Appendix B – Soils Vapor HRA

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August 19, 2015 (TRG 8153)

Mr. Richard Wilson **ANAHEIM PUBLIC UTILITIES DEPARTMENT** 201 S. Anaheim Boulevard Anaheim, California 92805 THE REYNOLDS GROUP

A California Corporation

SITE: FORMER EXXON STATION #7-3724

1100 WEST BALL ROAD ANAHEIM, CALIFORNIA

SUBJECT: SHALLOW SOIL VAPOR INVESTIGATION REPORT

Dear Mr. Wilson,

On behalf of our Client, The Reynolds Group (TRG) is pleased to provide this *Shallow Soil Vapor Investigation Report* for the Former Exxon Station #7-3724 located at 1100 West Ball Road in Anaheim, California (see **Figure 1** – Site Location Map). In a letter dated September 15, 1994, the City of Anaheim Public Utilities Department (APUD) confirmed completion of site investigation and remedial action for petroleum hydrocarbon impacts at the Site for commercial land use. Land use at the Site is changing from commercial to residential and, as such, the APUD required a Human Health Risk Assessment (HHRA) at the Site to determine if residual levels of gasoline exists at elevated concentrations.

The work was performed according to TRG's *Workplan for Human Health Risk Assessment*, dated July 10, 2015, submitted to the APUD and subsequently approved in a letter dated July 13, 2015 (see **Attachment A**).

EXECUTIVE SUMMARY

On August 11, 2015, TRG advanced and set eight temporary dual-nested soil vapor probes (see **Figure 2** - Site Plan with Soil Vapor Sampling Locations). The soil vapor probes were sampled on

Shallow Soil Vapor Investigation Report

1100 W. Ball Road, Anaheim, CA

August 19, 2015 Page 2 of 11

August 17, 2015, at the depths of 5 and 15 feet below ground surface (bgs). All 16 soil vapor

samples were "non-detect" for volatile organic compounds (VOCs) including all gasoline

components, except tetrachloroethylene (PCE). PCE was detected in 15 of the 16 samples at

concentrations ranging from 0.054 to 0.173 micrograms per liter (µg/L, see **Table 1**). All of the

aforementioned PCE concentrations are below "Department of Toxic Substance Control (DTSC)

Human and Ecological Risk Office (HERO) Note 3" future commercial and residential screening

levels.

FIELDWORK

Prior to conducting the fieldwork, probe locations were marked and Underground Services Alert

(USA) provided utility clearance. In addition, a Well/Boring Permit was obtained from APUD (see

Attachment B). Soil probes were set on August 11, 2015 and sampled on August 17, 2015.

Soil Vapor Probe Installation

Eight temporary dual-nested soil vapor probes (SV1 through SV8) were established at 5 and 15 ft

bgs using a direct push rig and sampled at locations shown on the attached Figure 2. The soil

vapor sampling followed the April 2012 DTSC Advisory - Active Soil Gas Investigations (the

Advisory).

Each soil vapor probe was constructed of a 6-inch long stainless steel screen attached to Teflon

tubing from the probe screen to the surface. The probe screens were centered vertically in a 1-

foot interval of a sand pack and separated by annular seals consisting of dry and hydrated granular

bentonite transition seals. Boring logs with soil probe details are provided in Attachment C.

Shallow Soil Vapor Investigation Report 1100 W. Ball Road, Anaheim, CA

1100 W. Ball Road, Anaheim, CA August 19, 2015

Page 3 of 11

Soil Vapor Sampling

Soil gas samples were collected in gas tight glass syringes equipped with Teflon plungers. Tubing

placed in the ground for soil gas sampling was purged three different times as recommended by

DTSC guidance document. This purge volume test determined how many purges of the soil gas

tubing were needed throughout the project. One, three and ten purge volumes were analyzed to

make this determination. Three purge volumes were used.

Prior to purging and sampling, a leak test was conducted at each soil vapor probe location to

determine whether ambient air was infiltrating into the subsurface and sample collection system.

A tracer gas mixture of n-propanol and n-pentane was released at the ambient ground surface and

analyzed in each soil vapor sample. A detection of the tracer compound in the subsurface soil

vapor sample would have indicated that ambient air intrusion had occurred. No ambient air

intrusion was detected during this investigation.

Soil vapor samples were collected from 5 and 15 ft bgs, at a constant low flow rate measuring 200

milliliters per minute (ml/min) as shown by an in-line vacuum gauge. A vacuum reading was

recorded on field data sheets for each sample. Soil vapor samples were collected in glass gas-tight

syringes equipped with Teflon plungers by a mobile laboratory provided by Jones Environmental,

Inc., a California-certified laboratory in Fullerton, California, for analyses of VOCs by Method

8260B.

Once soil vapor samples were collected, each probe was removed and the borehole was backfilled

with hydrated granular bentonite.

LABORATORY ANALYSES AND RESULTS

PCE was the only constituent detected in all 16 samples. PCE was detected in 15 of the 16 samples

Shallow Soil Vapor Investigation Report 1100 W. Ball Road, Anaheim, CA

August 19, 2015

Page 4 of 11

at concentrations ranging from 0.054 to 0.173 $\mu g/L$, which are below DTSC HERO Note 3 future

residential and commercial screening levels of 0.41 μg/L and 4.16 μg/L, respectively (see Table 1

and Attachment D). The PCE appears to be very consistent across the Site and is likely part of a

regional issue. Because the concentrations were absolutely below both future residential and

commercial screening levels, a Human Health Risk Assessment using statistical analysis was not

necessary.

REGISTERED PROFESSIONAL STATEMENT

All work on this project was performed under the responsible charge of a California Registered Civil

Engineer. The licensed professional whose wet ink signature and seal appears at the end of this

report personally supervised all work associated with the project.

Please feel free to reach our Project Manager for this case, Patricia Dean, at 714-381-3898 (cell) or

by e-mail to dean@reynolds-group.com if you have any further questions or comments.

Sincerely,

THE REYNOLDS GROUP

a California corporation by:

F. Edward Reynolds, [r.

CA Registered Civil Engineer #38677

Patricia Dean

Project Manager

Shallow Soil Vapor Investigation Report 1100 W. Ball Road, Anaheim, CA August 19, 2015 Page 5 of 11

Attachments:

Table 1 – Summary of Soil Vapor Sample Results

Figure 1 – Site Location Map

Figure 2 – Site Plan with Soil Vapor Sampling Locations

Attachment A – APUD Workplan Approval Letter

Attachment B – APUD Well/Boring Permit

Attachment C - Boring Logs

Attachment D – Laboratory Analytical Results and Chain of Custody

cc: James Connor, **DAUM COMMERCIAL REAL ESTATE SERVICES**Jill Ryer Powder, **ENVIRONMENTAL HEALTH DECISIONS**

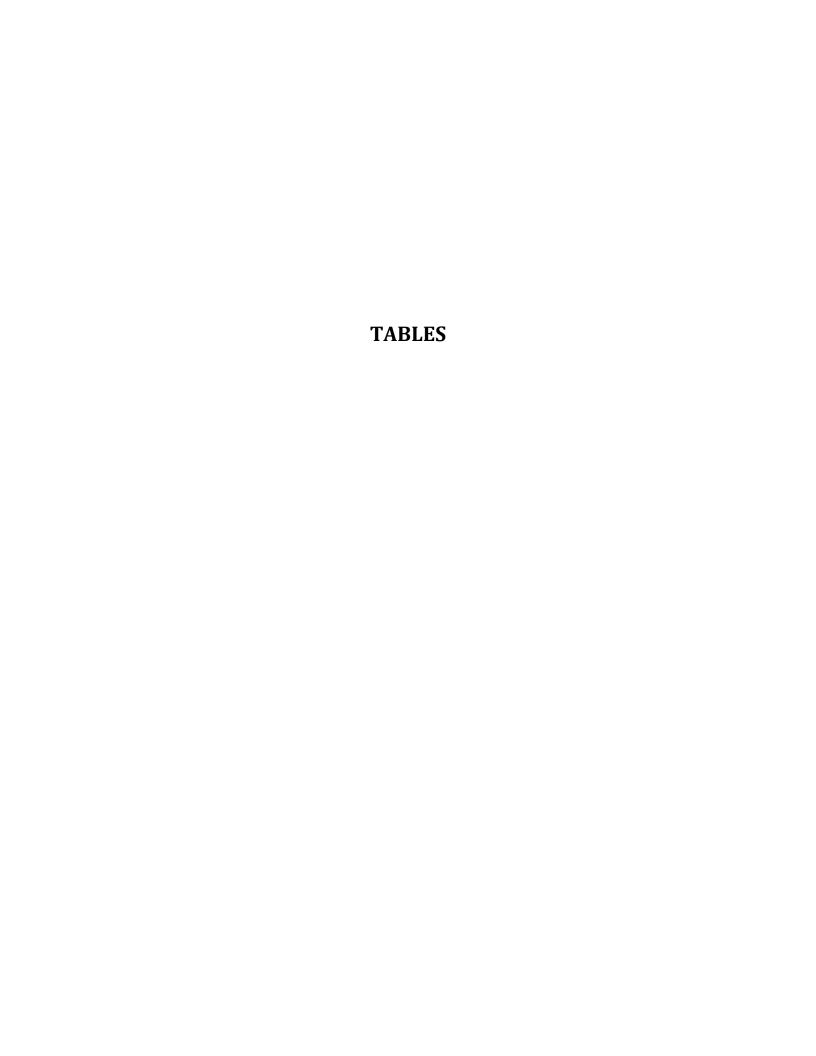


TABLE 1 SUMMARY OF SOIL VAPOR SAMPLE RESULTS 1100 WEST BALL ROAD ANAHEIM, CALIFORNIA

Sample ID	Date	Sample Depth (feet bgs)	PCE	OTHER VOC'S
SV1-5	8/17/2015	5	0.173	All < RL
SV1-15	8/17/2015	15	0.134	All <rl< td=""></rl<>
SV1-15-DUP	8/17/2015	15	0.135	All <rl< td=""></rl<>
SV2-5	8/17/2015	5	0.106	All <rl< td=""></rl<>
SV2-15	8/17/2015	15	0.159	All <rl< td=""></rl<>
SV3-5	8/17/2015	5	0.170	All <rl< td=""></rl<>
SV3-15	8/17/2015	15	0.151	All <rl< td=""></rl<>
SV4-5	8/17/2015	5	0.114	All <rl< td=""></rl<>
SV4-15	8/17/2015	15	0.133	All <rl< td=""></rl<>
SV5-5	8/17/2015	5	0.144	All <rl< td=""></rl<>
SV5-15	8/17/2015	15	0.139	All <rl< td=""></rl<>
SV6-5	8/17/2015	5	< 0.008	All <rl< td=""></rl<>
SV6-15	8/17/2015	15	0.088	All <rl< td=""></rl<>
SV7-5	8/17/2015	5	0.054	All <rl< td=""></rl<>
SV7-15-1PV	8/17/2015	15	0.135	All <rl< td=""></rl<>
SV7-15-3PV	8/17/2015	5	0.132	All <rl< td=""></rl<>
SV7-15-10PV	8/17/2015	15	0.130	All <rl< td=""></rl<>
SV8-5	8/17/2015	5	0.166	All <rl< td=""></rl<>
SV8-15	8/17/2015	15	0.118	All <rl< td=""></rl<>
DTCC UEI	PO Nota 3	Future Residential	0.41	Varies
DTSC HERO Note 3		Future Commercial	4.16	Varies

Notes:

Results in Micrograms per Liter (ug/L)

bgs = Below ground surface

PCE = Tetrachloroethylene

1V, 3V, 10V = Puge Test 1, 3, and 10 Volumes

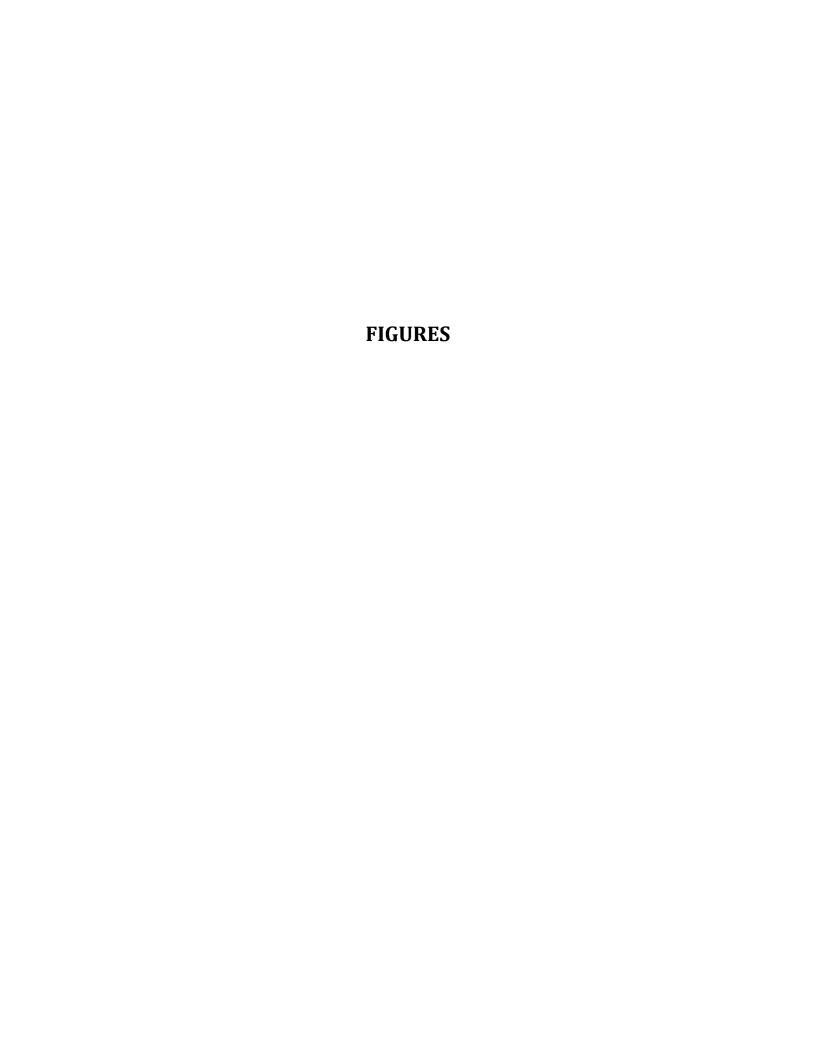
DUP = Duplicate Sample

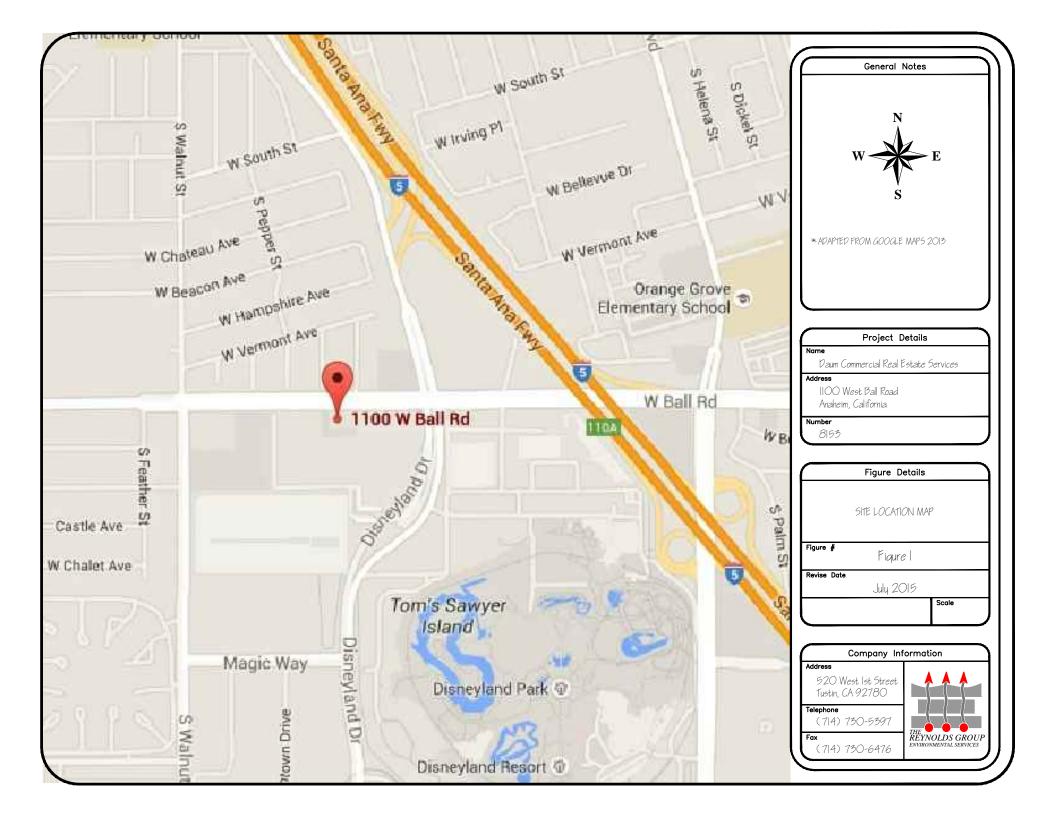
DTSC HERO = Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO)

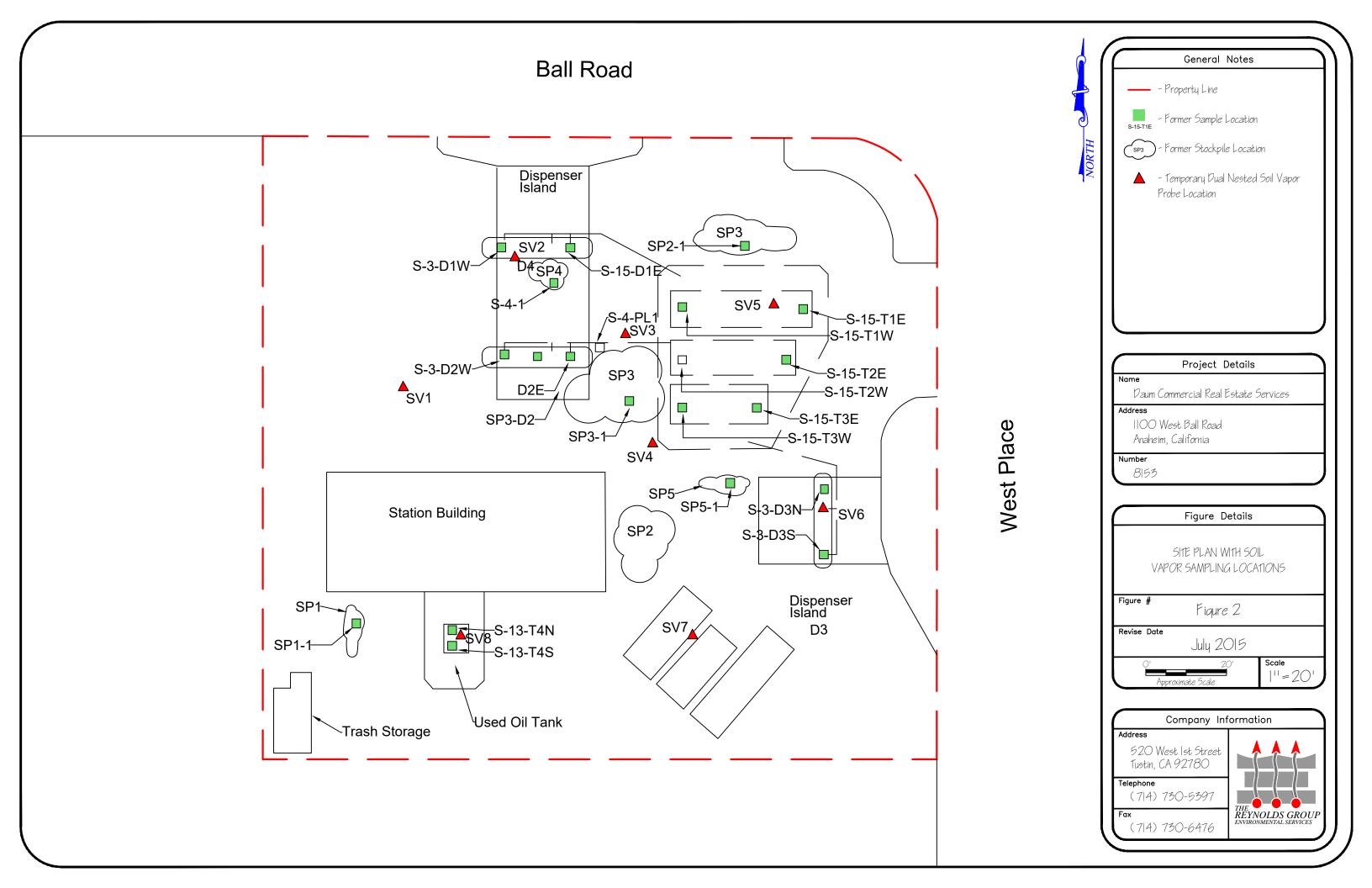
Source by: http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-2.pdf

Future Residential attenuation factor = 0.001

Future Commercial attenuation factor = 0.005







ATTACHMENT A APUD WORKPLAN APPROVAL LETTER



City of Anaheim

PUBLIC UTILITIES DEPARTMENT

Environmental Services

July 13, 2015

James Conner
Daum Commercial Real Estate
21820 Burbank Blvd. #201
Woodland Hills, CA 91367

Patricia Dean
The Reynolds Group
P.O. Box 1996
Tustin, CA 92781

Subject: Human Health Risk Assessment Work Plan for 1100 W. Ball Rd. in

and

Anaheim, CA

Dear Ms. Dean,

This Department has reviewed the subject work plan for obtaining soil vapor samples in order to determine if a health risk assessment is needed. The plan appears to follow the DTSC 2012 Advisory for Soil Gas Investigations and the number and locations of samples look to be appropriate for an initial investigation. Therefore, the plan is hereby approved pending acceptance of the following conditions:

- Obtain a well/boring permit from the City Anaheim prior to installing vapor probes.
 The following webpage provides well permit information and the application form http://www.anaheim.net/article.asp?id=1108.
- 2. Ensure that soil gas is allowed to equilibrate prior to sampling soil gas. Per the DTSC guidelines, do not conduct the purge volume test, leak test and soil gas sampling for at least two hours following vapor probe installation. Document the time of vapor probe completion and vapor sampling.

If you have any questions, please call me at (714) 765-4277 or email at dwilson@anaheim.net.

Sincerely,

Richard Wilson

Environmental Services Manager

ATTACHMENT B WELL/BORING PERMIT



ANAHEIM PUBLIC UTILITIES WELL/BORING PERMIT

THIS PERMIT IS NOT VALID FOR DRILLING IN CITY RIGHT-OF-WAY UNLESS ACCOMPANIED BY A RIGHT-OF-WAY CONSTRUCTION PERMIT

PERMIT TYPE:	BORINGS DV	WELL INSTALLATION / RE	HABILITATION WELL DEST	RUCTION PERMIT # 1490					
ADDRESS OR CROSS S	STREET OF WELL LOCA	TION: (ATTACH SITE PLAN)	WELL OWNER NAME (INDIVIDUAL NAM	ME)					
1100 W. Ball	Road, Anah	eim	Bhagabhai Patel c/o James Connor						
SITE/PROJECT NAME:			, _ ,	COMPANY: (IF APPLICABLE)					
8153			Daum Commerc	ial Real Estate					
APPLICANT NAME:			ADDRESS:	orita 004					
Patricia Dean			21820 Burbank Boule						
The Reyno	olds Group	p	Woodland Hills, CA 91367						
ADDRESS: 520 W. First S	Street								
CITY:	STATE	ZIP	PHONE: EMAIL	:					
Tustin	C	A 92780	(818) 449-1624 James.Conn	er@daumcommercial.com					
PHONE: (714) 381-3898	EMAIL:	eynolds-group.com	NOTIFY WATER INSPE						
		ORDINANCES, RULES AND	HOURS PRIOR 1031	AK! A! (/ 14) / 05-4551					
		M AND THE STATE OF		THE WELL COMPLETION REPORT TO					
CALIFORNIA PERTAI	NING TO WELL CON	STRUCTION AND		HE ADDRESS LISTED ABOVE WITHIN 60					
		THORIZED TO SIGN ON	DAYS OF COMPLETION OF WORK OR	EMAIL TO MNEWLAND@ANAHEIM.NET					
BEHALF OF THE PRO	OPERTY OWNER AN	D/OR WELL OWNER.	INJECTION WELLS ARE REQUIRE	ED TO BE REGISTERED WITH					
AGREE	_		USEPA AT HTTP://www.epa.gov/regi	ON9/WATER/GROUNDWATER/INJECTION-WELLS-					
Yest.		\		FRATION FORM TO ANAHEIM PUBLIC UTILITIES AT					
SIGNATURE	Zav.		(714) 765-4135 OR EMAIL TO MNEWLAND®						
PLEASE DESCRIBE BORING; PW = PRODUC	WELLS/BORINGS BE CTION WELL; MW = MO	ELOW: (ATTACH ADDITIONAL SHOULT ON THE PROPERTY OF THE PROPERT	EETS, IF NECESSARY) (USE THE FOLLOW RING WELL IJ = INJECTION WELL; VE =	VING ACRONYM FOR WELL TYPE: B = VAPOR EXTRACTION; VP = VAPOR PROBE)					
WELL ID	TYPE	DIAM (IN.) DE	EPTH (FT.) SCREEN INTERVAL	S EST. DATE OF DESTRUCTION					
C) // throu		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	15 515	Grobes installed August					
SV1 throu	ugn Sv8	VP 2	15 5,15	August 17, 2015.					
_									
		.*							
ADMINISTRATIVE US	SE ONLY: 75 APPLICATION FE	EE + \$80 x W/A (NO. OF	ADMINISTRATIVE USE ONLY: WELL INSPECTED BY:						
WELLS)	, company and the		A STATE OF THE STA						
4	\$ 128.75		INSPECTOR NAME	DATE					
TOTAL FEE DUE:		IORIZED BY:	WELL COMPLETION REPORT RECEIVE						
PAYMENT RECEIVED	744 O								
7.000	VIII	DATE 7. 29.14	ESTIMATED START OF WORK:						

ATTACHMENT C BORING LOGS



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The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Tustin, CA 92780

PROJECT INFORMATION

Ph: (714) 730-5397 Fx: (714) 730-6476

FIELD BOREHOLE LOG

BOREHOLE NO.: **SV1**

TOTAL DEPTH: 15'

0.0

0.1

0.1

DRILLING INFORMATION

PROJECT: Daum Anaheim DRILLING CO.: MOBI DOS

ADDRESS: 1100 W. Ball Road, Anaheim, CA RIG TYPE: GEOPROBE 5400

LOGGED BY: Charles Ly METHOD OF DRILLING: DIRECT PUSH METHOD

DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: MACROCORE

▼ Water level in completed well REVIEWED BY: _____ APPROVED BY: _____

DEPTH (feet)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE	RECOVER	SAMPLE INTERVAI	BLOW	PID (ppmv)	BORING DIAGRAM	WELL DESCRIPTION
0_									
		Asphalt	1						Bentonite Plug
		SP: SAND (5, 90, 5, 0), very fine to fine sand, subangular; trace small-medium							— Hydrated granular
		pebbles, subrounded; trace silt, well sorted, loose, brown							— Teflon Tubing

SP: At 5' bgs, as above

SP: At 10' bgs, as above

SP: At 15' bgs, as above, fine to coarse sand, subangular, poorly sorted

6" Stainless Steel Soil Probe

#2/16 Monterrey

Dry granular

Sand

Dry granular

Soil Probe Dry granular

Teflon Tubing

Hydrated granular

6" Stainless Steel



15

The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street

SP: At 10' bgs, as above; very fine to fine

sand, subangular

SP: At 15' bgs, as above

Ph: (714) 730-5397

FIELD BOREHOLE LOG

BOREHOLE NO.: SV2

TOTAL DEPTH: 15'

0.1

Tustin, CA 92780 Fx: (714) 730-6476 PROJECT INFORMATION DRILLING INFORMATION PROJECT: Daum Anaheim DRILLING CO.: **MOBI DOS** 1100 W. Ball Road, Anaheim, CA **RIG TYPE:** ADDRESS: **GEOPROBE 5400** LOGGED BY: METHOD OF DRILLING: **DIRECT PUSH METHOD** Charles Ly DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: **MACROCORE** Water level during drilling REVIEWED BY: _ APPROVED BY: __ \blacksquare Water level in completed well SAMPLE ID SAMPLE INTERVAL RECOVERY PID (ppmv) BLOW **DEPTH** SOIL **BORING** WELL SOIL DESCRIPTION **TYPE DIAGRAM DESCRIPTION** (feet) 0 Bentonite Plug Topsoil SP: SAND (5, 90, 5, 0), very fine to fine Hydrated granular sand, subangular, trace small-medium pebbles, subrounded; trace silt, well **Teflon Tubing** sorted, loose, brown Dry granular 5 6" Stainless Steel SP: At 5', as above Soil Probe Dry granular 0.0 SP: At 7' bgs, as above; fine to coarse Teflon Tubing sand, subangular; poorly sorted 0.1 10 Hydrated granular

6" Stainless Steel Soil Probe

#2/16 Monterrey

Dry granular

Sand



The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Tustin, CA 92780

PROJECT INFORMATION

Ph: (714) 730-5397 Fx: (714) 730-6476

FIELD BOREHOLE LOG

BOREHOLE NO.: **SV3**

TOTAL DEPTH: 15'

DRILLING INFORMATION

PROJECT: Daum Anaheim DRILLING CO.: MOBI DOS

ADDRESS: 1100 W. Ball Road, Anaheim, CA RIG TYPE: GEOPROBE 5400

LOGGED BY: Charles Ly METHOD OF DRILLING: DIRECT PUSH METHOD

DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: MACROCORE

▼ Water level in completed well REVIEWED BY: _____ APPROVED BY: _____

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DEPTH (feet)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE	RECOVE	SAMPL	BLOW	PID (ppr	BORING DIAGRAM	WELL DESCRIPTION
0									
		Topsoil							Bentonite Plug
		SP: SAND (5, 90, 5, 0), very fine to fine sand, subangular; trace small-medium pebbles, subrounded; trace silt, well sorted, loose, brown							Hydrated granular Teflon Tubing Dry granular
5-		SP: At 5', as above					0.0		G" Stainless Steel Soil Probe Dry granular
-		SP: At 7' bgs, as above; fine to coarse sand, subangular; poorly sorted					0.0	★	— Teflon Tubing
10 –		SP: At 10' bgs, as above; very fine to fine sand, subangular					0.1	+	— Hydrated granular
-		,					0.1		

SP: At 15' bgs, as above

Dry granular

Sand

#2/16 Monterrey

6" Stainless Steel Soil Probe



15

The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Tustin, CA 92780

PROJECT INFORMATION

Ph: (714) 730-5397 Fx: (714) 730-6476

FIELD BOREHOLE LOG

BOREHOLE NO.: SV4

TOTAL DEPTH: 15'

DRILLING INFORMATION

PROJECT: Daum Anaheim DRILLING CO.: **MOBI DOS**

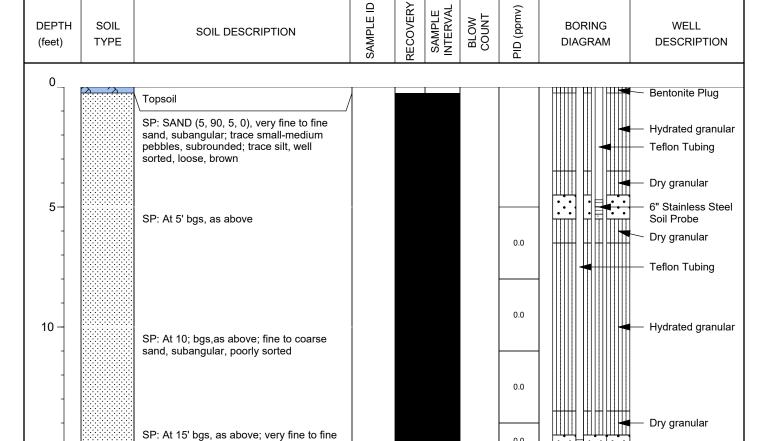
1100 W. Ball Road, Anaheim, CA **RIG TYPE:**

ADDRESS: **GEOPROBE 5400** LOGGED BY: METHOD OF DRILLING: **DIRECT PUSH METHOD** Charles Ly

DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: **MACROCORE**

Water level during drilling

REVIEWED BY: _ APPROVED BY: ___ \blacksquare Water level in completed well



sand, subrounded, well sorted

#2/16 Monterrey

6" Stainless Steel Soil Probe

Sand



The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Tustin, CA 92780

PROJECT INFORMATION

Ph: (714) 730-5397 Fx: (714) 730-6476

FIELD BOREHOLE LOG

BOREHOLE NO.: **SV5**

TOTAL DEPTH: 15'

DRILLING INFORMATION

PROJECT: Daum Anaheim DRILLING CO.: MOBI DOS

ADDRESS: 1100 W. Ball Road, Anaheim, CA RIG TYPE: GEOPROBE 5400

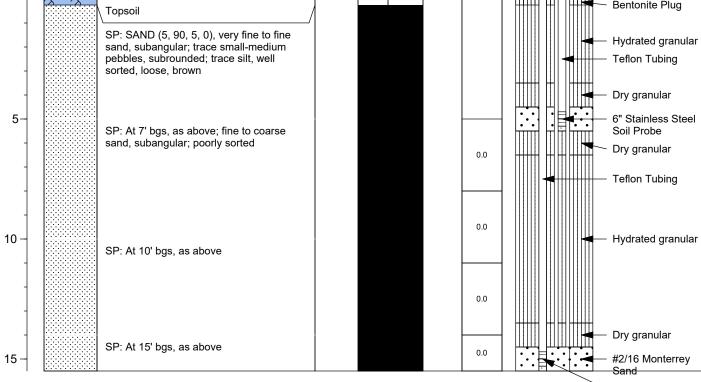
LOGGED BY: Charles Ly METHOD OF DRILLING: DIRECT PUSH METHOD

DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: MACROCORE

 ✓ Water level during drilling

▼ Water level in completed well REVIEWED BY: _____ APPROVED BY: _____

DEPTH (feet)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE ID	RECOVERY	SAMPLE INTERVAL	BLOW	PID (ppmv)	BORING DIAGRAM	WELL DESCRIPTION
0_	λ′λ	Topsoil							Bentonite Plug



6" Stainless Steel Soil Probe



DEPTH

15

The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Tustin, CA 92780

PROJECT INFORMATION

Ph: (714) 730-5397 Fx: (714) 730-6476

FIELD BOREHOLE LOG

BORING

BOREHOLE NO.: **SV6**

TOTAL DEPTH: 15'

DRILLING INFORMATION

PROJECT: Daum Anaheim DRILLING CO.: MOBI DOS

ADDRESS: 1100 W. Ball Road, Anaheim, CA RIG TYPE: GEOPROBE 5400

LOGGED BY: Charles Ly METHOD OF DRILLING: DIRECT PUSH METHOD

DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: MACROCORE

SOIL

▼ Water level in completed well REVIEWED BY: _____ APPROVED BY: _____

(feet)	TYPE	SOIL DESCRIPTION	SAMP	RECO	SAMI	BLO	PID (p	DIAGRAM	DESCRIPTION
0	•								
	(<i>\lambda</i> '\lambda	Topsoil	1						Bentonite Plug
		SP: SAND (5, 90, 5, 0), very fine to fine sand, subangular; trace small-medium pebbles, subrounded; trace silt, well sorted, loose, brown						-	— Hydrated granular — Teflon Tubing
-									— Dry granular
5-		SP: At 5' bgs, as above							— 6" Stainless Steel Soil Probe
							0.0	 	Dry granular
								 	— Teflon Tubing
		SP: At 8' bgs, as above							
10 –							0.0	 	— Hydrated granular
		SP: At 10' bgs, as above							

6" Stainless Steel Soil Probe

#2/16 Monterrey

Dry granular

Sand

WELL

SP: At 15' bgs, as above



PROJECT:

ADDRESS:

The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Ph: (714) 730-5397 Tustin, CA 92780 Px: (714) 730-6476

FIELD BOREHOLE LOG

BOREHOLE NO.: **SV7**

TOTAL DEPTH: 15'

PROJECT INFORMATION

Daum Anaheim

1100 W. Ball Road, Anaheim, CA

LOGGED BY: Charles Ly

DATE(S) DRILLED: 08/11/2015

DRILLING INFORMATION

DRILLING CO.: MOBI DOS

RIG TYPE: GEOPROBE 5400

METHOD OF DRILLING: DIRECT PUSH METHOD

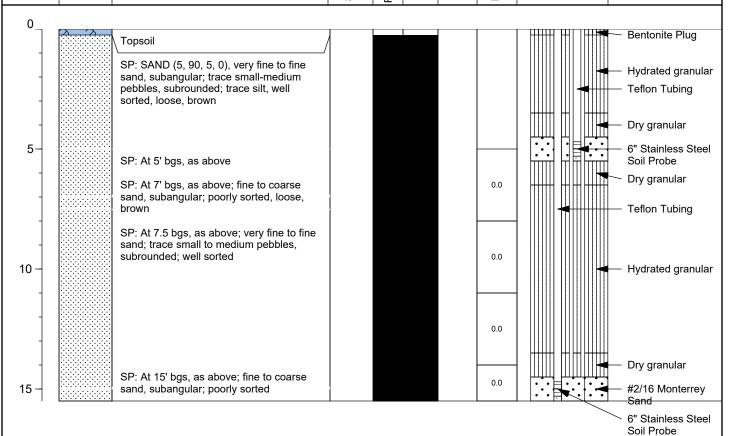
SAMPLING METHODS: MACROCORE

Water level in completed well

REVIEWED BY: _____

APPROVED BY: __

DEPTH (feet) SOIL SOIL DESCRIPTION SOIL DESCRIPTION SOIL DESCRIPTION SOIL DESCRIPTION SOIL DESCRIPTION





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The Reynolds Group

Environmental Consulting & Contracting

520 West 1st Street Tustin, CA 92780 Ph: (714) 730-5397 Fx: (714) 730-6476

FIELD BOREHOLE LOG

BOREHOLE NO.: **SV8**

TOTAL DEPTH: 15'

0.0

0.1

0.1

PROJECT INFORMATION DRILLING INFORMATION

PROJECT: Daum Anaheim DRILLING CO.: MOBI DOS

ADDRESS: 1100 W. Ball Road, Anaheim, CA RIG TYPE: GEOPROBE 5400

LOGGED BY: Charles Ly METHOD OF DRILLING: DIRECT PUSH METHOD

DATE(S) DRILLED: 08/11/2015 SAMPLING METHODS: MACROCORE

 ✓ Water level during drilling

▼ Water level in completed well REVIEWED BY: _____ APPROVED BY: _____

DEPTH (feet)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE II	RECOVER	SAMPLE	BLOW	PID (ppmv)	BORING DIAGRAM	WELL DESCRIPTION
0									
		Topsoil							Bentonite Plug
		SP: SAND (5, 90, 5, 0), very fine to fine sand, subangular; trace small-medium							── Hydrated granular
		pebbles, subrounded; trace silt, well sorted, loose, brown						 	— Teflon Tubing
_		- 301.04, 10000, 5101111							— Dry granular

SP: At 5' bgs, as above

SP: At 7' bgs, as above; fine to coarse sand, subangular; poorly sorted

SP: At 10' bgs, as above; very fine to fine sand, subangular

SP: At 15' bgs, as above

6" Stainless Steel Soil Probe

#2/16 Monterrey

Dry granular

Sand

6" Stainless Steel

Soil Probe Dry granular

Teflon Tubing

Hydrated granular

ATTACHMENT D

LABORATORY ANALYTICAL REPORT AND CHAIN OF CUSTODY

P.O. BOX 5387 | FULLERTON, CA 92838 (714) 449-9937 | FAX (714) 449-9685

JONES ENVIRONMENTAL LABORATORY RESULTS

Client: Reynolds Group
Client Address: P.O.Box 1996

Tustin, CA 92781

Attn: Patricia Dean

Project Name: 8153PATEL

Project Address: 1100 W. Ball Road

Anaheim, CA

Report date: 8/1
JEL Ref. No.: D-

8/17/2015 D-0983 8153

Date Sampled:

Client Ref. No.:

8/17/2015 8/17/2015

Date Received: Date Analyzed:

8/17/2015

Physical State:

Soil Gas

ANALYSES REQUESTED

1. EPA 8260B - Volatile Organics by GC/MS + Oxygenates

Sampling – Soil Gas samples were collected in glass gas-tight syringes equipped with Teflon plungers. Tubing placed in the ground for soil gas sampling was purged three different times as recommended by DTSC/RWQCB guidance documents. This purge test determined how many purges of the soil gas tubing were needed throughout the project. One, three and ten purge volumes were analyzed to make this determination.

A tracer gas mixture of n-propanol and n-pentane was placed at the tubing-surface interface before sampling. These compounds were analyzed during the 8260B analytical run to determine if there were surface leaks into the subsurface due to improper installation of the probe. No n-propanol or n-pentane was found in any of the samples reported herein.

The sampling rate was approximately 200 cc/min except when noted differently on the chain of custody record using a gas tight syringe. 3 purge volumes were used.

Prior to purging and sampling of soil gas at each point, a shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for at least one minute. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then taken.

No flow conditions occur when a sampling rate greater than 10 mL/min cannot be maintained without applying a vacuum greater than 100 inches of water to the sampling train. The sampling train is left at a vacuum for no less than three minutes. If the vacuum does not subside appreciably after three minutes, the sample location is determined to be a no flow sample.

Analytical – Soil Gas samples were analyzed using EPA Method 8260 that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. In addition, Matrix Spike (MS) and Matrix Spike Duplicates (MSD) were analyzed with each batch of Soil Gas samples. A duplicate/replicate sample was analyzed each day of the sampling activity. All samples were injected into the GC/MS system within 30 minutes of sampling.

Approval:

Steve Jones, Ph.D. Laboratory Manager



 Client:
 Reynolds Group
 Report date:
 8/17/2015

 Client Address:
 P.O.Box 1996
 JEL Ref. No.:
 D-0983

Tustin, CA 92781 Client Ref. No.: 8153

Attn: Patricia Dean Date Sampled: 8/17/2015

Project:8153PATELDate Analyzed:8/17/2015Project Address:1100 W. Ball RoadPhysical State:Soil Gas

Anaheim, CA

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	SV7-15' 1PV	SV7-15' 3PV	SV7-15' 10PV	SV7-5'	SV8-15'		
JEL ID:	D-0983-01	D-0983-02	D-0983-03	D-0983-04	D-0983-05	Practical Quantitation	<u>Units</u>
Analytes:						<u>Limit</u>	
Benzene	ND	ND	ND	ND	ND	0.008	μg/L
Bromobenzene	ND	ND	ND	ND	ND	0.008	μg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.008	μg/L
Bromoform	ND	ND	ND	ND	ND	0.008	μg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.008	μg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
Chloroform	ND	ND	ND	ND	ND	0.008	μg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.008	μg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.008	μ g/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.008	μ g/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.008	μ g/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.008	μg/L
Dibromomethane	ND	ND	ND	ND	ND	0.008	μg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.008	μ g/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.008	μg/L
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.008	μg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.008	μg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.008	μg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.008	μg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.008	μg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L

EPA 8260B-Volatile Organics by GC/MS + Oxygenates							
Sample ID:	SV7-15' 1PV	SV7-15' 3PV	SV7-15' 10PV	SV7-5'	SV8-15'		
JEL ID:	D-0983-01	D-0983-02	D-0983-03	D-0983-04	D-0983-05	Practical Quantitation	<u>Units</u>
Analytes:						<u>Limit</u>	
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Freon 113	ND	ND	ND	ND	ND	0.040	μg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.008	μg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.008	μg/L
Methylene chloride	ND	ND	ND	ND	ND	0.008	μg/L
Naphthalene	ND	ND	ND	ND	ND	0.008	μg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Styrene	ND	ND	ND	ND	ND	0.008	μg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	μg/L
Tetrachloroethylene	0.135	0.132	0.130	0.054	0.118	0.008	μg/L
Toluene	ND	ND	ND	ND	ND	0.008	μg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.008	μg/L
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.008	μg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.008	μg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.008	μ g/L
Xylenes	ND	ND	ND	ND	ND	0.008	μg/L
MTBE	ND	ND	ND	ND	ND	0.040	μg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.040	μg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.040	μg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.040	μg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.400	μg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.080	μg/L
n-pentane	ND	ND	ND	ND	ND	0.008	μg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						QC Limi	ts
Dibromofluoromethane	100%	91%	98%	91%	94%	75 - 125	
Toluene-d ₈	99%	98%	102%	106%	102%	75 - 125	5
4-Bromofluorobenzene	99%	98%	99%	94%	97%	75 - 125	5
	D1-081715-	D1-081715-	D1-081715-	D2-081715-	D1-081715-		
	D-0983	D-0983	D-0983	D-0983	D-0983		

ND= Not Detected



 Client:
 Reynolds Group
 Report date:
 8/17/2015

 Client Address:
 P.O.Box 1996
 JEL Ref. No.:
 D-0983

Tustin, CA 92781 Client Ref. No.: 8153

SV5-15'

SV5-5'

Attn: Patricia Dean Date Sampled: 8/17/2015

Date Received: 8/17/2015 **Date Analyzed:** 8/17/2015

Project:8153PATELDate Analyzed:8/17/201Project Address:1100 W. Ball RoadPhysical State:Soil Gas

SV6-5'

Anaheim, CA

SV8-5'

SV6-15'

Sample ID:

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Practical **JEL ID:** D-0983-06 D-0983-07 D-0983-08 D-0983-09 D-0983-10 Quantitation **Units Limit Analytes:** Benzene ND ND ND ND ND 0.008 μg/L ND Bromobenzene ND ND ND ND 0.008 μ g/L 0.008 μg/L Bromodichloromethane ND ND ND ND ND Bromoform ND ND ND ND ND 0.008 μg/L 0.008μg/L n-Butylbenzene ND ND ND ND ND sec-Butylbenzene ND ND ND ND ND 0.008 μg/L μg/L tert-Butylbenzene ND ND 0.008 ND ND ND Carbon tetrachloride ND ND ND ND ND 0.008 μ g/L 0.008 Chlorobenzene ND μ g/L ND ND ND ND ND ND ND ND 0.008 μg/L Chloroform ND 0.008 2-Chlorotoluene ND ND ND ND ND μ g/L 4-Chlorotoluene ND ND ND ND 0.008μg/L ND 0.008 μg/L Dibromochloromethane ND ND ND ND ND 1,2-Dibromo-3-chloropropane ND ND ND ND ND 0.008 μg/L 1,2-Dibromoethane (EDB) ND ND ND ND ND 0.008 μ g/L 0.008 μg/L Dibromomethane ND ND ND ND ND 0.008 μ g/L 1,2- Dichlorobenzene ND ND ND ND ND 1,3-Dichlorobenzene ND ND ND ND ND 0.008 μ g/L 1,4-Dichlorobenzene ND ND ND ND ND 0.008 μg/L 0.008 μg/L Dichlorodifluoromethane ND ND ND ND ND 0.008 μg/L 1,1-Dichloroethane ND ND ND ND ND 0.008 μg/L 1,2-Dichloroethane ND ND ND ND ND 1,1-Dichloroethene ND ND ND ND ND 0.008 μg/L 0.008 μ g/L ND ND ND ND ND cis-1,2-Dichloroethene μg/L trans-1,2-Dichloroethene ND ND ND ND ND 0.008 1,2-Dichloropropane ND ND ND ND ND 0.008 μg/L 0.008 μg/L 1,3-Dichloropropane ND ND ND ND ND 2,2-Dichloropropane ND ND ND ND ND 0.008 μg/L 0.008 1,1-Dichloropropene ND ND ND ND ND μg/L

EPA 8260B-Volatile	Organics by	GC/MS +	Oxygenates

Sample ID:	SV8-5'	SV6-15'	SV6-5'	SV5-15'	SV5-5'		
JEL ID:	D-0983-06	D-0983-07	D-0983-08	D-0983-09	D-0983-10	Practical Quantitation	<u>Units</u>
Analytes:						<u>Limit</u>	-
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Freon 113	ND	ND	ND	ND	ND	0.040	μg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.008	μg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.008	μ g/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.008	μg/L
Methylene chloride	ND	ND	ND	ND	ND	0.008	μg/L
Naphthalene	ND	ND	ND	ND	ND	0.008	μg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Styrene	ND	ND	ND	ND	ND	0.008	μg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	μg/L
Tetrachloroethylene	0.166	0.088	ND	0.139	0.144	0.008	μg/L
Toluene	ND	ND	ND	ND	ND	0.008	μg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.008	μ g/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.008	μg/L
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.008	μg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.008	μg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.008	μg/L
Xylenes	ND	ND	ND	ND	ND	0.008	μg/L
MTBE	ND	ND	ND	ND	ND	0.040	μg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.040	μg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.040	μg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.040	μg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.400	μg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.080	μg/L
n-pentane	ND	ND	ND	ND	ND	0.008	μg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						QC Limi	
Dibromofluoromethane	75%	98%	86%	95%	92%	75 - 125	
Toluene-d ₈	78%	99%	89%	97%	73%	75 - 125	
4-Bromofluorobenzene	89%	95%	118%	96%	126%	75 - 125	;
		D1-081715-					
	D-0983	D-0983	D-0983	D-0983	D-0983		

ND= Not Detected



 Client:
 Reynolds Group
 Report date:
 8/17/2015

 Client Address:
 P.O.Box 1996
 JEL Ref. No.:
 D-0983

Tustin, CA 92781 Client Ref. No.: 8153

SV3-5'

SV2-15'

Attn: Patricia Dean Date Sampled: 8/17/2015

Project: 8153PATEL B150 Date Analyzed: 8/17/2015
Project Address: 1100 W. Ball Road Physical State: Soil Gas

Anaheim, CA

SV4-15'

SV4-5'

Sample ID:

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

SV3-15'

Practical **JEL ID:** D-0983-11 D-0983-12 D-0983-13 D-0983-14 D-0983-15 Quantitation **Units Limit Analytes:** Benzene ND ND ND ND ND 0.008 μg/L ND Bromobenzene ND ND ND ND 0.008 μ g/L 0.008 μg/L Bromodichloromethane ND ND ND ND ND Bromoform ND ND ND ND ND 0.008 μg/L 0.008μg/L n-Butylbenzene ND ND ND ND ND sec-Butylbenzene ND ND ND ND ND 0.008 μg/L μg/L tert-Butylbenzene ND ND 0.008 ND ND ND Carbon tetrachloride ND ND ND ND ND 0.008 μ g/L 0.008 Chlorobenzene ND μ g/L ND ND ND ND ND ND ND ND 0.008 μg/L Chloroform ND 0.008 2-Chlorotoluene ND ND ND ND ND μ g/L 4-Chlorotoluene ND ND ND ND 0.008μg/L ND 0.008 μg/L Dibromochloromethane ND ND ND ND ND 1,2-Dibromo-3-chloropropane ND ND ND ND ND 0.008 μg/L 1,2-Dibromoethane (EDB) ND ND ND ND ND 0.008 μ g/L 0.008 μg/L Dibromomethane ND ND ND ND ND 0.008 μ g/L 1,2- Dichlorobenzene ND ND ND ND ND 1,3-Dichlorobenzene ND ND ND ND ND 0.008 μ g/L 1,4-Dichlorobenzene ND ND ND ND ND 0.008 μg/L 0.008 μg/L Dichlorodifluoromethane ND ND ND ND ND 0.008 μg/L 1,1-Dichloroethane ND ND ND ND ND 0.008 μg/L 1,2-Dichloroethane ND ND ND ND ND 1,1-Dichloroethene ND ND ND ND ND 0.008 μg/L 0.008 μ g/L ND ND ND ND ND cis-1,2-Dichloroethene μg/L trans-1,2-Dichloroethene ND ND ND ND ND 0.008 1,2-Dichloropropane ND ND ND ND ND 0.008 μg/L 0.008 μg/L 1,3-Dichloropropane ND ND ND ND ND 2,2-Dichloropropane ND ND ND ND ND 0.008 μg/L 0.008 1,1-Dichloropropene ND ND ND ND ND μg/L

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	SV4-15'	SV4-5'	SV3-15'	SV3-5'	SV2-15'		
JEL ID:	D-0983-11	D-0983-12	D-0983-13	D-0983-14	D-0983-15	Practical Quantitation	<u>Units</u>
Analytes:						<u>Limit</u>	
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	μg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Freon 113	ND	ND	ND	ND	ND	0.040	μ g/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.008	μ g/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.008	μg/L
Methylene chloride	ND	ND	ND	ND	ND	0.008	μg/L
Naphthalene	ND	ND	ND	ND	ND	0.008	μ g/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Styrene	ND	ND	ND	ND	ND	0.008	μg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	μg/L
Tetrachloroethylene	0.133	0.114	0.151	0.170	0.159	0.008	μg/L
Toluene	ND	ND	ND	ND	ND	0.008	μg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.008	μg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.008	μg/L
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.008	μg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.008	μg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	μg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.008	μg/L
Xylenes	ND	ND	ND	ND	ND	0.008	μg/L
MTBE	ND	ND	ND	ND	ND	0.040	μg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.040	μg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.040	μg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.040	μg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.400	μg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.080	μg/L
n-pentane	ND	ND	ND	ND	ND	0.008	μg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						QC Limi	<u>ts</u>
Dibromofluoromethane	98%	96%	90%	104%	101%	75 - 125	
Toluene-d ₈	99%	69%	100%	82%	100%	75 - 125	
4-Bromofluorobenzene	97%	100%	98%	116%	99%	75 - 125	
	D1-081715-	D2-081715-	D1-081715-	D2-081715-	D1-081715-		
	D-0983	D-0983	D-0983	D-0983	D-0983		

ND= Not Detected



 Client:
 Reynolds Group
 Report date:
 8/17/2015

 Client Address:
 P.O.Box 1996
 JEL Ref. No.:
 D-0983

Tustin, CA 92781 Client Ref. No.: 8153

SV1_5'

Attn: Patricia Dean Date Sampled: 8/17/2015

Project:8153PATELDate Analyzed:8/17/2015Project Address:1100 W. Ball RoadPhysical State:Soil Gas

Anaheim, CA

SV2-51

SV1-15'

Sample ID:

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

SV1-15'

Sample ID:	SV2-5'	SV1-15'	DUP	SV1-5'		
JEL ID:	D-0983-16	D-0983-17	D-0983-18	D-0983-19	<u>Practical</u> <u>Quantitation</u>	<u>Units</u>
Analytes:					<u>Limit</u>	
Benzene	ND	ND	ND	ND	0.008	μ g/L
Bromobenzene	ND	ND	ND	ND	0.008	μ g/L
Bromodichloromethane	ND	ND	ND	ND	0.008	μ g/L
Bromoform	ND	ND	ND	ND	0.008	μ g/L
n-Butylbenzene	ND	ND	ND	ND	0.008	μ g/L
sec-Butylbenzene	ND	ND	ND	ND	0.008	μg/L
tert-Butylbenzene	ND	ND	ND	ND	0.008	μ g/L
Carbon tetrachloride	ND	ND	ND	ND	0.008	μ g/L
Chlorobenzene	ND	ND	ND	ND	0.008	μ g/L
Chloroform	ND	ND	ND	ND	0.008	μ g/L
2-Chlorotoluene	ND	ND	ND	ND	0.008	μ g/L
4-Chlorotoluene	ND	ND	ND	ND	0.008	μg/L
Dibromochloromethane	ND	ND	ND	ND	0.008	μg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	0.008	μg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.008	μg/L
Dibromomethane	ND	ND	ND	ND	0.008	μ g/L
1,2- Dichlorobenzene	ND	ND	ND	ND	0.008	μ g/L
1,3-Dichlorobenzene	ND	ND	ND	ND	0.008	μg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	0.008	μ g/L
Dichlorodifluoromethane	ND	ND	ND	ND	0.008	μ g/L
1,1-Dichloroethane	ND	ND	ND	ND	0.008	μ g/L
1,2-Dichloroethane	ND	ND	ND	ND	0.008	μ g/L
1,1-Dichloroethene	ND	ND	ND	ND	0.008	μ g/L
cis-1,2-Dichloroethene	ND	ND	ND	ND	0.008	μg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	0.008	μg/L
1,2-Dichloropropane	ND	ND	ND	ND	0.008	μg/L
1,3-Dichloropropane	ND	ND	ND	ND	0.008	μ g/L
2,2-Dichloropropane	ND	ND	ND	ND	0.008	μ g/L
1,1-Dichloropropene	ND	ND	ND	ND	0.008	μ g/L

	EPA 8	260B-Volatil	e Organics b	y GC/MS + O	xygenates	
Sample ID:	SV2-5'	SV1-15'	SV1-15' DUP	SV1-5'		
JEL ID:	D-0983-16	D-0983-17	D-0983-18	D-0983-19	Practical Overtitation United	.:4a
Analytes:					<u>Quantitation</u> <u>Ur</u> <u>Limit</u>	<u>iits</u>
cis-1,3-Dichloropropene	ND	ND	ND	ND		g/L
trans-1,3-Dichloropropene	ND	ND	ND	ND		yL g/L
Ethylbenzene	ND	ND	ND	ND	• •	yL y/L
Freon 113	ND	ND	ND	ND ND		yL g/L
Hexachlorobutadiene	ND	ND	ND	ND ND	• •	yL y/L
Isopropylbenzene	ND ND	ND	ND	ND ND		yL g/L
4-Isopropyltoluene	ND	ND	ND	ND ND	• •	yL g/L
Methylene chloride	ND	ND	ND	ND ND		yL y/L
Naphthalene	ND ND	ND ND	ND ND	ND ND	• •	yL y/L
n-Propylbenzene	ND ND	ND ND	ND ND	ND ND		yL y/L
Styrene	ND ND	ND ND	ND ND	ND ND		yL yL
1,1,1,2-Tetrachloroethane	ND ND	ND ND	ND ND	ND ND		yL g/L
1,1,2,2-Tetrachloroethane	ND ND	ND ND	ND ND	ND ND	0.008 μg	yL y/L
Tetrachloroethylene	0.106	0.134	0.135	0.173		yL yL
•	0.100 ND	0.13 4 ND	0.135 ND	0.173 ND		yL g/L
Toluene	ND ND	ND ND	ND ND	ND ND		
1,2,3-Trichlorobenzene					• •	g/L r/I
1,2,4-Trichlorobenzene	ND	ND	ND	ND		g/L -/T
1,1,1-Trichloroethane	ND	ND	ND	ND		g/L -/T
1,1,2-Trichloroethane	ND	ND	ND	ND	• •	g/L -/T
Trichloroethylene	ND	ND	ND	ND		g/L -/T
Trichlorofluoromethane	ND	ND	ND	ND	• •	g/L -/T
1,2,3-Trichloropropane	ND	ND	ND	ND	• •	g/L -/T
1,2,4-Trimethylbenzene	ND	ND	ND	ND		g/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND		g/L
Vinyl chloride	ND	ND	ND	ND		g/L
Xylenes	ND	ND	ND	ND		g/L
MTBE	ND	ND	ND	ND		g/L
Ethyl-tert-butylether	ND	ND	ND	ND		g/L
Di-isopropylether	ND	ND	ND	ND		g/L
tert-amylmethylether	ND	ND	ND	ND		g/L
tert-Butylalcohol	ND	ND	ND	ND	0.400 με	y/L
TIC:						
n-propanol	ND	ND	ND	ND	0.080 μμ	g/L
n-pentane	ND	ND	ND	ND		g/L
Dilution Factor	1	1	1	1		
Surrogate Recoveries:					QC Limits	
Dibromofluoromethane	84%	103%	102%	92%	75 - 125	
Toluene-d ₈	122%	98%	99%	74%	75 - 125	
4-Bromofluorobenzene	112%	94%	95%	135%	75 - 125	
	D2-081715-	D1-081715-	D1-081715-	D2-081715-		
	D-0983	D-0983	D-0983	D-0983		

ND= Not Detected

Physical State:

Soil Gas



JONES ENVIRONMENTAL LABORATORY RESULTS

Client: Reynolds Group Report date: 8/17/2015 **Client Address:** P.O.Box 1996 JEL Ref. No.: D-0983 Tustin, CA 92781 Client Ref. No.: 8153 Patricia Dean **Date Sampled:** 8/17/2015 Attn: **Date Received:** 8/17/2015 **Project:** 8153PATEL Date Analyzed: 8/17/2015

Anaheim, CA

1100 W. Ball Road

Project Address:

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	SAMPLING BLANK	METHOD BLANK	SAMPLING BLANK		
JEL ID:	D-0983-20	D-0983-21	D-0983-25	D-0983-26	Practical Quantitation	<u>Units</u>
Analytes:					<u>Limit</u>	
Benzene	ND	ND	ND	ND	0.008	μg/L
Bromobenzene	ND	ND	ND	ND	0.008	μg/L
Bromodichloromethane	ND	ND	ND	ND	0.008	$\mu g/L$
Bromoform	ND	ND	ND	ND	0.008	μg/L
n-Butylbenzene	ND	ND	ND	ND	0.008	μg/L
sec-Butylbenzene	ND	ND	ND	ND	0.008	μ g/L
tert-Butylbenzene	ND	ND	ND	ND	0.008	μg/L
Carbon tetrachloride	ND	ND	ND	ND	0.008	μg/L
Chlorobenzene	ND	ND	ND	ND	0.008	μ g/L
Chloroform	ND	ND	ND	ND	0.008	μ g/L
2-Chlorotoluene	ND	ND	ND	ND	0.008	μ g/L
4-Chlorotoluene	ND	ND	ND	ND	0.008	μ g/L
Dibromochloromethane	ND	ND	ND	ND	0.008	μ g/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	0.008	μ g/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.008	μ g/L
Dibromomethane	ND	ND	ND	ND	0.008	μ g/L
1,2- Dichlorobenzene	ND	ND	ND	ND	0.008	μ g/L
1,3-Dichlorobenzene	ND	ND	ND	ND	0.008	μ g/L
1,4-Dichlorobenzene	ND	ND	ND	ND	0.008	μ g/L
Dichlorodifluoromethane	ND	ND	ND	ND	0.008	μ g/L
1,1-Dichloroethane	ND	ND	ND	ND	0.008	μ g/L
1,2-Dichloroethane	ND	ND	ND	ND	0.008	μ g/L
1,1-Dichloroethene	ND	ND	ND	ND	0.008	μ g/L
cis-1,2-Dichloroethene	ND	ND	ND	ND	0.008	μ g/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	0.008	μ g/L
1,2-Dichloropropane	ND	ND	ND	ND	0.008	μ g/L
1,3-Dichloropropane	ND	ND	ND	ND	0.008	μ g/L
2,2-Dichloropropane	ND	ND	ND	ND	0.008	μ g/L
1,1-Dichloropropene	ND	ND	ND	ND	0.008	μ g/L

	EPA 8	260B-Volatile	Organics b	y GC/MS + C	Oxygenates	
Sample ID:	METHOD BLANK	SAMPLING BLANK	METHOD BLANK	SAMPLING BLANK		
JEL ID:	D-0983-20	D-0983-21	D-0983-25	D-0983-26	<u>Practical</u> <u>Quantitation</u> <u>Unit</u>	ts.
Analytes:					<u>Limit</u>	
cis-1,3-Dichloropropene	ND	ND	ND	ND	0.008 µg/I	L
trans-1,3-Dichloropropene	ND	ND	ND	ND	0.008 µg/I	L
Ethylbenzene	ND	ND	ND	ND	0.008 µg/I	L
Freon 113	ND	ND	ND	ND	0.040 µg/I	L
Hexachlorobutadiene	ND	ND	ND	ND	0.008 µg/I	L
Isopropylbenzene	ND	ND	ND	ND	0.008 µg/I	L
4-Isopropyltoluene	ND	ND	ND	ND	0.008 µg/I	L
Methylene chloride	ND	ND	ND	ND	0.008 µg/I	L
Naphthalene	ND	ND	ND	ND	0.008 µg/I	L
n-Propylbenzene	ND	ND	ND	ND	0.008 µg/I	
Styrene	ND	ND	ND	ND	0.008 μg/I	
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	0.008 μg/I	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	0.008 μg/I	
Tetrachloroethylene	ND	ND	ND	ND	0.008 μg/I	
Toluene	ND	ND	ND	ND	0.008 μg/I	
1,2,3-Trichlorobenzene	ND	ND	ND	ND	0.008 μg/I	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	0.008 μg/I	
1,1,1-Trichloroethane	ND	ND	ND	ND	0.008 μg/I	
1,1,2-Trichloroethane	ND	ND	ND	ND	0.008 μg/I	
Trichloroethylene	ND	ND	ND	ND	0.008 μg/I	
Trichlorofluoromethane	ND	ND	ND	ND	0.008 μg/I	
1,2,3-Trichloropropane	ND	ND	ND	ND	0.008 μg/I	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	0.008 μg/I	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	0.008 μg/I	
Vinyl chloride	ND	ND	ND	ND	0.008 μg/I	
Xylenes	ND	ND	ND	ND	0.008 μg/I	
MTBE	ND	ND	ND	ND	0.040 μg/I	
Ethyl-tert-butylether	ND	ND	ND	ND	0.040 μg/I	
Di-isopropylether	ND	ND	ND	ND	0.040 μg/I	
tert-amylmethylether	ND	ND	ND	ND	0.040 μg/I	
tert-Butylalcohol	ND	ND	ND	ND	0.400 μg/I	
,						
TIC:						
n-propanol	ND	ND	ND	ND	0.080 µg/I	L
n-pentane	ND	ND	ND	ND	0.008 μg/I	
Dilution Factor	1	1	1	1		
Surrogate Recoveries:					OC Limits	
Dibromofluoromethane	95%	98%	102%	112%	75 - 125	
Toluene-d ₈	101%	99%	94%	81%	75 - 125	
4-Bromofluorobenzene	98%	102%	98%	93%	75 - 125	
	D1-081715- D-0983	D1-081715- D-0983	D2-081715- D-0983	D2-081715- D-0983		

ND= Not Detected



Anaheim, CA

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Reynolds Group **Client: Report date:** 8/17/2015 P.O.Box 1996 **Client Address:** JEL Ref. No.: D-0983 Tustin, CA 92781 Client Ref. No.: 8153 Patricia Dean **Date Sampled:** Attn: 8/17/2015 **Date Received:** 8/17/2015 **Project:** 8153PATEL **Date Analyzed:** 8/17/2015 **Project Address:** 1100 W. Ball Road **Physical State:** Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample Spiked:	Ambien	t Air	GC#:	D1-081715-D-0	0983	
JEL ID:	D-0983-23	D-0983-24			D-0983-22	
	MS	MSD		Acceptability		Acceptability
<u>Parameter</u>	Recovery (%)	Recovery (%)	<u>RPD</u>	Range (%)	<u>LCS</u>	Range (%)
Vinyl Chloride	156%	147%	5.8%	60-140	157%	70-130
1,1-Dichloroethylene	100%	102%	1.9%	60-140	98%	70-130
Cis-1,2-Dichloroethene	99%	98%	0.8%	70-130	96%	70-130
1,1,1-Trichloroethane	107%	107%	0.0%	70-130	100%	70-130
Benzene	101%	101%	0.4%	70-130	106%	70-130
Trichloroethylene	109%	110%	0.3%	70-130	105%	70-130
Toluene	102%	103%	0.9%	70-130	101%	70-130
Tetrachloroethene	109%	108%	1.6%	70-130	103%	70-130
Chlorobenzene	102%	103%	0.7%	70-130	103%	70-130
Ethylbenzene	93%	93%	0.0%	70-130	105%	70-130
1,2,4 Trimethylbenzene	107%	103%	4.0%	70-130	113%	70-130
Surrogate Recovery:						
Dibromofluoromethane	104%	100%		75-125	99%	75-125
Toluene-d ₈	105%	102%		75-125	105%	75-125
4-Bromofluorobenzene	102%	97%		75-125	104%	75-125

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

Physical State:

Soil Gas



JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Reynolds Group **Client: Report date:** 8/17/2015 P.O.Box 1996 **Client Address:** JEL Ref. No.: D-0983 Tustin, CA 92781 Client Ref. No.: 8153 Patricia Dean **Date Sampled:** Attn: 8/17/2015 **Date Received:** 8/17/2015 **Project:** 8153PATEL **Date Analyzed:** 8/17/2015

> 1100 W. Ball Road Anaheim, CA

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample Spiked:	Ambien	t Air	GC#:	D2-081715-D-	0983	
JEL ID:	D-0983-28	D-0983-29			D-0983-27	
	MS	MSD		Acceptability		Acceptability
<u>Parameter</u>	Recovery (%)	Recovery (%)	<u>RPD</u>	Range (%)	<u>LCS</u>	Range (%)
Vinyl Chloride	116%	113%	2.1%	60-140	92%	70-130
1,1-Dichloroethylene	70%	68%	2.4%	60-140	70%	70-130
Cis-1,2-Dichloroethene	106%	105%	1.5%	70-130	84%	70-130
1,1,1-Trichloroethane	111%	108%	2.7%	70-130	98%	70-130
Benzene	92%	91%	1.4%	70-130	93%	70-130
Trichloroethylene	103%	106%	2.6%	70-130	99%	70-130
Toluene	106%	100%	5.9%	70-130	97%	70-130
Tetrachloroethene	103%	102%	1.8%	70-130	92%	70-130
Chlorobenzene	116%	113%	2.2%	70-130	102%	70-130
Ethylbenzene	115%	114%	1.3%	70-130	103%	70-130
1,2,4 Trimethylbenzene	122%	118%	3.0%	70-130	106%	70-130
Surrogate Recovery:						
Dibromofluoromethane	94%	94%		75-125	101%	75-125
Toluene-d ₈	94%	94%		75-125	94%	75-125
4-Bromofluorobenzene	101%	102%		75-125	102%	75-125

MS = Matrix Spike

Project Address:

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%



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Chain-of-Custody Record

THE REYNOUS GROUP	50	Sadas		Date S/()	115	2010	SAS 13P 17P 110P cc/min /	_	Analysis Requested	JEL Project #
ASH ANAHEIM				S)S	53	Shut in Test (V) / N	100	Spa	/	Page /
3	a	100 W. Back Bogs		Turn Around Requested:	Around Requested:	The propanol	PS (V) STA		60	Lab Use Only
Angelan	\sim	4		☐ Rush 24-48 Hours ☐ Rush 72-96 Hours	-48 Hours -96 Hours	U 1,1-DFA	132 John Viss	\	HAN) mul	Sample Conditio as Received:
PAZULCIA	0	DEAN		Normal Mobile Lab	ab		S POPPIS XINEW	\	of Conta	Sealed Tyes Tho
" Z	Purge Number	Purge	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Soldings	7	напрым Напрым	Remarks/Special Instructions
		884	8/11/15	18:20	07343	12-683-01	×	7	77	5 WASS GAS TIGET SYNUMEN
-	n	葬	3/17/8	42:10 rilul	5230	D-0983-2	×	2	7	
	2	4813	2/11/8	4873 8/17/15 CF310	25.50	0-098343	× 95	77	2	
	w	181	Sylups	1301 States 08:30	68:30	mes60-0	× 95	S	7	
	w	1465	8/11/8	24.80 SI/1/8 SAYI	08:57	50-683-0	×	7.7	7	
	n	1201	8/17/15	55.80	0927	10-6320-U	Sex	7	4	
	n	165 HES	ghlr-	69.29	G1:20	0-498347	×	N	7	
	u	1301	2/11/18	51:90 Muls	DYTH	0-6350	X 95	0	7	
	8	1465	5/17/18	465 8/11/15 169:UB	04:30	D-0983-09	× × ×	7.7	,	
	6	1301	Sholis	54:43	53160	17-5850-Cl	×	22	7	
1 1	1	11	Date	17/15	Received by (signature)	ign fill for the first of the f)	S/17/18		Total Number of Containers
\	>		Time (1)	35	Company	The		Time (1735)	The de	The delivery of samples and the signature on this Chain of Custody form constitutes
1			Date		Received by La	Received by Laboratory (signature)		Date	above of forth or	authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.
			Time		Company			Time		O EDD O EDF
I										



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Chain-of-Custody Record

CHE (REYNOLDS GREY)	3	S NO		8/17/15	15		0 7P		Analysis Requested	JEL Project #
Project Name ASH ANAHEIM	2			Client Project # $S S$	2	Purge Rate: 223 co Shut in Test (0) / N	cc/min	58) 58)	////	10-083
Project Address	775	Carro		Turn Around Requested:	quested: te Attention	Tacer. Trepropanol	OS TW STIC		(00)	of Inly
ANATEN	13	5		Rush 24-48 Hours	48 Hours 96 Hours	T1,1-DFA	Denby (7)	\	SJOUJ WIN	0
Project Contact PACULCIN		DRAN		Normal Wobile Lat	ab		S DO SEPONS	\	of Contain	Sealed ayes and
Sample ID	3 6	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Solid	HARIO BW	1.00	Remarks/Special Instructions
SU4-15	n	1265	sphis	09.48	10,00	D 293-11	× 95	77	2 GLASS GAS TIGOT	Their Syllinea
SMMS	6	1301	2/10/8	09356	1025	D-0983-12	×	72	7	
51-818.15	2	1465	Shir	10:11	10,22	0-1983-13	X 98	77	7	
5-675	3	1301	chh.	10:17	10:29	D-0983-14	S6 K	77	7	
SUZUS	2	Mes	stalis	10:31	10:42	0-0983-15	X	27	7	
S17.7S	3	1361	Sholg	10:39	10:49	D-0983-16	× %	72)	
SVI-15	2	1465	5/17/5	10:52	11:02	1-63PU-U	×	V	7	
2110 21-175	u	HES	Hes Aprilis	10752	11:22	8-2820-0	λ 95	77	7	
501-5	n	1301	ship	10:58	11:09	D.U933-19	X 95	77	4	
		Į.								
Relinquished by (signature)	1.		Date 8	11/15	Received by (signature	gnature) H. X	5	St/17/15	Total Nur	Total Number of Containers
Company TRG (Time	35	Company	750		Time 75	The delivery of samples and the signature on this Chain of Custody form constitutes	s and the signature on orm constitutes
Relinquished by (signature)			Date	0		Received by Laboratory (signature)		Date.	authorization to perform the analyses spec above under the Terms and Conditions set forth on the back hereof.	authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.
Company			Time		Company			Time	О ЕDD	Оеог