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<b><u>Submittal Type:</u></b>	<b>GEO_REPORT</b>
<b><u>Report Title:</u></b>	<b>DFSP Norwalk – Confirmation Sampling for Chloroform Three Soil Gas Locations Western 36 Acres</b>
<b><u>Report Type:</u></b>	<b>Other Report / Document</b>
<b><u>Report Date:</u></b>	<b>5/3/2022</b>
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<b><u>Facility Name:</u></b>	<b>Norwalk, Fuel Terminal DFSP - DOD - NORWALK DFSP</b>
<b><u>File Name:</u></b>	<b>DFSP Norwalk – Confirmation Sampling for Chloroform Three Soil Gas Locations Western 36 Acres.pdf</b>
<b><u>Organization Name:</u></b>	<b>The Source Group, Inc.(Subsidiary of Apex Companies, LLC)</b>
<b><u>Username:</u></b>	<b>SIGNAL HILL</b>
<b><u>IP Address:</u></b>	<b>172.117.117.89</b>
<b><u>Submittal Date/Time:</u></b>	<b>5/3/2022 9:51:57 AM</b>
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**DEFENSE LOGISTICS AGENCY**  
DLA Energy –Engineering, Environmental, Property Division  
8725 JOHN J. KINGMAN ROAD  
FORT BELVOIR VIRGINIA 22060-6221

May 3, 2022

Mr. Paul Cho, P.G.  
Engineering Geologist, Site Cleanup V  
California Environmental Protection Agency  
Los Angeles Regional Water Quality Control Board  
320 West 4th Street, Suite 200  
Los Angeles, California 90013

Dear Mr. Cho:

Enclosed is one electronic copy of the *DFSP Norwalk – Confirmation Sampling for Chloroform, Soil Gas Locations, Western 36 Acres Carve Out Section*. DFSP Norwalk is located at 15306 Norwalk Boulevard in Norwalk, California.

If you have any questions or need additional information concerning this document, please contact Ms. Carol Devier-Heeny at (571) 767-9813 or [carol.devier-heeny@dla.mil](mailto:carol.devier-heeny@dla.mil).

Sincerely,

IRFAN.MUHAMMA  
D.KHALILULLAH.12  
39719992

Digitally signed by  
IRFAN.MUHAMMAD.KHALILULLA  
H.1239719992  
Date: 2022.05.03 08:36:56 -04'00'

Muhammad Irfan, P.G.  
Chief, Restoration Section

Enclosure  
As stated

cc:  
Neil Irish, P.G., Principal Geologist, SGI/Apex



May 3, 2022

Mr. Paul Cho, P.G.  
Engineering Geologist Site Cleanup V  
California Regional Water Quality Control Board, Los Angeles Region (LARWQCB)  
320 W. 4<sup>th</sup> Street, Suite 200  
Los Angeles, California 90013

**Subject:** DFSP Norwalk – Confirmation Sampling for Chloroform  
Three Soil Gas Locations  
Western 36 Acres  
15306 Norwalk Boulevard, Norwalk, California

Dear Mr. Cho:

The Source Group, Inc. (SGI), a wholly owned subsidiary of Apex Companies, LLC, (Apex), is pleased to provide this letter update and the attached analytical data resulting from the recent sampling of three soil gas probes located at DFSP Norwalk (Figure 1). This sampling was done at the request of the Los Angeles Regional Quality Control Board (RWQCB) and the Office of Environmental Human Health Assessment (OEHHA) to confirm the results of soil gas sampling conducted in May 2017 which showed that no volatile organic compounds were present in soil gas samples collected at depths shallower than 10 feet below ground surface (bgs). And more specifically, the April 2022 soil gas sampling was conducted to confirm that no detectable concentrations of chloroform were present in the five-foot soil gas samples collected at soil gas probe locations SV-82, SV-88, and SV-98 (Figure 2).

## **1.0 APRIL 2022 SOIL GAS SURVEY PRE-FIELD ACTIVITIES**

Prior to implementing the April 2022 soil gas survey, the site-specific Health and Safety Plan (HASP) was reviewed and confirmed to be adequate for the field work to be performed. The HSP provided a site-specific scope of work and summarized the suspected constituents of concern that may be present at the site; the Plan also required adherence to Apex's Coronavirus Disease 2019 (COVID-19) field protocols. At the start of each day, a site safety briefing was conducted to evaluate potential physical and chemical hazards and outlined measures to be taken in the event of an emergency.

## **2.0 SOIL GAS SURVEY FIELD ACTIVITIES**

Previously installed soil gas probes were evaluated for potential use in the April 2022 follow-up soil gas survey; field evaluation showed that the existing probes were not serviceable, and that the installation of new soil gas sampling points would be required. Therefore, on April 1, 2022, three replacement soil gas probes were installed at a depth of 5 feet bgs at former sampling points SV-82, SV-88, and SV-98 (Figure 2).

**Table 1 - Sampling Locations and Depth Intervals**

<b>Location</b>	<b>Probe Interval (feet bgs)</b>
SV-82	5
SV-88	5
SV-98	5

The replacement probes were installed on April 1, 2022, in accordance with the 2015 Department of Toxic Substances Control (DTSC) Advisory Active Soil Gas Investigation. Soil gas probes were installed with ¼-inch Nylaflow® tubing extending to the surface from each sampling point; exposed ends of the tubes were sealed and labeled with a permanent marker indicating sampling point name and associated depth. Each gas probe was centered in a one-foot sand pack. The remainder of the borehole was backfilled with hydrated, granular bentonite to the surface.

## **2.1 SAMPLE COLLECTION AND ANALYSIS**

Apex retained Optimal Technology of Thousand Oaks, California (Optimal) to collect and analyze the soil vapor samples from the soil vapor probes. On April 4, 2022, Optimal collected and analyzed three primary soil gas samples, one blank, and one duplicate sample using an on-site mobile laboratory.

At each sampling location, an electric vacuum pump set to draw 0.2 liters per minute (L/min) of soil vapor was attached to the existing well and purged prior to sample collection. Vapor samples were collected into gas-tight syringes by drawing the sample through a luer-lock connection which connects the sampling probe and the vacuum pump. Samples were immediately injected into the gas chromatograph/purge and trap after collection.

## **2.2 QUALITY ASSURANCE**

### **Five-Point Calibration**

The initial five-point calibration consisted of 20, 50, 100, 200 and 500 microliter (ul) injections of the calibration standard. The calibration check was performed using a pre-mixed standard containing common halogenated solvents and aromatic hydrocarbons. The individual compound concentrations in the standards ranged between 0.025 nanograms per microliter (ng/ul) and 0.25 ng/ul.

### **Sample Replicates**

A replicate analysis (duplicate) was run to evaluate the reproducibility of the sampling system and instrument. The difference between samples did not vary more than 20%.

### **Equipment Blanks**

Blanks were run at the beginning of each workday and after calibrations. The blanks were collected using an ambient air sample. These blanks checked the septum, syringe, GC column, GC detector and the ambient air. Contamination was not found in any of the blanks analyzed during this investigation. Blank results are given along with the sample results.

### **Purge Volume**

The standard purge volume of three volumes was purged in accordance with the July 2015 DTSC Advisory for Active Soil Gas Investigations.

### **Tracer Gas Leak Test**

A tracer gas was applied to the soil gas probes at each point of connection in which ambient air could enter the sampling system. These points include the top of the sampling probe where the tubing meets the probe connection and the surface bentonite seals. Isobutane was used as the tracer gas. No Isobutane was found in any of the samples collected.

### **Shut-in Test**

A shut-in test was conducted prior to purging or sampling each location to check for leaks in the above-ground sampling system. The system was evaluated to a minimum measured vacuum of 100 inches of water. The vacuum gauge was calibrated and sensitive enough to indicate a water pressure change of at least 0.5 inches.

## **2.3 CHEMICAL ANALYSES**

All soil gas samples including three primary samples, one duplicate, and one equipment blank were analyzed for volatile organic compounds (VOCs), including total petroleum hydrocarbons as gasoline vapor and fuel oxygenates, in accordance with United States Environmental Protection Agency (EPA) Method 8260B.

## **3.0 SOIL GAS ANALYTICAL RESULTS**

During this soil gas investigation, none of the compounds listed in Table 1 were detected above the laboratory reporting limits. A complete table of analytical results is included in Appendix A.

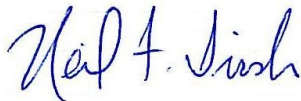
## **4.0 DISCUSSION**

Based on the three soil gas samples collected on April 4, 2022, it may be concluded that no VOCs, including chloroform, are present within 5 feet of the surface in the vicinity of the sampled locations.

## 5.0 **CONCLUSION**

The results of the April 4, 2022, soil gas survey confirmed the results of the May 15, 2017, soil gas survey which indicated that no VOCs were detected above the laboratory reporting limits (RL) in soil gas samples collected at a depth of 5 feet bgs at sampling points SV-82, -88, and -98. These results also confirmed that the RLs were less than the soil gas screening levels for commercial/industrial and residential land uses. Therefore, there are no VOCs present within the shallow soil gas at the sampled locations which pose a human health risk to potential on-Site commercial/industrial/construction worker receptors.

Sincerely,  
**SGI/Apex**



Neil F. Irish, P.G. 5484  
Principal Geologist

cc: Ms. Carol Devier-Heeney, DLA

### **List of Figures**

Figure 1: Site Location Map

Figure 2: April 2022 Soil Gas Sampling Locations

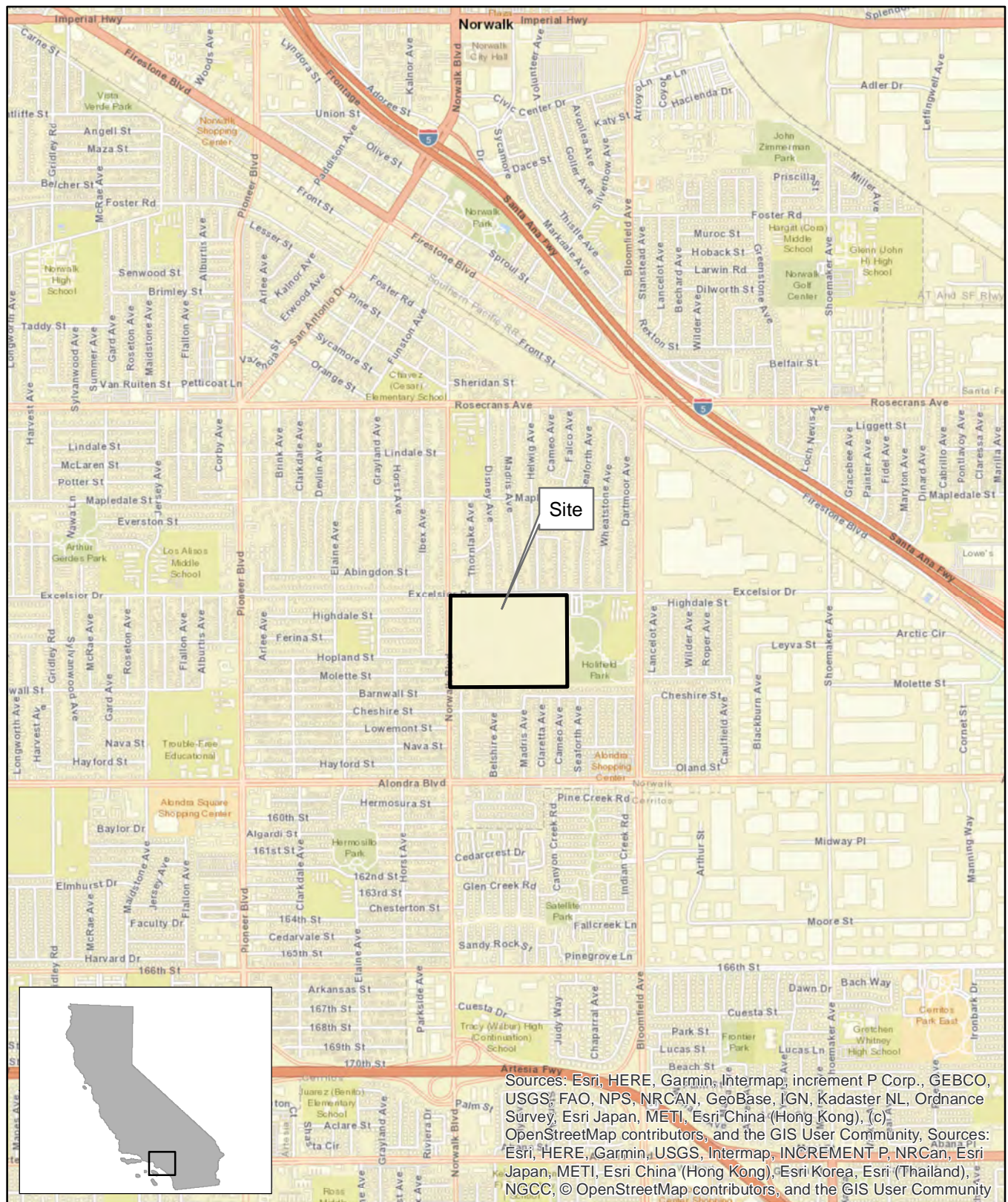
### **List of Appendices**

Appendix A: Soil Gas Probe Construction Details

Appendix B: Laboratory Report and Chain-of-Custody Forms (Soil Gas)

## FIGURES





SOURCE:  
 ESRI 7.5 MINUTE TOPOGRAPHIC MAP.  
<http://resources.esri.com/arcgisonline/services>

PROJECT NO.: 04-NDLA-018  
 DATE: 08/29/2019  
 DR.BY: PW/SM  
 APP.BY: NI

SCALE= 1:24,000  
 0 1,000 2,000 4,000 Feet

N  
  
 FIGURE  
 1

**SGI** environmental  
**APEX**  
 1962 FREEMAN AVENUE  
 SIGNAL HILL, CA 90755  
 (562) 597-1055

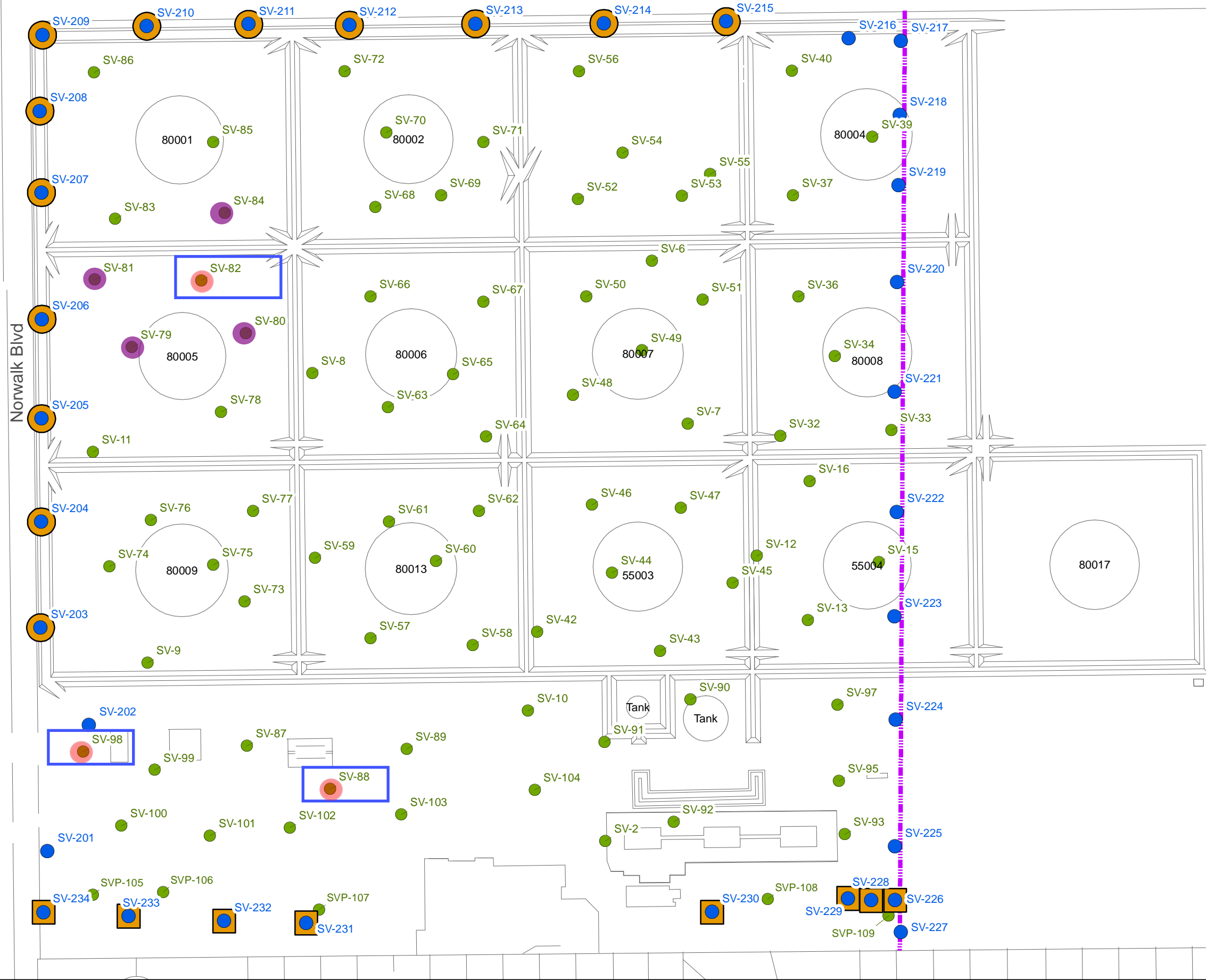
**DEFENSE FUEL SUPPORT POINT  
 NORWALK**  
 15306 NORWALK BOULEVARD  
 NORWALK, CALIFORNIA

**SITE LOCATION MAP**



Document Path: B:\DLA-Norwalk\DLA-Norwalk\GIS\_Maps\LNAPL\_Work\_Plan\_Maps\Fig-2\_Western\_Area\_Soil\_Gas\_GPS\_Survey\_Locations\_10312019.mxd

Excelsior Dr



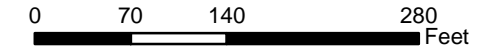
**Legend**

- SV-56 Previously Installed Soil Vapor Probe Locations 2016
- Western Part Boundary
- Soil Gas Location - Data Collected at 5 and 10 ft bgs (13 Probes) 2017
- Soil Gas Location - Data Collected at 10 and 15 ft bgs Location on Perimeter Road (13 Probes) 2017
- Soil Gas Location - Data Collected at 5 and 10 ft bgs Location Hand-Augered (8 Probes) 2017
- April 2022 - Confirmation Soil Gas Sampling Location



**DFSP Norwalk**  
15306 Norwalk Boulevard  
Norwalk, California

Project Number:	Date:	Drawn By:	Approved By:
091-NDLA-018	4/27/2022	SM / KN	PP



**2022 - Five-Foot Soil Vapor Confirmation Sampling**  
**SV-82, SV-88, and SV-98**



1962 Freeman Avenue, Signal Hill, CA 90755  
(562) 597-1055

**Figure**  
**2**

## **APPENDIX A**

### **PROBE CONSTRUCTION DETAILS**



BORING/WELL ID: SV-82-2022-5

PROJECT NAME AND ADDRESS: DFSP Norwalk / 15306 Norwalk Blvd., Norwalk, CA 90650	
BORING LOCATION (AT SITE): Former SV-82 location	Project No. -
CONTRACTOR/EQUIPMENT/DRILLER NAME: Apex / Hand Auger / Martin Duda	Logged By: M. Duda
SAMPLING METHOD: Hand auger	MONITORING DEVICE: Mini Rae 3000 PID
START DATE/ (TIME): 4/11/22 / 0833	FINISH DATE/ (TIME): 4/11/22 / 0930
FIRST WATER (BGS): -	STABILIZED WATER LEVEL: -
SURFACE ELEVATION: -	CASING TOP ELEVATION: -
TOTAL WELL DEPTH(S): 5.5 ft-bgs	BORING DIAMETER/DEPTH: 3.25 inches / 5.5 ft bgs
CASING DIAMETER(S): -	SCREEN INTERVAL(S): - SLOT (IN): -
ANNULUS FILL MATERIAL: #3, #8-20 Mesh Gran. Benton	BORING ANGLE: Vert. TREND: -

Time	Blow Counts Interval	PID	Depth	Laboratory Sample ID	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size/plasticity, other)	Well Construction
0833			0		Boring cleared to 5.5 feet bgs with hand auger. Soil Type: SM; Group Name: Silty Sand % Gravel; 75% Sand; 25% Silt; % Clay; Color: 10 YR 4/2 Moisture content: <input checked="" type="checkbox"/> dry; <input type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input checked="" type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input checked="" type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input checked="" type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input checked="" type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments:	0 Native Fill
0835			0.06'		Soil Type: SM; Group Name: Silty Sand % Gravel; 75% Sand; 25% Silt; % Clay; Color: 10 YR 4/2 Moisture content: <input type="checkbox"/> dry; <input checked="" type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input checked="" type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input checked="" type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input checked="" type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input checked="" type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments:	Hydrated #8-20 Mesh Granular Benton.
0843			0.025'		Soil Type: SM; Group Name: Silty Sand % Gravel; 65% Sand; 35% Silt; % Clay; Color: 10 YR 4/2 Moisture content: <input type="checkbox"/> dry; <input type="checkbox"/> slightly moist; <input checked="" type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input checked="" type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input checked="" type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input checked="" type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input checked="" type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments: No staining	1/4" ID Nylon Flow Tubing -3.5'
0857			0.055'		Soil Type: _____; Group Name: _____ % Gravel; % Sand; % Silt; % Clay; Color: _____ Moisture content: <input type="checkbox"/> dry; <input type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments:	Dry #8-20 Bent. -4.5' #3 Sand -5' 1/4" Poly. Implant -5.5'







BORING/WELL ID: SV-88-2022-5

PROJECT NAME AND ADDRESS: DFSP Norwalk / 15306 Norwalk Blvd, Norwalk, CA 90650	
BORING LOCATION (AT SITE): Former 88 (SV-) location	Project No. -
CONTRACTOR/EQUIPMENT/DRILLER NAME: Apex / Hand Auger / Martin Duda	Logged By: M. Duda
SAMPLING METHOD: Hand auger	MONITORING DEVICE: Mini Rae 3000 PID
START DATE/ (TIME): 4/1/22 / 1037	FINISH DATE/ (TIME): 4/1/22 / 1105
FIRST WATER (BGS): -	STABILIZED WATER LEVEL: -
SURFACE ELEVATION: -	CASING TOP ELEVATION: -
TOTAL WELL DEPTH(S): 5.5 ft bgs	BORING DIAMETER/DEPTH: 3.25 inches / 5.5 ft bgs
CASING DIAMETER(S): -	SCREEN INTERVAL(S): - SLOT (IN): -
ANNULUS FILL MATERIAL: #3 Sand, #8-20 Mesh Gran Bent.	BORING ANGLE: Vert. TREND: -

Time	Blow Counts Interval	PID	Depth	Laboratory Sample ID	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size/plasticity, other)	Well Construction
1037			0		Boring cleared to 5.5 feet bgs with hand auger. Soil Type: <u>ML</u> ; Group Name: <u>Silt with Sand</u> % Gravel: <u>20</u> % Sand; <u>80</u> % Silt; % Clay: <u>10 YR 4/2</u> Moisture content: <input checked="" type="checkbox"/> dry; <input type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input checked="" type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input checked="" type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input checked="" type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input checked="" type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments: <u>Fine to coarse sand grains</u>	0 Native Fill
1038			0.06"		Soil Type: <u>ML</u> ; Group Name: <u>Silt with Sand</u> % Gravel: <u>15</u> % Sand; <u>85</u> % Silt; % Clay: <u>10 YR 4/2</u> Moisture content: <input type="checkbox"/> dry; <input checked="" type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input checked="" type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input checked="" type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input checked="" type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input checked="" type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments:	Hydrated #8-20 Mesh Gran. Bent. 1/4" OD Nylon Tubing
1045			0.025		Soil Type: <u>ML</u> ; Group Name: <u>Silt with Sand</u> % Gravel: <u>15</u> % Sand; <u>85</u> % Silt; % Clay: <u>10 YR 4/2</u> Moisture content: <input type="checkbox"/> dry; <input checked="" type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input checked="" type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input checked="" type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input type="checkbox"/> non-plastic; <input checked="" type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input checked="" type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments: <u>No staining</u>	3.5' Dry #8-20 Bent.
1055			0.055		Soil Type: _____; Group Name: _____ % Gravel: _____ % Sand; _____ % Silt; _____ % Clay; Color: _____ Moisture content: <input type="checkbox"/> dry; <input type="checkbox"/> slightly moist; <input type="checkbox"/> moist; <input type="checkbox"/> very moist; <input type="checkbox"/> saturated Grain size: <input type="checkbox"/> fine; <input type="checkbox"/> medium; <input type="checkbox"/> coarse; Grading: <input type="checkbox"/> poorly; <input type="checkbox"/> well-graded Plasticity (clays/silts): <input type="checkbox"/> non-plastic; <input type="checkbox"/> low-plasticity; <input type="checkbox"/> med plasticity; <input type="checkbox"/> high plasticity Odors: <input type="checkbox"/> none; <input type="checkbox"/> hydrocarbon; <input type="checkbox"/> other (describe: _____) Other comments:	4.5' #3 Sand 5' 5.5' 1/4" Poly. Implant







BORING/WELL ID: SV-98-2022-5

PROJECT NAME AND ADDRESS: DFSP Norwalk / 15306 Norwalk Blvd., Norwalk, CA 90650	
BORING LOCATION (AT SITE): Farmer SV-98 location	Project No. -
CONTRACTOR/EQUIPMENT/DRILLER NAME: Apex / Hand auger / Martin Duda	Logged By: M. Duda
SAMPLING METHOD: Hand auger	MONITORING DEVICE: Mini Rae 3000 PID
START DATE/ (TIME): 4/1/22 / 1125	FINISH DATE/ (TIME): 4/1/22 / 1152
FIRST WATER (BGS): -	STABILIZED WATER LEVEL: -
SURFACE ELEVATION: -	CASING TOP ELEVATION: -
TOTAL WELL DEPTH(S): 5.5 ft-bgs	BORING DIAMETER/DEPTH: 3.25 inches / 5.5 ft bgs
CASING DIAMETER(S): -	SCREEN INTERVAL(S): - SLOT (IN): -
ANNULUS FILL MATERIAL: #3 Sand, #8-20 Mesh Benton.	BORING ANGLE: Vert. TREND: -

Time	Blow Counts Interval	PID	Depth	Laboratory Sample ID	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size/plasticity, other)	Well Construction
1125			0		Boring cleared to 5.5 feet bgs with hand auger. Soil Type: OL; Group Name: Organic Soil with Sand % Gravel: 0; % Sand: 20; % Silt: 80; % Clay: 0; Color: 10 YR 5/2 Moisture content: dry; X slightly moist; moist; very moist; saturated Grain size: X fine; X medium; X coarse; Grading: X poorly; well-graded Plasticity (clays/silts): X non-plastic; low-plasticity; med plasticity; high plasticity Odors: X none; hydrocarbon; other (describe:) Other comments: Fine to coarse sand grains, roots encountered	Native Fill
1127	00		6"		Soil Type: ML; Group Name: Silt % Gravel: 0; % Sand: 10; % Silt: 90; % Clay: 0; Color: 10 YR 5/3 Moisture content: dry; X slightly moist; moist; very moist; saturated Grain size: X fine; medium; coarse; Grading: poorly; well-graded Plasticity (clays/silts): X non-plastic; low-plasticity; med plasticity; high plasticity Odors: X none; hydrocarbon; other (describe:) Other comments:	Hydrated #8-20 Mesh Granular Bentonite
1134	00		2.5'		Soil Type: ML; Group Name: Silt with Sand % Gravel: 0; % Sand: 20; % Silt: 80; % Clay: 0; Color: 10 YR 5/3 Moisture content: dry; X slightly moist; moist; very moist; saturated Grain size: X fine; medium; X coarse; Grading: X poorly; well-graded Plasticity (clays/silts): X non-plastic; low-plasticity; med plasticity; high plasticity Odors: X none; hydrocarbon; other (describe:) Other comments: No staining	1/4" O.D. Nylon Tubing
1140	00		5.5'		Soil Type: ; Group Name: % Gravel: ; % Sand; % Silt; % Clay; Color: Moisture content: dry; slightly moist; moist; very moist; saturated Grain size: fine; medium; coarse; Grading: poorly; well-graded Plasticity (clays/silts): non-plastic; low-plasticity; med plasticity; high plasticity Odors: none; hydrocarbon; other (describe:) Other comments:	Dry #8-20 Bent. -4.5'
						-5'
						-5.5'
						#3 Sand
						1/4" Poly. Implant







Apex Companies, LLC  
1962 Freeman Avenue • Signal Hill, CA 90755  
P: (562) 597-1055 • F: (562) 597-1070

Site: DFSP Norwalk Project Number: 091-NOR-001

Field Personnel: M. Duda (Apex), G. Valdivia (Apex)

Time: 0700-1300 Date: 4/1/22 Equipment: Apex Work Truck, Hand Auger

Notes: Soil Gas Probe Installation

0700: Arrived to office, mobilized work truck

0750: MD arrived to jobsite, completed safety tailgate meeting with Glenn A. (Apex)

0825: Began setting up at SV-82-2022-5 location

0833: Began installing SV-82-2022-5

0930: Completed SV-82-2022-5 soil gas installation at 5ft-bgs

0935: Purchased new push-connect valves at Home Depot to provide an air-tight seal on tubing termination

1037: Began installing SV-88-2022-5 probe

1105: Completed SV-88-2022-5 soil gas probe installation at 5ft-bgs

1125: Began installing SV-98-2022-5 probe

1152: Completed SV-98-2022-5 probe installation at 5 ft-bgs

1200: Demob. equipment

1225: Departed jobsite to office

1300: Completed demob. at office





**APPENDIX B**  
**LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM**  
**(SOIL GAS)**



April 5, 2022

Mr. Gustavo Valdivia  
Apex Companies, LLC  
3621 S. Harbor Blvd., Suite 115  
Santa Ana, CA 92704

Dear Mr. Valdivia:

This letter presents the results of the soil vapor investigation conducted by Optimal Technology (Optimal), for Apex, LLC on April 4, 2022. The study was performed at 15306 Norwalk Blvd., Norwalk, California.

Optimal was contracted to perform a soil vapor survey at this site to screen for possible chlorinated solvents and aromatic hydrocarbons. The primary objective of this soil vapor investigation was to determine if soil vapor contamination is present in the subsurface soil.

### **Gas Sampling Method**

At each sampling location, an electric vacuum pump set to draw 0.2 liters per minute (L/min) of soil vapor was attached to the existing well and purged prior to sample collection. Vapor samples were obtained in gas-tight syringes by drawing the sample through a luer-lock connection which connects the sampling probe and the vacuum pump. Samples were immediately injected into the gas chromatograph/purge and trap after collection. New tubing was used at each sampling point to prevent cross contamination.

All analyses were performed on a laboratory grade Agilent model 6890N gas chromatograph equipped with an Agilent model 5973N Mass Spectra Detector and Tekmar LSC 3100 Purge and Trap. A Restek column using helium as the carrier gas was used to perform all analysis. All results were collected on a personal computer utilizing Agilent's MS and chromatographic data collection and handling system.

### **Quality Assurance**

#### *5-Point Calibration*

The initial five-point calibration consisted of 20, 50, 100, 200 and 500 ul injections of the calibration standard. A calibration factor on each analyte was generated using a best fit line method using the Agilent data system. If the  $r^2$  factor generated from this line was not greater

than 0.990, an additional five-point calibration would have been performed. Method reporting limits were calculated to be 1-1000 micrograms per cubic meter (ug/m<sup>3</sup>) for the individual compounds.

A daily calibration check was performed using a pre-mixed standard supplied by Scotty Analyzed Gases. The standard contained common halogenated solvents and aromatic hydrocarbons (see Table 1). The individual compound concentrations in the standards ranged between 0.025 nanograms per microliter (ng/ul) and 0.25 ng/ul.

**TABLE 1**

Acetone	Benzene	Bromobenzene	Bromochloromethane
Bromodichloromethane	Bromoform	Bromomethane	2-Butanone (MEK)
n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon Tetrachloride
Chlorobenzene	Chloroethane	Chloroform	Chloromethane
2-Chlorotoluene	4-Chlorotoluene	Cyclohexane	Dibromochloromethane
1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	Dibromomethane	1,2-Dichlorobenzene
1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,2-Dichloroethane
1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
1,2-Dichloropropane	2,2-Dichloropropane	1,3-Dichloropropane	1,1-Dichloropropene
Ethylbenzene	Freon 113	Hexachlorobutadiene	Isopropylbenzene
p-Isopropyltoluene	Methylene Chloride	4-Methyl-2-Pentanone	Naphthalene
n-Propylbenzene	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane
Tetrachloroethene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene
1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane
1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride
m/p-Xylene	o-Xylene	Diisopropyl Ether	Ethyl Tert Butyl Ether
MTBE	Tert-Amyl Methyl Ether	Tertiary Butyl Alcohol	Isobutane

#### *Sample Replicates*

A replicate analysis (duplicate) was run to evaluate the reproducibility of the sampling system and instrument. The difference between samples did not vary more than 20%.

#### *Equipment Blanks*

Blanks were run at the beginning of each workday and after calibrations. The blanks were collected using an ambient air sample. These blanks checked the septum, syringe, GC column, GC detector and the ambient air. Contamination was not found in any of the blanks analyzed during this investigation. Blank results are given along with the sample results.

#### *Purge Volume*

The standard purge volume of three volumes was purged in accordance with the July 2015 DTSC/RWQCB Advisory for Active Soil Gas Investigations.

#### *Tracer Gas Leak Test*

A tracer gas was applied to the soil gas probes at each point of connection in which ambient air could enter the sampling system. These points include the top of the sampling probe where the tubing meets the probe connection and the surface bentonite seals. Isobutane was used as the tracer gas. No Isobutane was found in any of the samples collected.

### *Shut-in Test*

A shut-in test was conducted prior to purging or sampling each location to check for leaks in the above-ground sampling system. The system was evaluated to a minimum measured vacuum of 100 inches of water. The vacuum gauge was calibrated and sensitive enough to indicate a water pressure change of at least 0.5 inches.

### **Scope of Work**

To achieve the objective of this investigation a total of 4 vapor samples were collected from 3 locations at the site. Sampling depths, vacuum readings, purge volume and sampling volumes are given on the analytical results page. All the collected vapor samples were analyzed on-site using Optimal's mobile laboratory.

### **Subsurface Conditions**

Subsurface soil conditions offered sampling flows at 0" water vacuum.

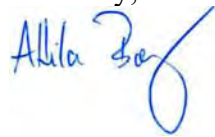
### **Results**

During this vapor investigation, none of the compounds listed in Table 1 above were detected above the listed reporting limits. A complete table of analytical results is included with this report.

### **Disclaimer**

All conclusions presented in this letter are based solely on the information collected by the soil vapor survey conducted by Optimal Technology. Soil vapor testing is only a subsurface screening tool and does not represent actual contaminant concentrations in either the soil and/or groundwater. We enjoyed working with you on this project and look forward to future projects. If you have any questions, please contact me at (877) 764-5427.

Sincerely,



Attila Baly  
Project Manager



**SOIL VAPOR RESULTS**

**Site Name:** 15306 Norwalk Blvd., Norwalk, CA  
**Analyst:** A. Baly **Collector:** A. Baly  
**Method:** Modified EPA 8260B

**Lab Name:** Optimal Technology  
**Inst. ID:** Agilent 6890NF  
**Detector:** Agilent 5973N Mass Spectrometer

**Date:** 4/4/22  
**Page:** 1 of 2

SAMPLE ID	BLANK-1	SV-98-2022-5	SV-88-2022-5	SV-82-2022-5	SV-82-2022-5 Dup			
Sampling Depth (Ft.)	N/A	5.0	5.0	5.0	5.0			
Purge Volume (ml)	N/A	4,000	4,000	4,000	4,000			
Vacuum (in. of Water)	N/A	0	0	0	0			
Injection Volume (ul)	100,000	100,000	100,000	100,000	100,000			
Dilution Factor	1	1	1	1	1			

COMPOUND	REP. LIMIT	CONC (ug/m <sup>3</sup> )	CONC (ug/m <sup>3</sup> )	CONC (ug/m <sup>3</sup> )	CONC (ug/m <sup>3</sup> )	CONC (ug/m <sup>3</sup> )			
Acetone	1000	ND	ND	ND	ND	ND			
Benzene	3	ND	ND	ND	ND	ND			
Bromobenzene	1000	ND	ND	ND	ND	ND			
Bromochloromethane	1000	ND	ND	ND	ND	ND			
Bromodichloromethane	2	ND	ND	ND	ND	ND			
Bromoform	80	ND	ND	ND	ND	ND			
Bromomethane	150	ND	ND	ND	ND	ND			
2-Butanone (MEK)	1000	ND	ND	ND	ND	ND			
n-Butylbenzene	1000	ND	ND	ND	ND	ND			
sec-Butylbenzene	1000	ND	ND	ND	ND	ND			
tert-Butylbenzene	1000	ND	ND	ND	ND	ND			
Carbon Tetrachloride	2	ND	ND	ND	ND	ND			
Chlorobenzene	1000	ND	ND	ND	ND	ND			
Chloroethane	1000	ND	ND	ND	ND	ND			
Chloroform	4	ND	ND	ND	ND	ND			
Chloromethane	1000	ND	ND	ND	ND	ND			
2-Chlorotoluene	1000	ND	ND	ND	ND	ND			
4-Chlorotoluene	1000	ND	ND	ND	ND	ND			
Cyclohexane	1000	ND	ND	ND	ND	ND			
Dibromochloromethane	1000	ND	ND	ND	ND	ND			
1,2-Dibromo-3-chloropropane	1	ND	ND	ND	ND	ND			
1,2-Dibromoethane	1	ND	ND	ND	ND	ND			
Dibromomethane	1000	ND	ND	ND	ND	ND			
1,2-Dichlorobenzene	1000	ND	ND	ND	ND	ND			
1,3-Dichlorobenzene	1000	ND	ND	ND	ND	ND			
1,4-Dichlorobenzene	8	ND	ND	ND	ND	ND			
Dichlorodifluoromethane	1000	ND	ND	ND	ND	ND			
1,2-Dichloroethane	3	ND	ND	ND	ND	ND			
1,1-Dichloroethane	50	ND	ND	ND	ND	ND			
1,1-Dichloroethene	1000	ND	ND	ND	ND	ND			
cis-1,2-Dichloroethene	200	ND	ND	ND	ND	ND			
trans-1,2-Dichloroethene	1000	ND	ND	ND	ND	ND			
1,2-Dichloropropane	9	ND	ND	ND	ND	ND			
2,2-Dichloropropane	1000	ND	ND	ND	ND	ND			
1,3-Dichloropropane	1000	ND	ND	ND	ND	ND			

**Note:** ND = Below Listed Reporting Limit





