record.

#### C.2 Corrections to Documentation

Original data recorded in field notebooks, chain-of-custody records, sampling information sheets, and other forms will not be altered, destroyed, or discarded, even if they are illegible or contain inaccuracies that require a replacement document.

#### If an error is made or found on a document, the individual making the corrections will do so by crossing a single line through the error, entering the correct information, and initialing and dating the change. The erroneous information will not be obliterated.

#### C.3 Sample Storage and Disposal

The analytical laboratory typically retains samples and extracts for 60 days after the laboratory issues a written report. Unless notified by the program manager, the laboratory should dispose of excess or unused samples in an appropriate manner consistent with applicable government regulations.

# APPENDIX B

## **BORING LOGS**

ADR Environmental Group, Inc.												
Log of Soil Boring:	VW-1		Vapor	r Moi	nitoring	Devic	e:			MiniRae 2000 PID		
	Colina Verde Shopping Center	-	Drillin Start:	<u> </u>			Ti	me		Date	9/28	8/17
	11-7189 E. Tanque Verde Road Tucson, Arizona	ŀ	Finish		ing:					Finish Well:	9/28	8/17
Project Number:	WWFC 01-16-327-AZ (A-3)				oth (Dat			١A				
Drilling Company: Geome					evation: n Depth			IA 0'				
	afer (CME-75) Stem Auger (7" O.D.)		Logge				Bend		R.G			
Sampling Method: Split Sp			Chec	ked I	Зу:	K.	Galla	ighe	er			
Depth In Feet Sample Interval	Soil Description	Graphic	Log USCS Classification	OldSSIIICallOI	Boring Construct		Blows / 6 in. Inches Driven	Inches Recovered		Comments	Sample Number	Field OVM/OVA Reading (PPM)
ASPHALT SURI			X									
1 1 6" AB 2			FILL	<u>.</u>								
FILL-Silt, some g	ravel, loose, dry.						6/8	12	12	No Odor		Ø
11	ID-Light Reddish Brown, slightly damp, /2"; some Silt.		sv	v			8/20	12	12	No Odor		Ø
15 - SAND-Light Red 16 - sand; trace Grav 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19	dish Brown, slightly damp, fine to medium el.						18/24	12	12	No Odor		Ø
20 SAME AS ABOV 21 Source and a subrounded. 22 23 24 24 24 24 24 24 24 24 24 24 24 24 24	E- Increasing gravel to 10%, up to 1"		SF	 D			14/18	12	12	No Odor		Ø
25 SAME AS ABOV 26 Ioose. 27 28 29 29 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	E- some gravel to 1/4", slightly damp,						7/15	12	12	No Odor		Ø
GRAVELLY SAN GRAVELLY SAN Clay and Silt; gra 33 34	ID- Light Brown, dense, damp, some avel up to 1".		sw	v			23/27	12	12	No Odor		Ø
36 <b></b> firm. 37 <b></b> 38 <b></b>	usty Yellowish Brown, very fine sand,		ML				7/15	12	12	No Odor		Ø
39 SAND w/GRAVE	iL-Reddish Brown, some Silt & Clay, damp dense <b>.</b>		SN				17/20	12	12	No Odor SAMPLE TO 40'		Ø
41 42 43						OVE	ERDRI		TO 4	43' (SET VAPOR PROBES	5)	

WWFC-327-B1 10/17-17 PYM

ADR Environmental Group, Inc.											
Log of Soil Boring: VW-2		Va	apor N	Ionitorin	ıg Devi	ce:			MiniRae 2000 PID		
Location: Colina Verde Shopping Center			rilling			Ti	me		Date	9/28	8/17
(East Side of Cold Storage) Tucson, Arizona			art: nish D	Drilling:					Finish Well:	9/28	8/17
Project Number: WWFC 01-16-327-AZ (A-3)				Depth (D	ate):	١	٨				
Drilling Company: Geomechanics Southwest				Elevatio			A .0'				
Drilled By: Eric Shafer (CME-75)			omple	tion Dep By:		. Benc		R.G			
Drilling Method: Hollow Stem Auger (7" O.D.) Sampling Method: Split Spoon				d By:	K	. Galla	ighe	er			
Soil Description	Graphic	Log	USCS Classification	Bori Constru		Blows / 6 in Inches Driven	Inches Recovered		Comments	Sample Number	Field OVM/OVA Reading (PPM)
ASPHALT SURFACE					<u> </u>						
1 2 3 4 4 5 GRAVELLY SAND-Light Reddish Brown, moist, loose,			sw			10/10		12	No Odor		Ø
					\ 	8/8	12	12	No Odor		ø
SAND-Light Reddish Brown, trace gravel, loose, moist, gravel to 1/2"											
SAME AS ABOVE- Trace gravel.			SP			35/20	12	12	No Odor		Ø
20 - SAME AS ABOVE- Increasing gravel to 5%, stiff, mostly 21 - coarse sand. 22 - 23 - 24 - 24 - 24 - 24 - 24 - 24 -						15/25	12	12	No Odor		Ø
SAME AS ABOVE- Light Brown, Increasing gravel to 10 to 5%, gravel to 2", damp, loose.						20/24	12	12	No Odor		Ø
SANDY GRAVEL w/CLAY-Light Brown, gravel up to 2-1/2"			GW			50/4	12	12	No Odor		Ø
SILT-Medium Reddish Brown, some sand, caliche, damp, firm.			ML			20/38	12	12	No Odor		Ø
<sup>39</sup> CLAYEY SAND-Light Reddish Brown, trace gravel, coarse sand, damp to slightly moist.	/	$\Delta$	sc		1	20/30	12	12	No Odor		ø
41					ov	ERDR	ILL <sup>.</sup>	TO 4	SAMPLE TO 40' 43' (SET VAPOR PROBES	5)	

WWFC-327-B2 10/17-17 PYM

	ADR Environn	ne	nt	al Gr	ouj	Э,	I	nc.		
Log of Soil Boring:	VW-3		Vapor	Monitoring Dev	vice:			MiniRae 2000 PID		
Location: C	olina Verde Shopping Center		Drilling	1	Ti	me		Date	9/2	8/17
	(East of Beltone) Tucson, Arizona		Start: Finish	Drilling:				Finish Well:	9/2	8/17
Project Number:	WWFC 01-16-327-AZ (A-3)			Depth (Date):	1	NA				
Drilling Company: Geomech	anics Southwest			g Elevation:	1	٨				
	er (CME-75)		Comp Logge	etion Depth: d Bv: (	4 G. Benc	.0' ler, F	R.G.			
Drilling Method: Hollow St Sampling Method: Split Spoo	em Auger (7" O.D.) on			•	K. Galla					
						led			2	4 ~
Depth In Feet Sample Interval	Soil Description	Graphic	Log USCS Classification	Boring	Blows / 6 in.	Inches Recovered		Comments	Sample Number	VM/OV/ g (PPM
Sample		G		Construction	Blow	Inches		Comments	Sample	Field OVM/OVA Reading (PPM)
ASPHALT SURFA									-	1
4" Asphalt Surface			<u> </u>							
FILL-Sand /Grave	l, some silt, loose.		E 🛞							
4		K	Š.							
GRAVELLY SAND <sup>6</sup> → ~20% gravel to 2".	-Light Reddish Brown, damp, loose,				19/24	12	12	No Odor		ø
			sw							
	t Brown, some gravel 5-10%, slightly		4. 1. 1.		8/10	12	12	No Odor		ø
$\begin{array}{c c} 11 & \text{clamp, loose.} \\ 12 & \text{damp, loose.} \end{array}$										
13										
SAME AS ABOVE	- Less gravel.				18/20	12	12	No Odor		Ø
17			SM							
	- Increasing gravel to 5%.				10/14	12	12	No Odor		ø
21	5.5			$\setminus$						
23										
24										
📔 🦳 GRAVELLY SAND	) w/SILT-Light Brown, increasing gravel )-30%, very hard, damp.				24/50 6"	12	12	No Odor		Ø
27										
			sw							
30 - SAME AS ABOVE	-Gravel to 30%, large gravel at 33',				20/30	 12		No Odor	• • • • • • •	ø
loose, slightly dam	p.									
33		П	T							
34										
<sup>36</sup> CLAYEY SILT-Yel	lowish Brown, some sand, moist, firm; layers.				10/18	12	12	No Odor		Ø
37										
	-Less silt, more clayey and more sand,				10/16	<sub>12</sub>	12	No Odor		ø
<b>40</b>			11		10/10	בין	14	SAMPLE TO 40'	I	
42						<b>и</b> 1 т	- /		2)	
43-						ILL	04	3' (SET VAPOR PROBES	<i>)</i>	

WWFC-327-B3 10/17-17 PYM

ADR Environmental Group, Inc.										
Log of Soil Boring: VW-4		Vapo	r Mc	nitoring De	evice:			MiniRae 2000 PID		
Location: Colina Verde Shopping Center		Drillin	<u> </u>		T	me		Date	9/28	8/17
(South of Beltone) Tucson, Arizona		Start: Finish		iling:				Finish Well:	9/28	8/17
Project Number: WWFC 01-16-327-AZ (A-3)				pth (Date):		NA				
Drilling Company: Geomechanics Southwest			-	levation:		NA .0'				
Drilled By: Eric Shafer (CME-75)		Logg		on Depth: By:	G. Bend		R.G	).		
Drilling Method: Hollow Stem Auger (7" O.D.) Sampling Method: Split Spoon		Chec	ked	By:	K. Galla	aghe	er			
Soil Le be Le be Le be Le be Le be Le be Le be Description	Graphic	Log USCS	Ulassilication	Boring Construction	Blows / 6 in. Inches Driven	Inches Recovered		Comments	Sample Number	Field OVM/OVA Reading (PPM)
ASPHALT SURFACE										
FILL-Sand /Silt, loose.		FILL								
SAND w/GRAVEL-Light Reddish Brown, some clay, damp 5 7 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1		SF	Þ		5/4	12	12	No Odor		Ø
GRAVELLY SAND-Light Brown, some clay, ~30% gravel GRAVELLY SAND-Light Brown, some clay, ~30% gravel to 1/2", damp, firm.					17/20	12	12	No Odor		Ø
SAND w/GRAVEL-some clay, ~10% gravel to 1", most less then 1/4", moist, firm.		sv	v		18/24	12	12	No Odor		Ø
SAME AS ABOVE-Less then 10% gravel, rest is coarse sand with clay.					10/23	12	12	No Odor		Ø
GRAVELLY SAND w/CLAY-Increasing gravel to 20-30%.					18/24	12	12	No Odor		Ø
SANDY GRAVEL-Large cobbles, some clay and silt.	VOWON	NS COSCIENCIAL	v		20/24	12	12	No Odor		Ø
CLAYEY SAND-Medium Reddish Brown, some gravel, damp to moist, firm.		so	>		13/26	12	12	No Odor		Ø
40 - SAME AS ABOVE-<5% gravel, moist.					24/29	12	12	No Odor SAMPLE TO 40'		Ø
41				0	VERDR	ILL <sup>·</sup>	то	43' (SET VAPOR PROBES	)	

WWFC-327-B4 10/17-17 PYM

ADR Environmental Group, Inc.											
Log of Soil Boring: VW-5		Va	por M	lonitoring l	Devic	e:			MiniRae 2000 PID		
Location: Colina Verde Shopping Center		Dri Sta	lling			Ti	me		Date	9/28	8/17
(South West Side of Walgreens) Tucson, Arizona				rilling:					Finish Well:	9/28	8/17
Project Number: WWFC 01-16-327-AZ (A-3)				epth (Date	e):	1	٨٨				
Drilling Company: Geomechanics Southwest				Elevation: tion Depth			AV .0'				
Drilled By: Eric Shafer (CME-75) Drilling Method: Hollow Stem Auger (7" O.D.)			gged			Benc		R.G			
Sampling Method: Split Spoon		Ch	ecked	d By:	K.	Galla	aghe	er			
Soil Description	Groshio	Log	USUS Classification	Boring Constructi		Blows / 6 in. Inches Driven	Inches Recovered		Comments	Sample Number	Field OVM/OVA Reading (PPM)
GRAVEL SURFACE	<b>\$</b>	<b>2</b> 82									
FILL to ~ 3-4', sand/gravel, some clay.			FILL								
SAND w/GRAVEL- Reddish Brown, damp, firm.			sw			7/8	12	12	No Odor		Ø
SAND-Some clay and gravel, <10% gravel to 1/4", loose, slightly damp.			SP			8/9	12	12	No Odor		Ø
15			sw			8/9	12	12	No Odor		Ø
20 SAND-Some clay, trace gravel, some dry coarse sand, 21 fine gravel, damp. 22 4			SP			8/14	12	12	No Odor		Ø
SAME AS ABOVE-~5% fine gravel.						10/17	12	12	No Odor		Ø
GRAVELLY SAND-Light Yellowish Brown, some clay, rocks up to 3", damp.		s 7	SW			22/50 4"	12	12	No Odor		Ø
CLAYEY SAND-Medium Reddish Brown, some gravel, moist, ~10% gravel to 1/2".			sc			18/24	12	12	No Odor		Ø
40 – SAME AS ABOVE-Loose moist gravel.		$\square$				11/25	12	12	No Odor SAMPLE TO 40'		Ø
41					OVE	RDR	ILL <sup>·</sup>	TO 4	43' (SET VAPOR PROBES	5)	

WWFC-327-B5 10/17-17 PYM

ADR Environmental Group, Inc.						
Log of Soil Boring: VW-6	Vapor Monitoring Device: MiniRae 2000 PID	)				
Location: Colina Verde Shopping Center		Date 9/28/17				
(West of Walgreens) Tucson, Arizona	Start: Finish Drilling: Finish Well:	9/28/17				
Project Number: WWFC 01-16-327-AZ (A-3)	Water Depth (Date): NA					
Drilling Company: Geomechanics Southwest	Casing Elevation: NA					
Drilled By: Eric Shafer (CME-75)	Completion Depth: 40' Logged By: G. Bender, R.G.					
Drilling Method: Hollow Stem Auger (7" O.D.) Sampling Method: Split Spoon	Checked By: K. Gallagher					
Soil Soil Description	Single Participation of the second se	Sample Number Field OVM/OVA Reading (PPM)				
		Sample Field C Readir				
GRAVEL SURFACE	****					
FILL to ~ 3-4', sand/gravel, some clay.						
4						
FILL-Some silt, sand, loose, damp.	5/11 12 12 No Odor	Ø				
10 FILL-Silty, distrubed, some charcoal.	10/25 12 12 No Odor	ø				
<sup>15</sup> SAND-Reddish Brown, some gravel & clay, damp, loose, <sup>16</sup> ~ ~10% gravel to 1".	26/33 12 12 No Odor	Ø				
20 SAME AS ABOVE-<5% gravel, damp.	SP 19/26 12 12 No Odor					
24	75 (* 17) 82 (* 17) 84 (* 17)					
SAME AS ABOVE-Gravel increase to 20%.	7/29 12 12 No Odor	Ø				
Large cobbles @ 28'						
30 - SANDY GRAVEL-Some clay, ~60% gravel to 2", damp,	26 50/6" 12 12 No Odor	ø				
31 + 1 very hard.						
33						
34						
CLAYEY GRAVEL w/SAND-Reddish Brown, moist, gravel up to 2".	15/33 12 12 No Odor	Ø				
	GC GC					
CLAYEY SAND-Some gravel, very dense, moist, ~60%	SC 18/32 12 12 No Odor					
40 coarse granitic sand, 30% clay, <5% gravel.	18/32 12 12 No Odor SAMPLE TO 40'	Ø				
43	OVERDRILL TO 43' (SET VAPOR PRO	JRF2)				

WWFC-327-B6 10/17-17 PYM

## **APPENDIX C**

## LABORATORY ANALYSIS REPORTS AND CHAIN OF CUSTODY FORMS



Airtech Environmental Laboratories (AEL)

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: October 14, 2017

Client:	Kevin Gallagher	Work Order #:	17J008
Company:	ADR Environmental Group	Project Name:	Colonia Verde
Address:	225 30th Street, Ste 202	Project Number:	WWFC -01-16-327-AZ
	Sacramento, CA 95816	Received Date:	10/9/2017

Dear Client:

Airtech Environmental Laboratories received twenty five (25) samples for analysis.

All analyses met laboratory QA/QC with any exceptions addressed in the Case Narrative.

If you have any questions or concerns regarding your samples analysis, please contact the laboratory at 480-968-5888

Sincerely,

- -

Yu Min Shi Technical Director Airtech Environmental Labs

Arizona ADHS License No. AZ0740



Airtech Environmental Laboratories (AEL)

4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: October 14, 2017

Client:	Kevin Gallagher	Work Order #:	17J008
Company:	ADR Environmental Group	Project Name:	17J008 Colonia Verde WWFC -01-16-327-AZ 10/09/17
Address:	225 30th Street, Ste 202	Project Number:	WWFC -01-16-327-AZ
	Sacramento, CA 95816	Received Date:	10/09/17

#### **Case Narrative**

All samples and QC associated with your samples met the quality control objectives. Data qualifiers in this report are in accordance with ADEQ Data Qualifiers.



Date: October 14, 2017

Client:	Kevin Gallagher	Work Order #:	17J008
Company:	ADR Environmental Group	Project Name:	17J008 Colonia Verde WWFC -01-16-327-AZ
Address:	225 30th Street, Ste 202	Project Number:	WWFC -01-16-327-AZ
	Sacramento, CA 95816	Received Date:	10/9/2017

#### SAMPLE SUMMARY

LAB ID	CLIENT ID	METHOD	SAMPLE DATE	SAMPLE TIME
17J008-01	VW-4-5'	TO-15	10/6/2017	0930
17J008-02	VW-4-10'	TO-15	10/6/2017	0931
17J008-03	VW-4-15'	TO-15	10/6/2017	0932
17J008-04	VW-4-20'	TO-15	10/6/2017	0933
17J008-05	VW-3-5'	TO-15	10/6/2017	1020
17J008-06	VW-3-10'	TO-15	10/6/2017	1021
17J008-07	VW-3-15'	TO-15	10/6/2017	1022
17J008-08	VW-3-20'	TO-15	10/6/2017	1023
17J008-09	VW-1-5'	TO-15	10/6/2017	1105
17J008-10	VW-1-10'	TO-15	10/6/2017	1106
17J008-11	VW-1-15'	TO-15	10/6/2017	1107
17J008-12	VW-1-20'	TO-15	10/6/2017	1108
17J008-13	VW-2-5'	TO-15	10/6/2017	1225
17J008-14	VW-2-10'	TO-15	10/6/2017	1226
17J008-15	VW-2-15'	TO-15	10/6/2017	1227
17J008-16	VW-2-20'	TO-15	10/6/2017	1228
17J008-17	VW-5-5'	TO-15	10/6/2017	1310
17J008-18	VW-5-10'	TO-15	10/6/2017	1311
17J008-19	VW-5-15'	TO-15	10/6/2017	1312
17J008-20	VW-5-20'	TO-15	10/6/2017	1313
17J008-21	VW-7-20'	TO-15	10/6/2017	1305
17J008-22	VW-6-5'	TO-15	10/6/2017	1355
17J008-23	VW-6-10'	TO-15	10/6/2017	1356
17J008-24	VW-6-15'	TO-15	10/6/2017	1357
17J008-25	VW-6-20'	TO-15	10/6/2017	1358



Client:	Kevin Gallagher	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	Kits QC	Matrix:	Air

			Ca	anister		Grab	Sampler
		Т	уре	Vacuum	Pressure		Туре
	Client	1.0	) liter	before sampled	after sampled	1 minute-f	II 1.0L canister
AEL#	ID	SN#	Clean Batch#	Hg inch	psia	SN#	Clean Batch#
17J008-01	VW-4-5'	1869	1709-14	29.0	12.53	113	1709-01
17J008-02	VW-4-10'	1837	1709-14	29.0	11.81	032	1709-01
17J008-03	VW-4-15'	E2392	1709-14	29.0	10.01	055	1709-01
17J008-04	VW-4-20'	1832	1709-14	29.0	12.06	076	1709-01
17J008-05	VW-3-5'	E2095	1709-14	29.0	10.88	080	1709-01
17J008-06	VW-3-10'	1826	1709-14	29.0	11.27	025	1709-01
17J008-07	VW-3-15'	1881	1709-14	29.0	10.50	128	1709-01
17J008-08	VW-3-20'	1877	1709-14	29.0	11.84	036	1709-01
17J008-09	VW-1-5'	E2085	1709-15	29.0	12.39	173	1709-01
17J008-10	VW-1-10'	E2347	1709-15	29.0	12.31	110	1709-08
17J008-11	VW-1-15'	E2362	1709-15	29.0	10.26	178	1709-01
17J008-12	VW-1-20'	E2366	1709-14	29.0	11.83	058	1709-01
17J008-13	VW-2-5'	E2402	1709-05	29.0	10.83	108	1709-01
17J008-14	VW-2-10'	1853	1709-14	29.0	10.68	218	1709-01
17J008-15	VW-2-15'	E2099	1709-15	29.0	10.88	205	1708-04
17J008-16	VW-2-20'	E2893	1709-15	29.0	11.96	186	1708-04
17J008-17	VW-5-5'	E2351	1709-06	29.0	12.33	070	1709-01
17J008-18	VW-5-10'	1834	1709-05	29.0	9.50	212	1708-05
17J008-19	VW-5-15'	1801	1709-15	29.0	10.86	103	1709-01
17J008-20	VW-5-20'	1839	1709-15	29.0	12.35	176	1709-01
17J008-21	VW-7-20'	E2370	1709-13	29.0	10.11	155	1709-01
17J008-22	VW-6-5'	1888	1709-13	29.0	12.38	127	1709-01
17J008-23	VW-6-10'	E2391	1709-13	29.0	10.06	139	1709-01
17J008-24	VW-6-15'	E2102	1709-13	29.0	11.59	089	1709-01
17J008-25	VW-6-20'	1882	1709-13	29.0	12.55	131	1709-01



Client:	ADR Environmental Group	Client Sample ID:	VW-4-5'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	01	Matrix:	Soil vapor	

	p	pbv	uç	у/М <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/13/2017	156-59-2
Tetrachloroethene	363	20	2,460	136	20	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/13/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/13/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	104	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-4-10'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	02	Matrix:	Soil vapor	

	p	pbv	uç	g∕M³		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/13/2017	156-59-2
Tetrachloroethene	606	20	4,110	136	20	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/13/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/13/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	105	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-4-15'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	03	Matrix:	Soil vapor	

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-59-2
Tetrachloroethene	864	20	5,860	136	20	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/12/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	70.4	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-4-20'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	04	Matrix:	Soil vapor	

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/13/2017	156-59-2
Tetrachloroethene	658	20	4,460	136	20	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/13/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/13/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	100	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-3-5'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	05	Matrix:	Soil vapor	

	p	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-59-2
Tetrachloroethene	43	20	290	136	20	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/12/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	92.4	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-3-10'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	06	Matrix:	Soil vapor	

	p	pbv	uç	у/М <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-59-2
Tetrachloroethene	179	20	1,210	136	20	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/12/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	105	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-3-15'
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	10/6/2017
Lab ID:	07	Matrix:	Soil vapor

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	тс	D-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-59-2
Tetrachloroethene	118	20	800	136	20	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/12/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	99.4	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-3-20'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	08	Matrix:	Soil vapor	

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-59-2
Tetrachloroethene	172	20	1,170	136	20	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/12/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/12/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	110	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-5'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	09	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	190	10	1,290	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	106	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-10'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	10	Matrix:	Soil vapor	

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	I DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	351	10	2,380	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	109	70-130	%REC				
Tentatively Identified Compounds (	[ <b>IC's</b> ]						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-15'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	11	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	D-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	317	10	2,150	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	114	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-20'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	12	Matrix:	Soil vapor	

	p	pbv	uç	g∕M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qu	al DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	365	10	2,480	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	113	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	4 10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-5'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	13	Matrix:	Soil vapor	

	р	pbv	uç	J/M <sup>3</sup>			Date	
Analyses	Result	Limit	Result		Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15					Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9		10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8		10	10/12/2017	156-59-2
Tetrachloroethene	345	10	2,340	67.8		10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8		10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9		10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8		10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	119	70-130	%REC					
Tentatively Identified Compounds (T	IC's)							
Difluoroethane	< 100	100	ppbv		T4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-10'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	14	Matrix:	Soil vapor	

	p	pbv	uç	∦/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qu	al DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	386	10	2,610	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	118	70-130	%REC				
Tentatively Identified Compounds (1	<u> 'IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-15'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	15	Matrix:	Soil vapor	

	р	pbv	uç	у/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	400	10	2,710	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	116	70-130	%REC				
Tentatively Identified Compounds (1	[ <b>IC's</b> ]						
Difluoroethane	< 100	100	ppbv	T4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-20'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	16	Matrix:	Soil vapor	

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	441	10	2,990	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	106	70-130	%REC				
Tentatively Identified Compounds (	[IC's)						
Difluoroethane	< 100	100	ppbv	T4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-5'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	17	Matrix:	Soil vapor	

	р	pbv	u	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	I DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-59-2
Tetrachloroethene	158	10	1,070	67.8	10	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	118	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-10'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	18	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>			Date	
Analyses	Result	Limit	Result	Limit Q	ual D	)F	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	<b>D-15</b>					Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	1	0	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	1	0	10/12/2017	156-59-2
Tetrachloroethene	167	10	1,130	67.8	1	0	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	1	0	10/12/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	1	0	10/12/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	1	0	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	120	70-130	%REC					
Tentatively Identified Compounds (T	<u>IC's)</u>							
Difluoroethane	< 100	100	ppbv	٦	T4 1	0	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-15'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	19	Matrix:	Soil vapor	

	р	pbv	uç	g∕M³		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	174	10	1,180	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	110	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-20'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	20	Matrix:	Soil vapor	

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	I DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	150	10	1,010	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	99.5	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-7-20'	<u> </u>
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	21	Matrix:	Soil vapor	

	p	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	123	10	831	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	103	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-5'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	22	Matrix:	Soil vapor	

	p	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	41	10	281	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	118	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-10'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	23	Matrix:	Soil vapor	

	p	ppbv ug/M <sup>3</sup> Date					
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	73	10	496	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	117	70-130	%REC				
Tentatively Identified Compounds (1	<u> 'IC's)</u>						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-15'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	24	Matrix:	Soil vapor	

	ŗ	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	86	10	584	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	106	70-130	%REC				
Tentatively Identified Compounds (	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-20'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	10/6/2017	
Lab ID:	25	Matrix:	Soil vapor	

	p	pbv	ug	g/M <sup>3</sup>	Date		
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	YM
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/13/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-59-2
Tetrachloroethene	74	10	504	67.8	10	10/13/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/13/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/13/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/13/2017	75-01-4
Surr: 4-Bromofluorobenzene	113	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/13/2017	



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	Blank	Matrix:	Nitrogen

		Meth	od QC Data	_			
	Batch:	MS0110	011 Analyst:	YM			
	р	pbv	ug	/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	al DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	тс	D-15				Analyst:	IJ
1,1-Dichloroethene	< 0.5	0.5	< 1.99	1.99	1	10/11/2017	75-35-4
cis-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/11/2017	156-59-2
Tetrachloroethene	< 1.0	1.0	< 6.78	6.78	1	10/11/2017	127-18-4
trans-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/11/2017	156-60-5
Trichloroethene	< 0.5	0.5	< 2.69	2.69	1	10/11/2017	79-01-6
Vinyl chloride	< 0.5	0.5	< 1.28	1.28	1	10/11/2017	75-01-4
Surr: 4-Bromofluorobenzene	95.8	70-130	%REC				
Tentatively Identified Compounds (	TIC's)						
Difluoroethane	< 10	10	ppbv	T4	1	10/11/2017	



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	LCS/LCSD	Matrix:	Nitrogen

		Met	thod QC	Data					
Date Analyzed:	10/11/20	17	Batch:	MS0110 <sup>2</sup>	11		Analyst	: YM	
	LCS	LCS	LCSD	LCSD				Qualifi	er
Analyses	Result	%REC	Result	%REC	т.v.	%RPD	Unit	LCS LCS	RPD
VOLATILE ORGANICS IN AIR	TO-15							70-130%	<25%
Vinyl Chloride	11.6	116	12.9	129	10.0	10.5	ppbv		
1,1-Dichloroethene	11.2	112	11.6	116	10.0	4.3	ppbv		
trans-1,2-Dichloroethene	10.0	100	10.7	107	10.0	7.5	ppbv		
cis-1,2-Dichloroethene	10.1	101	11.1	111	10.0	9.4	ppbv		
Trichloroethene	8.6	85.5	10.5	105	10.0	20.4	ppbv		
Tetrachloroethene	7.1	71.3	8.9	89.3	10.0	22.4	ppbv		
Surr: 4-Bromofluorobenzene	11.2	112	12.2	122			%REC		
	-	70-130%		70-130%					



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	Blank	Matrix:	Nitrogen

		Meth	od QC Data				
	Batch:	MS0110	)12 Analyst:	YM			
	р	pbv	ug	/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	al DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	D-15				Analyst:	JJ
1,1-Dichloroethene	< 0.5	0.5	< 1.99	1.99	1	10/12/2017	75-35-4
cis-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/12/2017	156-59-2
Tetrachloroethene	< 1.0	1.0	< 6.78	6.78	1	10/12/2017	127-18-4
trans-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/12/2017	156-60-5
Trichloroethene	< 0.5	0.5	< 2.69	2.69	1	10/12/2017	79-01-6
Vinyl chloride	< 0.5	0.5	< 1.28	1.28	1	10/12/2017	75-01-4
Surr: 4-Bromofluorobenzene	99.2	70-130	%REC				
Tentatively Identified Compounds (	TIC's)						
Difluoroethane	< 10	10	ppbv	T4	1	10/12/2017	



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	LCS/LCSD	Matrix:	Nitrogen

		Met	hod QC	Data											
Date Analyzed:	10/12/20	)17	Batch:	Batch: MS011012			Analyst: YM								
Analyses	LCS Result	LCS %REC	LCSD Result	LCSD %REC	т.v.	%RPD	Unit	Qualifi LCS LCSD							
VOLATILE ORGANICS IN AIR	TO-15							70-130%	<25%						
Vinyl Chloride	11.2	112	12.7	127	10.0	12.4	ppbv								
1,1-Dichloroethene	11.3	113	13.0	130	10.0	13.9	ppbv								
trans-1,2-Dichloroethene	10.6	106	11.2	112	10.0	5.2	ppbv								
cis-1,2-Dichloroethene	10.5	105	11.4	114	10.0	7.7	ppbv								
Trichloroethene	7.6	75.6	8.4	84.1	10.0	10.6	ppbv								
Tetrachloroethene	7.6	75.5	8.4	83.6	10.0	10.2	ppbv								
Surr: 4-Bromofluorobenzene	11.3	113	11.1	111			%REC								
	-	70-130%		70-130%											



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	Blank	Matrix:	Nitrogen

		Meth	od QC Data	_						
	Batch:	MS0110	013 Analyst	YM						
	р	pbv	ug	/M <sup>3</sup>		Date				
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#			
VOLATILE ORGANICS IN AIR	тс	D-15				Analyst:	IJ			
1,1-Dichloroethene	< 0.5	0.5	< 1.99	1.99	1	10/13/2017	75-35-4			
cis-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/13/2017	156-59-2			
Tetrachloroethene	< 1.0	1.0	< 6.78	6.78	1	10/13/2017	127-18-4			
trans-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/13/2017	156-60-5			
Trichloroethene	< 0.5	0.5	< 2.69	2.69	1	10/13/2017	79-01-6			
Vinyl chloride	< 0.5	0.5	< 1.28	1.28	1	10/13/2017	75-01-4			
Surr: 4-Bromofluorobenzene	103	70-130	%REC							
Tentatively Identified Compounds (TIC's)										
Difluoroethane	< 10	10	ppbv	T4	1	10/13/2017				



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J008	Collection:	N/A
Lab ID:	LCS/LCSD	Matrix:	Nitrogen

		Met	hod QC	Data											
Date Analyzed:	10/13/20	)17	Batch:	Batch: MS011013			Analyst: YM								
Analyses	LCS Result	LCS %REC	LCSD Result	LCSD %REC	т.v.	%RPD	Unit	Qualifi LCS LCSD							
VOLATILE ORGANICS IN AIR	TO-15							70-130%	<25%						
Vinyl Chloride	11.8	118	12.6	126	10.0	6.7	ppbv								
1,1-Dichloroethene	10.1	101	12.7	127	10.0	22.0	ppbv								
trans-1,2-Dichloroethene	9.2	92.0	10.9	109	10.0	17.1	ppbv								
cis-1,2-Dichloroethene	9.9	99.1	11.0	110	10.0	10.2	ppbv								
Trichloroethene	8.1	80.6	8.0	80.4	10.0	0.2	ppbv								
Tetrachloroethene	9.4	94.4	8.0	80.3	10.0	16.1	ppbv								
Surr: 4-Bromofluorobenzene	12.0	120	11.9	119			%REC								
	-	70-130%		70-130%											



Client:	ADR Environmental Group	Client Sample ID:	NA	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J008	Collection:	NA	
Lab ID:	Standards	Matrix:	Nitrogen	

AEL ID#	STD Name	Vendor	SGI Order#	Description	CONC.	Accuracy	Exp.Date
S-170623-01	Stock	Spectra Gases	113123527	TO-14 39 Analytes	1.0 ppmv	<u>+</u> 5%	6/23/2018
S-170824-01	Stock	Spectra Gases	113123527	TO-15 25 Analytes	1.0 ppmv	<u>+</u> 5%	8/24/2018
S-170623-02	Stock	Spectra Gases	113123527	15 Additional Compounds	1.0 ppmv	<u>+</u> 5%	6/23/2018
S-161101-01	Stock	Spectra Gases	114560630	TO-15 IS 4 Compounds	1.0 ppmv	<u>+</u> 5%	11/1/2017
A-170928-01	Working Std	AEL Dilution		TO-15 74 Analytes	10 ppbv	<u>+</u> 5%	12/28/2017
A-171002-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	50 ppbv	<u>+</u> 5%	11/1/2017

#### Airtech Environmental Laboratories (AEL)

#### **Chain of Custody**

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Customer: ADR Environmental	FOUR	Page	of									AE	L La	b #	
Address: 225 30th Street		Sampler:	FATY Bend	Le -	Phone: 4	180 345-	244	18		1	17.	Je	00	8	
36	197	Project Name		Vede	Proj	ect Number:4	JWF	2-	Ol						
City, State, Zip: Sacramento, CA	75816	Project locat	Project location: Tucson, AZ												
Contact: Kevin Gallacher		P.O. Number													
Phone: 288 622-3734	ax: 916 648-6688	Fax Results:													
E-Mail Address: Kgallagher & adre	a.com	E-Mail Result	ts:	Ø	N				z						
Sample Receipt	Turn Around Re	equest		Sample	Туре				1/e	Analy	ses	Requ	ested		
Temperature °C	24 Hours	48 Hours	SVE: soil vapor	extraction	GW: grou				2	tt.	1				<u></u>
Custody Seals: Yes No	72 Hours		A: ambient air		WW: was	te water			$\widehat{}$	llis	lis				s T
Custody Seals Intact: Yes No	5 working Day		I: indoor air						2	ful	ect				d.a
Total # of Containers:	Standard 10 Working	g Days	S: soil vapor					8	ist	por	sel				du
	· · · · · · · · · · · · · · · · · · ·		W: water				list	[ 일	etL	Va	DOL		ter		10
	Sample Info	rmation					full	TPI	Sel	AZ	Val	RO	Na		ace
AEL Serial # Canister Gra			Samp	led	Sample	Number of	TO-15 full list	TO-15 TPH(GRO)	TO-15 Selet List $\mathcal{V}_{ry}$	8260B AZ Vapor full list	8260B Vapor select list	8015 GRO	8260B Water		DFA tracer cmpd. as TIC
Lab # Canister Grab (L) or bag (M	n) Sample Identi	ification	Date	Time	Туре	Containers	ę	ę	è	826	826	801	826		
01 1869 113 6 bag 1 2	1 VW-4-5		10/6/17	0930	5	(			X						$\times$
02 1837 032 60 bag 1 2			10/6/17	0931	5	1			Χ						$\times$
03 E2392 055 6 bag 1 2	@ UN-4-15'	·	10/6/17	0932	5				χ						$\times$
04 1832 076 6 Dbag 1 2	QVW-4-20	1	10/6/17	0933	5	1			X					L.	$\times$
25 E2095 080 60 bag 1 2	@ VW-3-5'		10/16/17	1020	5	1		-2	X						X
06 1826 025 6G bag 1 2	( VW-3-10'		10/6/17	1021	5	1			X						X
07 1881 128 6 Obag 1 2	@ VW-3-15		10/6/17	1022	5	1			Х						X
08 1877 036 6 Dbag 1 2	O VW-3-20'		10/4/17	1023	5	/			X						X
09 E2085 173 6 Obag 12	@ Vw-1-5'		10/16/17	1105	5	1			X						X
10 E2347 110 68 bag 1 2	& VW-1-10'		10/6/17	1106	5	1			Х						X
Instructions / Special Requirements:			//												
Date: Time:				Re	ceiv	yed	Bv:								
10/3/17 0830 (July BR.	Samples Reline		_				11								
MIII COSO Oneg A	de						1-	Sit	A.	1	7				

#### Airtech Environmental Laboratories (AEL)

#### **Chain of Custody**

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Customer: ADR Environmental Graup Page 2 of 3																AE	L Lal	o #		
Addres	s: 225	Joth	street			Sampler:	Fary Bo	der	Phone: 4	RD 345-	244	18			17	J	00	8		
						Project Nam	e: Alani	a Verd		ect Number			01-	16-	-32	7-6	IZ	Č		
City, St	tate, Zip:	Sabar	mento, a	CA9	5816	Project locat	Project location: Tucion, AZ													
Contac	t: Keri	n Gal	lagher			P.O. Number	P.O. Number:													
Phone:	888 4	22-3	7.34	Fax	5916 6418-6688	Fax Results:		Y	N				5							
E-Mail	Address: K		herac	0	icom	E-Mail Resul	ts:	Ø	N				Ś							
Sample Receipt Turn Around Re						quest		Sample	Туре				4	Anal	ses	Requ	ested			
Temperature °C 24 Hours					48 Hours	SVE: soil vapor	extraction	GW: grou	nd water			V							일	
Custody Seals: Yes No 72 Hours						A: ambient air		WW: was	te water			Dry	llis	list						
Custody Seals Intact: Yes No 5 working Day						I: indoor air							ful	ect					d. as	
Total # of Containers: Standard 10 Working					Days	S: soil vapor					R0	ist	Ъ	sel					cmpd.	
		-					W: water				list	9	etL	Vaj	۲ <u>o</u>		ter			L CL
					Sample Info	rmation					full list	TO-15 TPH(GRO)	TO-15 Selet List	8260B AZ Vapor full list	8260B Vapor select list	GRO	8260B Water			tracer
AEL	Seria	al #	Canister	Grab	Client's	and the second se	Samp	oled	Sample	Number of	TO-15 {	-15	-15	B	B	5 G	B			Atr
Lab #	Canister	Grab	(L) or bag	(Min)	Sample Identif	fication	Date	Time	Туре	Containers	Ó	6	2	826	826	8015	826			DFA
11	EZ362	178	6 Dbag	1 2 👌	0 VW-1-15'		10/4/17	1107	5	1			$\times$						$\square$	X
12	EZ364	058	6 1 bag	1 2 5	1001-00		10/6/17	1108	5				X							$\underline{X}$
B	E2402	108	6 🕖 bag	1 2 🕼	VW-2-5'		10/6/17	1225	5	1			$\times$							$\times$
14	ELOGS	1218	6 Ø bag	1 2 🕭	VW-2-10'		10/11/17	1226	5	1			$\times$							Х
15	E2099	205	6 D bag	1 2 🕭	$V_{W} - 2 - 15'$		10/6/17	1227	5	1			Х							X
16	1853	186	6 🕖 bag	1 2 5	VW-2-20		10/4/17	1228	5	1 .			$\times$							X
17	E2351	070	6 🗇 bag	1 2 5	VW-5-5'		10/6/17	1310	5	1			X							Х
18	1834	212	6 Øbag	1 2 5	VW-5-10'		10/1/17	131(	5	1		10	X							Х
19	1801	103	6 🖉 bag	1 2 🖪	VW-5-15		10/6/17	1312	5	1			Х							X
20	1839	176	6 🖉 bag	1 2 5	WW-5-20'		10/1/17	1313	5	1			X							X
Instruction	ns / Special Re	quirements:	# 14	44	16 Chang	ed by	vegue	st fi	run	Garij	1	3.		17		10	-8-	-17		
Date	Date: Time: Samples Relinquished By:											Re	ecei	vęd	_					
10/9/7 0830 Frunt. Bender										$\eta \psi$	-	>	1							
10/7/	0830	09	mg.	Pin	Ke		·				2		~n	4	4					
			<i>µ</i>																	
														hain c	of Curch	ody O	A Form	SR-Re	V 04 /	0614

#### **Chain of Custody**

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Custor	ner: ADR	Envir	onmenta	1 6-1	(U)	Page 3	of									AE	L La	b #		
Addres	s: '22:	5 3pth	street		/	Sampler:		Sende	Phone:	480 34	5-2	441	P	,	7	-	0.4-	0		
						Project Nam		Vede		ect Number:					<u> </u>		00	5		
City, St	ate, Zip: 🔮	spera	mento, a	CA OS	8110	Project locat	tion: Tues	on, Az	2				1							
	: Kevi					P.O. Number							ist							
	888 62			Fax:	11/2 648-6688	Fax Results:		Y	N				1							
E-Mail /		Kalla		adrea	-Cappo	E-Mail Resul	ts:	D	N				2							
	Sa	mple Rec	elpt C	N	Turn Around R	equest		Sample						Analy	ses	Requ	ested			
Temperat	ure		°C	_	24 Hours	48 Hours	SVE: soil vapor	extraction	GW: grou	ind water			J	tt.	-					<u>ں</u>
Custody S	Seals: Yes	No			72 Hours		A: ambient air		WW: was	te water			N	llis	list					as TIC
Custody S	Seals Intact:	Yes	No	·	5 working Day		I: indoor air					-		ful	ect					d.a
Total # of	Containers:				Kandard 10 Working	g Days	S: soil vapor				-	NS NS	ist	por	sel					du
							W: water				lis	U H	et I	Va	por		Iter			ST CI
					Sample Info	rmation					full	TP	Sel	AZ	Va	SRC	Š.			ace
AEL	Seria	al #	Canister	Grab	Client's	s	Samp	led	Sample	Number of	TO-15 full list	TO-15 TPH(GRO)	TO-15 Selet List $D_{fy}$	8260B AZ Vapor full list	8260B Vapor select list	8015 GRO	8260B Water			DFA tracer cmpd.
Lab #	Canister	Grab	(L) or bag	(Min)	Sample Identi	fication	Date	Time	Туре	Containers	2	2	2	82	82	80	82		$\rightarrow$	Б
21	52370	155	6 (D bag	1 2 🕭	VW-7-20'		10/6/17	1305	5	1			X							X
22	1888	127	6 🗇 bag	1 2 (5	VW-6-5'		10/6/17	1355	5	1			X							Х
23	E2391	139	6 🔗 bag	1 2 🔊	VW-6-10		10/6/17	1356	5	1			X							X
24	E2102	089	6 🕖 bag	1 2 🖉	VW-6-15		10/6/17	1357	5	1			X						)	X
25	1882	131	6 🕖 bag	1 2 5	VW-10-20'		10/6/17	1358	5	1			X							X
			6 1 bag	125																
			6 1 bag	125																
			6 1 bag	125																
			6 1 bag	125																
			6 1 bag	125																
Instruction	s / Special Re	quirements:		ę								4								
Date	: Time	:			Samples Relin	quished Bv	:					R	ecei	ved	By:					
Intali	7 0830		in, A	R	the second se	1				S	T	E	is	1						
144	- was	P	P	- 22										1						
		0	9																	
		- 2	<u>/</u>																	

Chain of Custody QA-Form SR-Rev.04-0614



4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: October 25, 2017

Client:	Kevin Gallagher	Work Order #:	17J020
Company:	ADR Environmental Group	Project Name:	Colonia Verde
Address:	225 30th Street, Ste 202	Project Number:	WWFC -01-16-327-AZ
	Sacramento, CA 95816	Received Date:	10/20/2017

Dear Client:

Airtech Environmental Laboratories received twenty five (25) samples for analysis.

All analyses met laboratory QA/QC with any exceptions addressed in the Case Narrative.

If you have any questions or concerns regarding your samples analysis, please contact the laboratory at 480-968-5888

Sincerely,

- -

Yu Min Shi Technical Director Airtech Environmental Labs

Arizona ADHS License No. AZ0740



4620 E.Elwood St., Suite 13, Phoenix, AZ 85040 480-968-5888 Fax 480-966-1888

Date: October 25, 2017

Client:	Kevin Gallagher	Work Order #:	17J020
Company:	ADR Environmental Group	Project Name:	17J020 Colonia Verde WWFC -01-16-327-AZ 10/20/17
Address:	225 30th Street, Ste 202	Project Number:	WWFC -01-16-327-AZ
	Sacramento, CA 95816	Received Date:	10/20/17

#### **Case Narrative**

All samples and QC associated with your samples met the quality control objectives. Data qualifiers in this report are in accordance with ADEQ Data Qualifiers.

T4: Tentatively identified compound. Concentration is estimated and based on the closest internal standard.



Date: October 25, 2017

Client:	Kevin Gallagher	Work Order #:	17J020
Company:	ADR Environmental Group	Project Name:	17J020 Colonia Verde WWFC -01-16-327-AZ
Address:	225 30th Street, Ste 202	Project Number:	WWFC -01-16-327-AZ
	Sacramento, CA 95816	Received Date:	10/20/2017

#### SAMPLE SUMMARY

LAB ID	CLIENT ID	METHOD	SAMPLE DATE	SAMPLE TIME
17J020-01	VW-3-25'	TO-15	10/19/2017	1015
17J020-02	VW-3-30'	TO-15	10/19/2017	1016
17J020-03	VW-3-35'	TO-15	10/19/2017	1017
17J020-04	VW-3-40'	TO-15	10/19/2017	1018
17J020-05	VW-4-25'	TO-15	10/19/2017	1105
17J020-06	VW-4-30'	TO-15	10/19/2017	1106
17J020-07	VW-4-35'	TO-15	10/19/2017	1107
17J020-08	VW-4-40'	TO-15	10/19/2017	1108
17J020-09	VW-1-25'	TO-15	10/19/2017	1135
17J020-10	VW-1-30'	TO-15	10/19/2017	1136
17J020-11	VW-1-35'	TO-15	10/19/2017	1137
17J020-12	VW-1-40'	TO-15	10/19/2017	1138
17J020-13	VW-2-25'	TO-15	10/19/2017	1235
17J020-14	VW-2-30'	TO-15	10/19/2017	1236
17J020-15	VW-2-35'	TO-15	10/19/2017	1237
17J020-16	VW-2-40'	TO-15	10/19/2017	1238
17J020-17	VW-5-25'	TO-15	10/19/2017	1400
17J020-18	VW-5-30'	TO-15	10/19/2017	1401
17J020-19	VW-5-35'	TO-15	10/19/2017	1402
17J020-20	VW-5-40'	TO-15	10/19/2017	1403
17J020-21	VW-7-40'	TO-15	10/19/2017	1410
17J020-22	VW-6-25'	TO-15	10/19/2017	1455
17J020-23	VW-6-30'	TO-15	10/19/2017	1456
17J020-24	VW-6-35'	TO-15	10/19/2017	1457
17J020-25	VW-6-40'	TO-15	10/19/2017	1458



Client:	Kevin Gallagher	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	N/A
Lab ID:	Kits QC	Matrix:	Air

<b></b>			Ca	anister		Grab	Sampler
		Т	уре	Vacuum	Pressure	-	Туре
	Client	1.(	) liter	before sampled	after sampled	5 minute-fi	ill 1.0L canister
AEL#	ID	SN#	Clean Batch#	Hg inch	psia	SN#	Clean Batch#
17J020-01	VW-3-25'	E2403	1710-05	29.0	11.16	052	1709-05
17J020-02	VW-3-30'	E2088	1710-05	29.0	9.23	156	1709-05
17J020-03	VW-3-35'	1849	1710-05	29.0	10.15	157	1709-05
17J020-04	VW-3-40'	1857	1710-05	29.0	6.27	206	1709-05
17J020-05	VW-4-25'	E2387	1710-06	29.0	12.40	003	1709-08
17J020-06	VW-4-30'	E2096	1710-06	29.0	11.04	213	1709-05
17J020-07	VW-4-35'	0606	1710-06	29.0	11.09	005	1709-08
17J020-08	VW-4-40'	1813	1710-03	29.0	11.03	120	1710-02
17J020-09	VW-1-25'	E2363	1710-04	29.0	11.96	006	1710-02
17J020-10	VW-1-30'	1879	1710-03	29.0	8.95	215	1710-02
17J020-11	VW-1-35'	0206	1710-04	29.0	12.46	018	1709-06
17J020-12	VW-1-40'	1861	1710-04	29.0	10.63	096	1710-02
17J020-13	VW-2-25'	E2373	1710-04	29.0	11.50	172	1710-02
17J020-14	VW-2-30'	1829	1710-04	29.0	9.99	050	1710-02
17J020-15	VW-2-35'	1789	1710-04	29.0	10.80	179	1710-02
17J020-16	VW-2-40'	1842	1710-04	29.0	12.28	216	1710-02
17J020-17	VW-5-25'	1856	1710-05	29.0	10.88	039	1709-08
17J020-18	VW-5-30'	E2405	1710-05	29.0	10.55	060	1710-02
17J020-19	VW-5-35'	E2094	1710-05	29.0	7.65	029	1709-08
17J020-20	VW-5-40'	1870	1710-05	29.0	11.67	181	1710-02
17J020-21	VW-7-40'	E2091	1710-05	29.0	11.68	145	1709-08
17J020-22	VW-6-25'	1802	1710-05	29.0	10.80	208	1709-08
17J020-23	VW-6-30'	E2288	1710-05	29.0	4.77	168	1709-08
17J020-24	VW-6-35'	E2090	1710-05	29.0	9.85	174	1709-05
17J020-25	VW-6-40'	E2100	1710-04	29.0	10.62	051	1708-07



Client:	ADR Environmental Group	Client Sample ID:	VW-3-25'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	01	Matrix:	Soil vapor	

	р	pbv	u	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-59-2
Tetrachloroethene	141	5.0	955	33.9	10	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/23/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	90.0	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-3-30'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	02	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-59-2
Tetrachloroethene	161	10	1,092	67.8	20	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/23/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.1	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-3-35'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	03	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-59-2
Tetrachloroethene	208	10	1,413	67.8	20	10/20/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	86.6	70-130	%REC				
Tentatively Identified Compounds (T	<u>'IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/20/2017	



Project: Co	olonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order: 17	7J020	Collection:	10/19/2017
Lab ID: 04	1	Matrix:	Soil vapor

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-59-2
Tetrachloroethene	194	5.0	1,313	33.9	10	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/23/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.9	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-4-25'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	05	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>			Date	
Analyses	Result	Limit	Result	Limit Q	Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	тс	D-15					Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7		20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6		20	10/20/2017	156-59-2
Tetrachloroethene	1,280	50	8,678	339		100	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6		20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7		20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6		20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	87.0	70-130	%REC					
Tentatively Identified Compounds (T	IC's)							
Difluoroethane	< 200	200	ppbv		T4	20	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-4-30'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	06	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	D-15				Analyst:	JJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-59-2
Tetrachloroethene	1,170	50	7,933	339	100	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	86.8	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	V VV- <del>4</del> -33
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	10/19/2017
Lab ID:	07	Matrix:	Soil vapor

	р	pbv	ug	/M <sup>3</sup>			Date	
Analyses	Result	Limit	Result	Limit	Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	тс	D-15					Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7		20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6		20	10/20/2017	156-59-2
Tetrachloroethene	1,540	50	10,440	339		100	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6		20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7		20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6		20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	87.8	70-130	%REC					
Tentatively Identified Compounds (T	<u>IC's)</u>							
Difluoroethane	< 200	200	ppbv		T4	20	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-4-40'
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	10/19/2017
Lab ID:	08	Matrix:	Soil vapor

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	тс	D-15				Analyst:	JJ
1,1-Dichloroethene	< 50	50	< 199	199	100	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 50	50	< 198	198	100	10/23/2017	156-59-2
Tetrachloroethene	1,010	50	6,848	339	100	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 50	50	< 198	198	100	10/23/2017	156-60-5
Trichloroethene	< 50	50	< 269	269	100	10/23/2017	79-01-6
Vinyl chloride	< 50	50	< 128	128	100	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	84.1	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 1,000	1,000	ppbv	T4	100	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-25'
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	10/19/2017
Lab ID:	09	Matrix:	Soil vapor

	p	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	O-15				Analyst:	JJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-59-2
Tetrachloroethene	737	50	4,997	339	100	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.1	70-130	%REC				
Tentatively Identified Compounds (1	<u>'IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-30'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	10	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-59-2
Tetrachloroethene	525	50	3,560	339	100	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	91.0	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-35'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	11	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-59-2
Tetrachloroethene	632	50	4,285	339	100	10/24/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/20/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/20/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.2	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	Τ4	20	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-1-40'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	12	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	<b>D-15</b>				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/21/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-59-2
Tetrachloroethene	955	50	6,475	339	100	10/24/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/21/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/21/2017	75-01-4
Surr: 4-Bromofluorobenzene	87.8	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	Τ4	20	10/21/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-25'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	13	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	<b>D-15</b>				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/21/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-59-2
Tetrachloroethene	529	50	3,587	339	100	10/24/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/21/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/21/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.0	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	Τ4	20	10/21/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-30'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	14	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	<b>D-15</b>				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/21/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-59-2
Tetrachloroethene	616	10	4,174	67.8	20	10/21/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/21/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/21/2017	75-01-4
Surr: 4-Bromofluorobenzene	88.0	70-130	%REC				
Tentatively Identified Compounds (T	IC's)						
Difluoroethane	< 200	200	ppbv	T4	20	10/21/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-35'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	15	Matrix:	Soil vapor	

	р	pbv	u	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	JJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/21/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-59-2
Tetrachloroethene	762	50	5,166	339	100	10/24/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/21/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/21/2017	75-01-4
Surr: 4-Bromofluorobenzene	87.6	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	Τ4	20	10/21/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-2-40'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	16	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/21/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-59-2
Tetrachloroethene	953	50	6,461	339	100	10/24/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/21/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/21/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.6	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	Τ4	20	10/21/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-25'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	17	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	I DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/21/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-59-2
Tetrachloroethene	459	10	3,112	67.8	20	10/21/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/21/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/21/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/21/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.4	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/21/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-30'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	18	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/24/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/24/2017	156-59-2
Tetrachloroethene	500	10	3,391	67.8	20	10/24/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/24/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/24/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/24/2017	75-01-4
Surr: 4-Bromofluorobenzene	88.1	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/24/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-35'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	19	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	<b>D-15</b>				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-59-2
Tetrachloroethene	354	10	2,397	67.8	20	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/23/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	87.5	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-5-40'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	20	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	JJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-59-2
Tetrachloroethene	386	10	2,614	67.8	20	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/23/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	87.4	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	Τ4	20	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-7-40'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	21	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	<b>D-15</b>				Analyst:	IJ
1,1-Dichloroethene	< 10	10	< 39.7	39.7	20	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-59-2
Tetrachloroethene	406	10	2,750	67.8	20	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 10	10	< 39.6	39.6	20	10/23/2017	156-60-5
Trichloroethene	< 10	10	< 53.7	53.7	20	10/23/2017	79-01-6
Vinyl chloride	< 10	10	< 25.6	25.6	20	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	90.2	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 200	200	ppbv	T4	20	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-25'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	22	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 2.5	2.5	< 9.93	9.93	5	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 2.5	2.5	< 9.90	9.90	5	10/23/2017	156-59-2
Tetrachloroethene	143	2.5	972	17.0	5	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 2.5	2.5	< 9.90	9.90	5	10/23/2017	156-60-5
Trichloroethene	< 2.5	2.5	< 13.4	13.4	5	10/23/2017	79-01-6
Vinyl chloride	< 2.5	2.5	< 6.40	6.40	5	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	89.3	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 50	50	ppbv	Τ4	5	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-30'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	23	Matrix:	Soil vapor	

	р	pbv	uç	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 2.5	2.5	< 9.93	9.93	5	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 2.5	2.5	< 9.90	9.90	5	10/23/2017	156-59-2
Tetrachloroethene	173	2.5	1,173	17.0	5	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 2.5	2.5	< 9.90	9.90	5	10/23/2017	156-60-5
Trichloroethene	< 2.5	2.5	< 13.4	13.4	5	10/23/2017	79-01-6
Vinyl chloride	< 2.5	2.5	< 6.40	6.40	5	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	92.2	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 50	50	ppbv	Τ4	5	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-35'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	24	Matrix:	Soil vapor	

	р	pbv	u	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	0-15				Analyst:	IJ
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-59-2
Tetrachloroethene	161	5.0	1,091	33.9	10	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/23/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	88.8	70-130	%REC				
Tentatively Identified Compounds (1	<u> (IC's)</u>						
Difluoroethane	< 100	100	ppbv	T4	10	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	VW-6-40'	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	10/19/2017	
Lab ID:	25	Matrix:	Soil vapor	

	р	pbv	ug	g/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qual	DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	Т	D-15				Analyst:	IJ
1,1-Dichloroethene	< 5.0	5.0	< 19.9	19.9	10	10/23/2017	75-35-4
cis-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-59-2
Tetrachloroethene	215	5.0	1,460	33.9	10	10/23/2017	127-18-4
trans-1,2-Dichloroethene	< 5.0	5.0	< 19.8	19.8	10	10/23/2017	156-60-5
Trichloroethene	< 5.0	5.0	< 26.9	26.9	10	10/23/2017	79-01-6
Vinyl chloride	< 5.0	5.0	< 12.8	12.8	10	10/23/2017	75-01-4
Surr: 4-Bromofluorobenzene	90.2	70-130	%REC				
Tentatively Identified Compounds (T	<u>IC's)</u>						
Difluoroethane	< 100	100	ppbv	Τ4	10	10/23/2017	



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	N/A
Lab ID:	Blank	Matrix:	Nitrogen

		Meth	od QC Data				
	Batch:	MS0110	)20 Analyst	: JJ			
	р	pbv	ug	/M <sup>3</sup>		Date	
Analyses	Result	Limit	Result	Limit Qua	l DF	Analyzed	CAS#
VOLATILE ORGANICS IN AIR	т	D-15				Analyst:	JJ
1,1-Dichloroethene	< 0.5	0.5	< 1.99	1.99	1	10/20/2017	75-35-4
cis-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/20/2017	156-59-2
Tetrachloroethene	< 0.5	0.5	< 3.39	3.39	1	10/20/2017	127-18-4
trans-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/20/2017	156-60-5
Trichloroethene	< 0.5	0.5	< 2.69	2.69	1	10/20/2017	79-01-6
Vinyl chloride	< 0.5	0.5	< 1.28	1.28	1	10/20/2017	75-01-4
Surr: 4-Bromofluorobenzene	83.4	70-130	%REC				
Tentatively Identified Compounds (	TIC's)						
Difluoroethane	< 10	10	ppbv	T4	1	10/20/2017	



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	N/A
Lab ID:	LCS/LCSD	Matrix:	Nitrogen

Method QC Data										
Date Analyzed:	10/20/2017 Batch:			MS01102	20		Analyst	: JJ		
Analyses	LCS Result	LCS %REC	LCSD Result	LCSD %REC	т.v.	%RPD	Unit	Qualifi LCS LCSE		
VOLATILE ORGANICS IN AIR	TO-15							70-130%	<25%	
Vinyl Chloride	9.7	96.5	10.2	102	10.0	5.7	ppbv			
1,1-Dichloroethene	9.3	93.2	10.3	103	10.0	10.3	ppbv			
trans-1,2-Dichloroethene	7.5	74.5	8.6	85.5	10.0	13.8	ppbv			
cis-1,2-Dichloroethene	8.4	84.0	9.8	98.0	10.0	15.4	ppbv			
Trichloroethene	8.4	84.0	8.9	89.0	10.0	5.8	ppbv			
Tetrachloroethene	11.0	110	10.9	109	10.0	1.4	ppbv			
Surr: 4-Bromofluorobenzene	10.4	104	10.6	106			%REC			
	-	70-130%		70-130%						



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	N/A
Lab ID:	Blank	Matrix:	Nitrogen

Method QC Data												
	Batch:	MS0110	)23 Analyst	JJ								
	р	pbv	ug	/M <sup>3</sup>		Date						
Analyses	Result	Limit	Result	Limit Qua	DF	Analyzed	CAS#					
VOLATILE ORGANICS IN AIR	тс	D-15				Analyst:	IJ					
1,1-Dichloroethene	< 0.5	0.5	< 1.99	1.99	1	10/23/2017	75-35-4					
cis-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/23/2017	156-59-2					
Tetrachloroethene	< 0.5	0.5	< 3.39	3.39	1	10/23/2017	127-18-4					
trans-1,2-Dichloroethene	< 0.5	0.5	< 1.98	1.98	1	10/23/2017	156-60-5					
Trichloroethene	< 0.5	0.5	< 2.69	2.69	1	10/23/2017	79-01-6					
Vinyl chloride	< 0.5	0.5	< 1.28	1.28	1	10/23/2017	75-01-4					
Surr: 4-Bromofluorobenzene	84.0	70-130	%REC									
Tentatively Identified Compounds (	TIC's)											
Difluoroethane	< 10	10	ppbv	Τ4	1	10/23/2017						



Client:	ADR Environmental Group	Client Sample ID:	N/A
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ
Lab Order:	17J020	Collection:	N/A
Lab ID:	LCS/LCSD	Matrix:	Nitrogen

Method QC Data												
Date Analyzed:	10/23/20	)17	Batch: MS011023			Analyst: JJ						
	LCS	LCS	LCSD	LCSD				Qualifi	er			
Analyses	Result	%REC	Result	%REC	T.V.	%RPD	Unit	LCS LCS	RPD			
VOLATILE ORGANICS IN AIR	TO-15							70-130%	<25%			
Vinyl Chloride	10.7	107	11.2	112	10.0	4.9	ppbv					
1,1-Dichloroethene	9.6	95.6	9.0	89.7	10.0	6.4	ppbv					
trans-1,2-Dichloroethene	8.9	89.2	8.0	79.7	10.0	11.2	ppbv					
cis-1,2-Dichloroethene	8.6	86.0	8.0	80.4	10.0	6.7	ppbv					
Trichloroethene	8.5	85.2	7.5	75.2	10.0	12.5	ppbv					
Tetrachloroethene	10.9	109	9.7	96.5	10.0	12.5	ppbv					
Surr: 4-Bromofluorobenzene	11.0	110	10.7	107			%REC					
	-	70-130%		70-130%								



Client:	ADR Environmental Group	Client Sample ID:	NA	
Project:	Colonia Verde	Project Number:	WWFC -01-16-327-AZ	
Lab Order:	17J020	Collection:	NA	
Lab ID:	Standards	Matrix:	Nitrogen	

AEL ID#	STD Name	Vendor	SGI Order#	Description	CONC.	Accuracy	Exp.Date
S-170623-01	Stock	Spectra Gases	113123527	TO-14 39 Analytes	1.0 ppmv	<u>+</u> 5%	6/23/2018
S-170824-01	Stock	Spectra Gases	113123527	TO-15 25 Analytes	1.0 ppmv	<u>+</u> 5%	8/24/2018
S-170623-02	Stock	Spectra Gases	113123527	15 Additional Compounds	1.0 ppmv	<u>+</u> 5%	6/23/2018
S-161101-01	Stock	Spectra Gases	114560630	TO-15 IS 4 Compounds	1.0 ppmv	<u>+</u> 5%	11/1/2017
A-171010-01	Working Std	AEL Dilution		TO-15 74 Analytes	10 ppbv	<u>+</u> 5%	1/10/2018
A-171016-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	50 ppbv	<u>+</u> 5%	11/1/2017
A-171021-01	Working IS	AEL Dilution		TO-15 IS 4 Compounds	50 ppbv	<u>+</u> 5%	11/1/2017

#### **Chain of Custody**

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Customer: ADR Environmental Group P					Page_/	of <u>3</u>									AE	L La	b #			
					Sampler:	Sampler: Gary Benles Phone: 480-345-2448 1						175020								
30- V						Project Nam	Project Name: Colonia Verde Project Number: WWFC-01-16-327-AZ													
City, State, Zip: Sacramento, CA 95816						Project locat	Project location: Tuesen, A7													
Contac	:t: Kevi	1 Gall	ogher			P.O. Number:														
Phone	: 288 G	62-3	734	Fax	:916 648-6628	Fax Results:		Υ	N				5							
					E-Mail Resul	ts:	R	N				Ś								
	Sa	mple Rect	eipt 🔍		J Turn Around Re	equest		Sample	Туре		Analyses Requested									
Tempera	ature		°C	-	24 Hours	48 Hours	SVE: soil vapor	extraction	GW: grou				U	tt.	1					Q
Custody	Seals: Yes_	No		-	72 Hours		A: ambient air		WW: was	te water			2	iii	list					as TIC
Custody	Seals Intact:	YesI	No	-	5 working Day		I: indoor air					2	A	ful	lect					d. a
Total # c	f Containers:			-	Standard 10 Working	Days	S: soil vapor				tt	SRC SRC	List	lode	r se					cmpd.
					Sample Info	rmation	W: water				TO-15 full list	TO-15 TPH(GRO)	TO-15 Selet List $D/\gamma$	8260B AZ Vapor full list	8260B Vapor select list	õ	8260B Water			tracer c
AEL	Seria	al #	Canister	Grab	the second se	the second s	Sam	oled	Sample	Number of	15 fi	15 1	15 S	B	B	GF	B			tra
Lab #	Canister	Grab	(L) or bag	(Min)			Date	Time	Туре	Containers	ģ	ġ	Ţ0	826(	826(	8015 GRO	826(			DFA
01	E2403	052	6 🕅 bag	1 2	5 VW-3-25'		10/19/17	1015	5	1			X							X
02	EZOR8	156	6 🕧 bag	1 2 0			1	1016	5	(			Х							X
03	1849	157	6 🖉 bag	1 2				1017	5	(			X							X
04	1857	206	6 🕖 bag	1 2 6				1018	5	(			X							X
20	E2387	003	6 🖉 bag	1 2				1105	5	t		e.	χ							Х
0,6	E2096	213	6 🖉 bag	1 2 6				1106	5	L			Х							X
07	0606	005	6 🖉 bag	1 2 (	\$ VW-4-35'			1107	5	1			X							X
08	1813	120	6 R bag	1 2 (	5 VW-4-40			1108	5	t			X							Х
09	E2363	006	6 🖉 bag	1 2 🕻	8 VW-1-25'			1135	5	l	Ý.		X							X
10 1879 215 60 bag 1 2 0 VW-1-30'						V	1136	5	(			Х							X	
Instructio	ons / Special Re	quirements:																		
Date	Date: Time: Samples Relinguished By:									12	Re	cei	ved	By:						
10/20	10/20/17 1000 (rang A. Berde									E		24								
4 - 4		00	my the	part	no						1			4						
			1																	
			-																	

# Airtech Environmental Laboratories (AEL)

# **Chain of Custody**

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

Custor	mer: AD1	2 Envi	ignmen	tal	1-1002	Page_2	of _	3									AE	L La	b #	
Addres		5 30	Th stree	et		Sampler:	Sampler: Gar Bender Phone: 480.345-2448						175020							
					Project Nam	Project Name: Colonia Verle Project Number: WWFC-01-16-327-AZ														
City, S	tate, Zip:	Sacra	mento	A	95216	Project locat	Project location: Tueson, A7													
Contac	t: Kevi	n Gall	agher			P.O. Number			,					t's						
Phone	288 6	62-3	734	Fax	x:916 [41-6628	Fax Results:			Y	N				7						
E-Mail	Address: /	Kaalla	aherQ	~	ey. com	E-Mail Resul	ts:		R	N				5						
	Sa	ample Ret	eipt 🧹		J Turn Around Re	equest			Sample	Туре					Anal	ses	Requ	ested		
Tempera					24 Hours	48 Hours	SVE:	soil vapor	extraction	GW: grou	nd water			J	tt.					10
Custody	Seals: Yes_	No			72 Hours		A: an	nbient air		WW: waste water				N	iii.	lis				as T
Custody	Seals Intact:	YesI	No		5 working Day			loor air						Q	ful	ect				d. a
Total # o	f Containers:				Standard 10 Working	g Days (	\$: 90	il vapor				1	RO	ist	por	se				du
							<b>W</b> : w	ater				II lis	H(G	elet I	z Va	apor	0	ater		erc
					Sample Info							2 ful	5 TF	5 Se	3 A.	3 V	GR	N N		trac
AEL	Seri		Canister	Grab				Samp		Sample	Number of	TO-15 full list	TO-15 TPH(GRO)	TO-15 Selet List $\mathbb{D}_{r_{\mathcal{T}}}$	8260B AZ Vapor full list	8260B Vapor select list	8015 GRO	8260B Water		DFA tracer cmpd.
Lab #	Canister	Grab	(L) or bag	(Min		ification		Date	Time	Туре	Containers	F	F		80	80	õ	80	-+	
11	0206	018	6 🖉 bag	120	100-1-22		18/	9/17	1137	5	1	ļ		X					$\rightarrow$	X
/2	1861	096	6 1 bag	12	5 VW-1-40'			[	1138	5	1			$\times$						X
13	E2373	172	6 🔗 bag	12	5 VW-2-25'				1235	$\leq$	1			Х						Ϋ́
14	1829	050	6 🕖 bag	1 2	5 VW-2-30'				1236	S	1			X					×.	X
5	1789	179	6 🔗 bag	1 2 6	\$ VW-2-35'				1237	Ś	1			Х						X
16	1842	Zile	6 🖉 bag	12	\$ VW-2-40				1238	5	l			$\times$						ĺΧ
17	1856e	039	6 🖉 bag	1 2 (	9 VW-5-25'			1	1400	5	1 I			X						X
18	E2405	060	6 🔗 bag	120					1401	5	1			X						X
1.9	E2094	029	6 🖉 bag	12	B VW-5-35'				1402	5	1	1		Х						X
20	1870	181	6 🖉 bag	1 2 6	8 VW-5-40		V		1403	5	1			Х						X
Instructio	ns / Special Re	quirements:																		
Date	: Time				Complex Delin	unished Du						1	D		ved	Du				
Date	1			<u> </u>	Samples Reline	quistied by						++	N.	2001	veq	Dy.				
10/201	N 1000	(Ja	MA.	Send	15									2	-	-	-			
1																				

Chain of Custody QA-Form SR-Rev.04-0614

# Airtech Environmental Laboratories (AEL)

# **Chain of Custody**

4620 E.Elwood Street, Suite 13, Phoenix, AZ 85040 480-968-5888 (phone) 480-966-1888 (fax)

										-	-		-	_		-	_	-	-
Customer : A	DR EAN	iranne	tal	5002	Page_3	of <u>3</u>										L Lal			
Address: Z		Th stren		,	Sampler:	Sampler: Gary Bender Phone: 480-345-2448					>	175020							
Project Name: Colonia Verde Project Number: 1									16	-37	27-1	42							
City, State, Zip: Sacramento, CA 95816 Project location: Tueson, AZ																			
Contact: Ke	Contact: Kevin Gallariher P.O. Number:								ist										
Phone: 222	662-3	734	Fax	:916 1.41-662P	Fax Results:	:	Y	R				1							
E-Mail Address:	Kaalla	aherQ		a.com	E-Mail Resul	Its:	R	N				24							
	Sample Ret	eipt		J Turn Around Re	equest		Sample	Туре		Analyses Requested									
Temperature		°C	-	24 Hours	48 Hours	SVE: soil vapor	extraction	GW: grou	W: ground water			U	tt					19	P
Custody Seals: Ye	s No		-	72 Hours		A: ambient air		WW: was	N: waste water			N	l lis	lis					s
Custody Seals Intac	: Yes	No	-	5 working Day		I: indoor air						Â	ful	lect					a. a
Total # of Container	s:		-	Standard 10 Working	Days (	S: soil vapor			List No				Iod	se					di i
				0 1 1 (		W: water				II lis	H	elet	ZVa	apo	0	ater			erc
AEL S	erial #	Carlata	Carb	Sample Info				Consta			5 TI	5 S(	BA	B	GR	B			trac
Lab # Caniste		Canister (L) or bag	Grab (Min)			Date Samp	Time	Sample Type	Number of Containers	TO-15 full list	TO-15 TPH(GRO)	TO-15 Selet List $\hat{D}_{\mathcal{A}}$	8260B AZ Vapor full list	8260B Vapor select list	8015 GRO	8260B Water			DFA tracer cmpd. as
		6 1 bag	1 2 (	0 /	incation	11			(	-	-	-		~	~	-	-+-		, X
21 E209						10/19/17	1410	5				<u> </u>					-+-	+	Ş
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Instructions / Special	Requirements:					L													
Date: Tir	ne:			Samples Reline	quished By	:				-	Re	cei	vęd	By:					_
10/20/17 100	o a	ut.t	Bend	20					-	1	te	a.	4	7					
	- /																		

Chain of Custody QA-Form SR-Rev.04-0614

# **APPENDIX D**

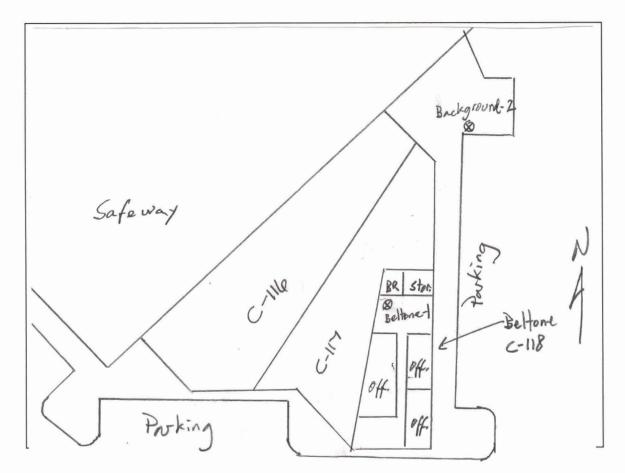
# BUILDING SURVEYS AND CHEMICAL INVENTORY

# APPENDIX L - BUILDING SURVEY FORM

Preparer's Name: Gary A. Bender, R.G.	_ Date/Time Prepared: 10/25/17								
Affiliation: Bender Environmental Consulting, Inc.	Phone Number: 480 345-2448								
Occupant Information									
Occupant Name: Beltone Hearing Aids Mailing Address: 7189 E. Tanque Verde Road, Ste. C118	Interviewed: 🛛 Yes 🗆 No								
City: Tucson State: AZ	Zip Code: 85715								
Distant Exactly	P @@##0:								
<b>Owner/Landlord Information</b> (Check if same as occupant $\Box$ )									
Occupant Name: <u>Westwood Financial LLC (Property owner)</u> Mailing Address: <u>11440 San Vicente, Ste. 200</u>	Interviewed: 🗆 Yes 🛛 No								
City: Los Angeles State: CA	Zip Code: 90049								
Phone: Email:	·								
Building Type (Check appropriate boxes)									
□ Residential □ Residential Duplex □ Apartment Building □ □ Commercial (warehouse) □ Industrial ☑ Strip Mall □ Spli									
Building Characteristics									
Approximate Building Age (years): <u>30+ years</u> Number Approximate Building Area (square feet): <u>958 (Suite C118 only)</u> N									
Foundation Type (Check appropriate boxes)									
⊠ Slab-on-Grade  □ Crawl Space  □ Basement									
Basement Characteristics (Check appropriate boxes) Tile fl	loor in break room, good condition								
□ Dirt Floor □ Sealed □ Wet Surfaces □ Sump Pump □ C	Concrete Cracks								
Factors Influencing Indoor Air Quality									
Is there smoking in the building? Is there new carpet or furniture?	□ Yes ⊠ No □ Yes ⊠ No □ Yes ⊠ No Describe:								
	□ Yes ⊠ No Describe:								
	□ Yes ⊠ No Describe:								
• •	□ Yes ⊠ No Describe:								
•	□ Yes ⊠ No □ Yes ⊠ No Describe:								
,	$\Box$ Yes $\boxtimes$ No Describe								
Is there a fuel oil tank on the property?									
Is there a septic tank on the property?									
	□ Yes □ No Describe: <u>unknown</u>								
	□ Yes ⊠ No Describe:								

### Sampling Locations

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.



### Primary Type of Energy Used (Check appropriate boxes)

□ Natural Gas □ Fuel Oil □ Propane 🖄 Electricity □ Wood □ Kerosene

#### **Meteorological Conditions**

Describe the general weather conditions during the indoor air sampling event. Sunny, 95 degrees

#### **General Comments**

Provide any other information that may be of importance in understanding the indoor air quality of this building.

The Beltone Hearing Aids store sells and services hearing aids and has no chemicals other than cleaning supplies where the 8-hr. sample Beltone-1 was collected. These chemicals do not include any VOCs. The offices were not open during the sampling event (closed on Fridays), but the AC was turned on at

the beginning of sampling and ran all day. By the end of the day, the temp. went from low 80's to mid-70's inside the offices.

# **APPENDIX M – BUILDING SCREENING FORM**

Occupant of Building Beltone Hearing Aids - Ste. C118 only

Address \_\_\_\_\_\_ E. Tanque Verde Road

Tucson, AZ City

Field Investigator <u>Gary Bender, R.G.</u> Date <u>Oct. 6, 2017</u>

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
0.0	Ambient air in break room	No VOCs stored
0.0	Ambient air in front lobby area	No VOCs stored

Comments:

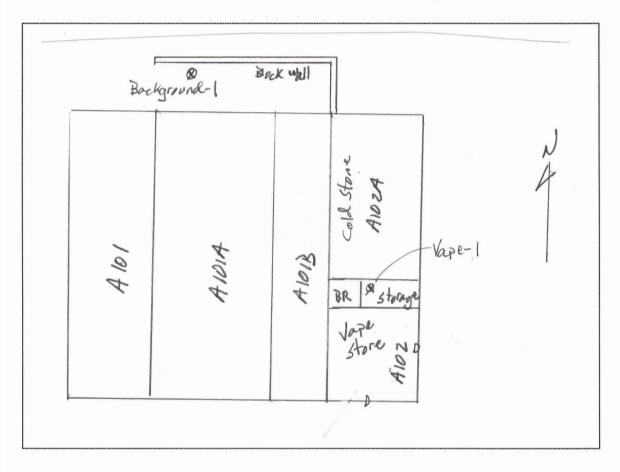
Suite C118 is a small part of the building, which also contains a drug testing lab, and a flower shop.

# **BUILDING SURVEY FORM**

Preparer's Name: <u>Gary A. Bender, R.G.</u> Affiliation: <u>Bender Environmental Consulting, Inc.</u>	Date/Time Prepared: <u>10/25/17</u> Phone Number: <u>480 345-2448</u>
Occupant Information	
Occupant Name: <u>The Vape Zone</u> Mailing Address: <u>7113 E. Tanque Verde Road</u>	Interviewed: 🛛 Yes 🗆 No
City: Tucson State: AZ	Zip Code: <u>85715</u>
Phone: Email:	
<b>Owner/Landlord Information</b> (Check if same as occupant $\Box$ )	
Occupant Name:         Westwood Financial LLC (Property owner)           Mailing Address:         11440 San Vicente, Ste. 200	
City: Los Angeles State: CA	Zip Code: <u>90049</u>
Phone: Email:	
Building Type (Check appropriate boxes)	
□ Residential □ Residential Duplex □ Apartment Building □ □ Commercial (warehouse) □ Industrial ⊠ Strip Mall □ Split	
Building Characteristics	
Approximate Building Age (years): <u>20-25 years</u> Number Approximate Building Area (square feet): <u>850 (Suite 102 only)</u> No	
Foundation Type (Check appropriate boxes)	
X Slab-on-Grade  □ Crawl Space  □ Basement	
Basement Characteristics (Check appropriate boxes) Concre	ete floor in storage room, good condition
□ Dirt Floor □ Sealed □ Wet Surfaces □ Sump Pump □ Co	oncrete Cracks 🛛 Floor Drains
Factors Influencing Indoor Air Quality	
Is there smoking in the building?Image: Smoking in the building?Is there new carpet or furniture?Image: Smoking in the building?Have clothes or drapes been recently dry cleaned?Image: Smoking in the building been done with the last six months?Has the building been recently remodeled?Image: Smoking in the building?Has the building ever had a fire?Image: Smoking?Is there a hobby or craft area in the building?Image: Smoking?Is there a fuel oil tank on the property?Image: Smoking?Is there a septic tank on the property?Image: Smoking?	Yes       Xo         Yes       No       Vaping only         Yes       No       Describe: possibly         Yes       No       Describe:
	□ Yes 🗵 No Describe:

## Sampling Locations

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.



## Primary Type of Energy Used (Check appropriate boxes)

□ Natural Gas □ Fuel Oil □ Propane 12 Electricity □ Wood □ Kerosene

### Meteorological Conditions

Describe the general weather conditions during the indoor air sampling event. Sunny, 95 degrees

#### General Comments

Provide any other information that may be of importance in understanding the indoor air quality of this building.

The Vape Store sells vaping supplies, and had some chemical storage in the back storage room where the 8-hr. sample Vape-1 was collected. These chemicals were not VOCs, and typically consisted of vaping-related chemicals (glycols, etc.) The store was open during the entire sampling event, and the AC was turned on at the beginning of sampling and ran all day. Temp. went from low 80's to mid-70's inside the store after the AC was turned on.

# **BUILDING SCREENING FORM**

Occupant of E	BuildingThe Vape Zone - Ste. 102 only	
	13 E. Tanque Verde Road	
City	n, AZ	
-	ator <u>Gary Bender, R.G.</u> Date Oct. 6	5, 2017
Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
0.0	Ambient air in storage room	No VOCs stored
0.0	Ambient air in store customer area	No VOCs stored

Comments:

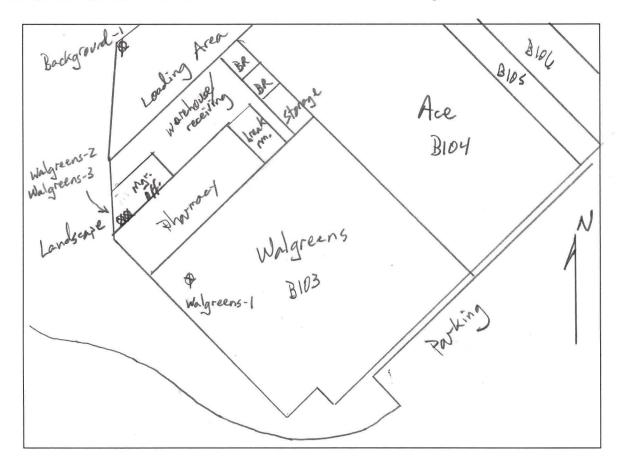
Suite 102 is a small part of the building, which also contains Stone Cold Creamery, a dentist, Sprint PCS, and Panda Express.

# **BUILDING SURVEY FORM**

Preparer's Name: <u>Gary A. Bender, R.G.</u> Affiliation: <u>Bender Environmental Consulting, Inc.</u>	Date/Time Prepared: <u>10/25/17</u> Phone Number: <u>480 345-2448</u>
Occupant Information	
Occupant Name: <u>Walgreens Drug Store</u> Mailing Address: <u>7115 E. Tanque Verde Road, Ste. B103</u>	Interviewed: 🗵 Yes 🛛 No
City:         Tucson         State:         AZ           Phone:          Email:	Zip Code:
<b>Owner/Landlord Information</b> (Check if same as occupant $\Box$ )	
Occupant Name: <u>Westwood Financial LLC (Property owner)</u> Mailing Address: <u>11440 San Vicente, Ste. 200</u>	
City:       Los Angeles       State:       CA         Phone:        Email:	Zip Code. <u>30043</u>
Building Type (Check appropriate boxes)	
□ Residential □ Residential Duplex □ Apartment Building □ □ Commercial (warehouse) □ Industrial ⊠ Strip Mall □ Spli	
Building Characteristics	
Approximate Building Age (years): <u>20-25 years</u> Numbe Approximate Building Area (square feet): <u>14,065</u> N (Suite B103 only)	
Foundation Type (Check appropriate boxes)	
🖄 Slab-on-Grade 🛛 Crawl Space 🛛 Basement	
Basement Characteristics (Check appropriate boxes) Tile f	loor in store, concrete in managers office, good condition
□ Dirt Floor □ Sealed □ Wet Surfaces □ Sump Pump □ C	Concrete Cracks
Factors Influencing Indoor Air Quality	
Is there smoking in the building? Is there new carpet or furniture? Have clothes or drapes been recently dry cleaned? Has painting or staining been done with the last six months? Has the building been recently remodeled? Has the building ever had a fire? Is there a hobby or craft area in the building? Is gun cleaner stored in the building? Is there a fuel oil tank on the property? Is there a septic tank on the property? Has the building been fumigated or sprayed for pests recently?	□ Yes       X No         □ Yes       X No

#### **Sampling Locations**

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.



### Primary Type of Energy Used (Check appropriate boxes)

□ Natural Gas □ Fuel Oil □ Propane 🖄 Electricity □ Wood □ Kerosene

### **Meteorological Conditions**

Describe the general weather conditions during the indoor air sampling event. Sunny, 95 degrees

### **General Comments**

Provide any other information that may be of importance in understanding the indoor air quality of this building. The Walgreen store sells a wide variety of products which might include small quantities of VOCs including medical

The Walgreen store sells a wide variety of products which might include small quantities of VOCs including medical supplies, cosmetics, and automotive supplies. A sample and a duplicate were collected in the manager's office, which did not have any specific chemicals. However, the sample in the product sales area was close to the automotive supply aisle where some products containing VOCs are shelved. The store was open during the sampling event and the AC was turned on the entire time. The temp, was probably in the mid-70's inside the store.

# **BUILDING SCREENING FORM**

Occupant of Building <u>Walgreens Drug Store - Ste. B103 only</u>

Address 7115 E. Tanque Verde Road

Tucson, AZ City

Field Investigator <u>Gary Bender, R.G.</u> Date <u>Oct. 6, 2017</u>

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients
0.0	Ambient air in manager's office	No VOCs stored
0.0	Ambient air in product shelving area	Cosmetics, medical supplies, automotive products, etc.

Comments:

Suite B103 is a large suite (14,065 sf), with a customer shopping area, pharmacy, lunch room, bathrooms warehouse, and managers office. There are numerous products that may contain VOCs.

The suite next door (B104) is Ace Hardware which may also store and sell products containing VOCs.