GENESIS ENGINEERING & REDEVELOPMENT

SVE SYSTEM OPERATION - FOURTH QUARTER 2021 REPORT

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GENESIS ENGINEERING & REDEVELOPMENT

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1.0 INTRODUCTION

This *SVE System Operation – Fourth Quarter 2021 Report* ("Report") contains operational performance data for the soil vapor extraction ("SVE") system at Hi-Shear Corporation Facility ("HSC") located at 2600 Skypark Drive, Torrance, California ("Site") (Figure 1). Operation of the SVE system was approved in a February 18, 2020 letter from the Los Angeles Regional Water Quality Control Board ("RWQCB") based on the September 19, 2019 *Re-Start of the Soil Vapor Extraction System Technical Memorandum* (GE&R, 2019).

The constituents of primary concern ("COPC") for the Site include tetrachloroethene ("PCE"), trichloroethene ("TCE"), and resulting degradation products. This Report contains data on the operation of the SVE system during the Fourth Quarter of 2021 (October through December) and its overall effectiveness at the removal of the COPC and other volatile organic compounds ("VOC") at the Site.

2.0 SITE BACKGROUND

2.1 Setting

The Site is located within Los Angeles County Assessor's parcel number 7377-006-905. The parcel is owned by the City of Torrance with portions leased to LISI Aerospace (parent company of HSC) and other parties. On-Site activities conducted by HSC include manufacturing fasteners for the aerospace industry.

The Site is bounded to the south by the Torrance Municipal Airport, to the north by Skypark Drive, and to the west by Lowe's Home Improvement Center ("Lowe's") (Figure 2). The area immediately east of the Hi-Shear facility is occupied by South Bay Lexus ("Lexus") at 24777 Crenshaw Boulevard; Robinson Helicopter at 2540 Skypark Drive ("Robison"); and Dasco Engineering ("Dasco") at 24747 Crenshaw Boulevard (the corner of Skypark Drive and Crenshaw Boulevard).

2.2 SVE System Operational History

The initial SVE system was installed at the Site in March 1999 and was equipped with a granular activated carbon ("GAC") vapor treatment system. The SVE system included10 shallow extraction wells (SVE-3 through SVE-12) and 12 passive vent wells (V-1 through V-12). The locations of the extraction and vent wells are shown on Figure 3 and construction details are included in Table 1. The SVE system was modified in November 2002 to include 5 new extraction wells and a catalytic oxidizer ("catox") treatment system to replace the GAC treatment system (Figures 3).

La Caze Development and Well Abandonment

At the request of the City of Torrance and as approved by the RWQCB, during development of the La Caze Property (i.e., Lowe's) extraction wells SVE-6 through SVE-10 and vent wells V-8 through V-12 were abandoned on March 14 and 15, 2005 along with the header pipeline connecting the wells. Vent well V-4 was later abandoned on April 1, 2005 to further accommodate development of the La Caze Property (Figure 3).

Lowe's Sub-Slab System Installation

In accordance with the March 7, 2006 No Further Action letter for the La Caze Property a sub-slab depressurization system ("SSD") was installed on the Lowe's property to negate potential vapor intrusion into the building (Figure 4). The SSD on the Lowe's property consists of:

- 5 vertical wells installed to a total depth of approximately 5 feet bgs with 3 feet of screen; and
- 3 horizontal wells (approximately 5 feet screen length) installed at approximately 3 feet bgs

The SSD wells were connected to HSC treatment system and began operating on December 15, 2006.

SVE Wells SVE-13 and SVE-14 and Building 6 Sub-Slab System Installation

Two multi-depth nested soil vapor extraction wells (SVE-13 and SVE-14) were installed in the first quarter of 2010 as a result of hydrocarbon impacts encountered during the expansion of Building No. 6 (Figure 4). In addition to the two multi-depth nested wells, a SSD near Building 6 was installed under the in November 2009 to further mitigate potential vapor intrusion impacts. As a result of high VOC concentrations in SVE-14B and SVE-14C, a header pipeline was to connect wells to the catox system for vapor treatment. In January 2011, the remaining multi-depth nested soil vapor extraction wells (SVE-13A, SVE-13B, SVE-13C, and SVE-14A) and the Building 6 SSD were connected to the catox system. The Building No.6 SSD was reportedly damaged during slab installation and vapor extraction has not occurred from the SSD.

Rebound Testing

On April 4, 2008 the SVE system was shutdown to conduct a 4-month interim performance evaluation. Data collected prior to April 2008 indicated that VOC extraction had reach asymptotic levels and mass extraction had become limited. After restart on August 19, 2008, soil vapor was extracted from all 10 wells and the Lowe's SSD. Inlet VOC concentrations

showed an initial raise to an average 52 parts per million ("ppm") in the two weeks after the rebound test, which subsequently decreased to per-rebound conditions in the following weeks.

Baseline analytical samples were collected from previously unanalyzed extraction wells (SVE-4, SVE-11, SVE-12, SVE-1D, and the SSD). These samples were compared to historical FID measurements from the wells to assess the amount of rebound. The results of the rebound test showed a lack of significant increase in VOC extraction throughout the well network.

SVE Well Abandonment, Shutdown, and VE-1 through VE-8 Installation

Based on the rebound test results, 10 extraction wells (SVE-1D, SVE-2D, SVE-3, SVE-3D, SVE-3S, SVE-4, SVE-4D, SVE-5, SVE-11, and SVE-12) were abandoned between February 12 and 14, 2013 (Figure 3). In their stead, six multi-depth nested SVE wells (VE-1, VE-2, and VE-4 through VE-7) were installed in the fourth quarter of 2013 and were connected to the SVE system in January 2014.

On December 15, 2014 the SVE system was shut down due to safety concerns from advanced deterioration of the catox system. The SVE system was repaired and extraction resumed on February 19, 2016. However, on the same day an oil leak was discovered on the blower and the system was shut down again. The blower was repaired, and extraction resumed on March 18, 2016.

Additional multi-depth nested extraction wells (VE-3 and VE-8) were installed during the first quarter of 2016 and were connected to the SVE system in April 2016 (Table 1, Figure 4).

SVE System Shutdown and Upgrade

In April 2018 the SVE system was shut down due to failure of the blower motor. Using this unplanned shutdown, a comprehensive evaluation of the entire SVE system was completed in order to optimize its performance and efficiency. To comply with a RWQCB order as well as Plaintiff's demands in the on-going lawsuit against Hi-Shear, filed by the City of Torrance, in December 2020, the former catox was replaced with GAC system consisting of 3 2,000-pound carbon vessels connected in series. The existing 400 cubic feet per minute ("cfm") blower was upgraded to 500 cfm blower. SVE operations resumed in January 2021.

On August 2, 2021 the "western" wells consisting of VE-1, VE-2, and VE-4 through VE-7 were taken off-line due to significant leaks in the well field and associated piping. A SVE System Repair Plan ("Repair Plan") to revitalize the western well field was submitted to the RWQCB on January 17, 2022.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 Regional Geology

The investigation area located within the Los Angeles Basin, specifically the West Coast Basin. The West Coast Basin extends from the Pacific Ocean southeast to the Palos Verdes Hills, San Pedro Bay, and Orange County (California Department of Water Resources (CDWR, 1961). It is bordered by the Central Basin to the east and the Ballona Gap to the north.

According to the geologic map of the Redondo Beach, Torrance, and San Pedro quadrangles, the Site is underlain by relatively flat-lying unconsolidated marine and continental sediments of Pleistocene age. These deposits overlie Tertiary age sedimentary and crystalline bedrock. The Palos Verdes Peninsula Map (DF-70), shows the Site Pleistocene sediments are overlain by Holocene alluvium of mostly loamy clay of valley and flood plains that are slightly elevated and locally dissected.

The investigation area is underlain by approximately 200 feet of gravel, sand, sandy silt, silt, and clays of Pleistocene Lakewood Formation. The Gage Aquifer (a part of the Lakewood Formation) is more than 100 feet thick in vicinity of the Site and is comprised of primarily sand with trace amounts of gravel and thin beds and silt and clay.

Underlying the Lakewood Formation are the sediments of the San Pedro Formation. A clay layer between 40 and 100 feet thick separates the Gage Aquifer and the Silverado Aquifer of the San Pedro Formation. The Silverado aquifer is estimated to be between 250 and 550 feet below the Site.

The Pliocene-age Pico Formation, underlying the San Pedro Formation, is composed of mostly marine sediments which include sandstones, siltstones, and mudstones. While upper units of this formation have low permeability and act as aquitards, deeper groundwater is often saline (CDWR, 1961).

3.2 Local Geology and Hydrogeology

The locations of borings used in analyzing the Site geology and the cross-section locations are shown on Figure 5. Geologic cross sections are shown on Figures 6 and 7. This discussion of Site geology is primarily limited to the unsaturated zone (the upper 85 feet of sediment).

Four vertical geologic divisions are observed across the Site based upon lateral continuity and dominate grain size.

- *Unit 1*: Silt and clay are predominant in the upper 15 to 25 feet with interbedded lenses of fat clay. This unit is generally uniform in thickness throughout the area; however, it thickens to 35 feet in the southwest part of the investigation area.
- *Unit 2*: This unit consists of primarily silty sand which grades to sand to the north along Crenshaw Boulevard. This unit extends to a depth of 40 to 50 feet below the ground surface ("bgs") and has a corresponding thickness between 20 feet and 30 feet.
- *Unit* 3: This unit consists generally of silt, clay, and fat clay that varies in thickness between 5 feet and 15 feet. Unit 3 is interbedded with clayey sand, silty sand, and/or sand layers that range in thickness between 1 foot and 3 feet. In the borings adjacent to Crenshaw Boulevard perched groundwater has occasionally been observed on top of Unit 3 or within the unit's interbeds. This unit is not laterally continuous and tends to pinch out in areas resulting in Unit 2 directly overlying Unit 4.
- *Unit 4*: Unit 4 consists primarily of poorly graded to well graded sands and silty sand with interbedded 1 to 2-foot-thick layers of clayey sand. This unit is first encountered at a depth of 55 feet to 65 feet bgs and extends below the water table to at least 285 feet bgs. Occasional 1 to 3 foot thick discontinuous layers of silty sand and clayey sand occur throughout the unit. The regional water table ("RWTA") is first encountered in this unit at depth between 80 to 90 feet bgs. Groundwater flow in the vicinity of the Site is to the southeast.

4.0 SVE SYSTEM OPERATION OCTOBER 2021 THROUGH DECEMBER 2021

Data collected during Fourth Quarter 2021 SVE system operation include:

1. Operational runtime of the SVE system
2. Flow rate, temperature, negative pressure, and photoionization detector ("PID") measurements at the influent to the SVE system (data shown in Table 2);
3. Flow rate, negative pressure, and PID measurements at individual extraction wells (data shown in Tables 3A through 3J)
4. PID measurements and VOC concentrations from between carbon vessels and the at the SVE system effluent (Tables 3A through 4C)
5. Concentrations of VOC at individual extraction wells, the SVE system influent, between carbon vessels, and the SVE system effluent (Table 5).

These data were used to calculate the total volume of vapor and mass of VOC removed during extraction (Table 6); and establish VOC concentration trends for extracted vapor.

4.1 SVE System Hours of Operation

The Fourth Quarter 2021 operational runtime and extraction well regime are detailed in the table below.

SVE System Operation

Active Wells	Extraction Period	Cumulative Hours of Operation for Quarter
VE-3A/B/C, VE-8A/B/C, SVE-13A/B/C, SVE-14A/B/C	10/12/2021 – 12/3/2021	1,047
Cumulative Hours of Operation for 2020 Upgraded SVE System		**5,316**

The SVE system outages and estimated hours downtime for the Fourth Quarter 2021 are detail in the table below.

SVE System Downtime

Shutdown Date	Restart Date	System Issue	Estimate Hours of Downtime
9/27/2021	10/12/2021	Carbon Profile and Disposal	360
10/22/2021	10/29/2021	System Repair and Maintenance	168
12/3/2021	12/31/2021*	Knockout Water Profile	672
Estimate Cumulative Hours of Operational Downtime for the Quarter			**1,200**

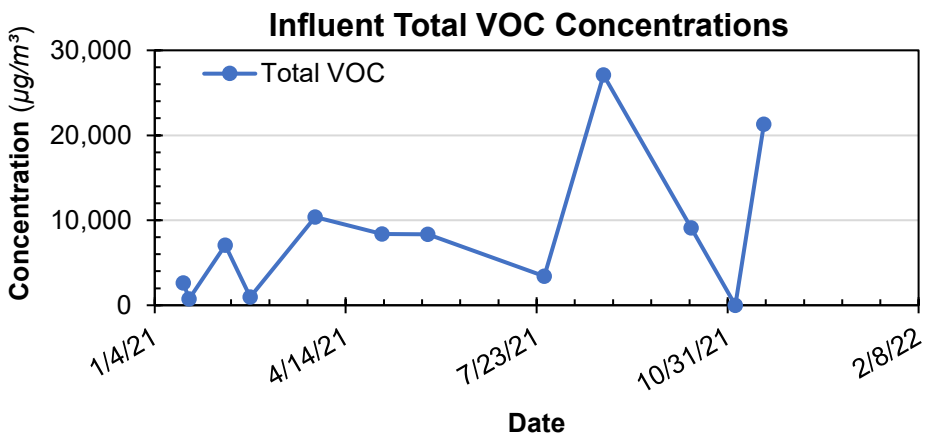
4.2 SCAQMD Permit Compliance

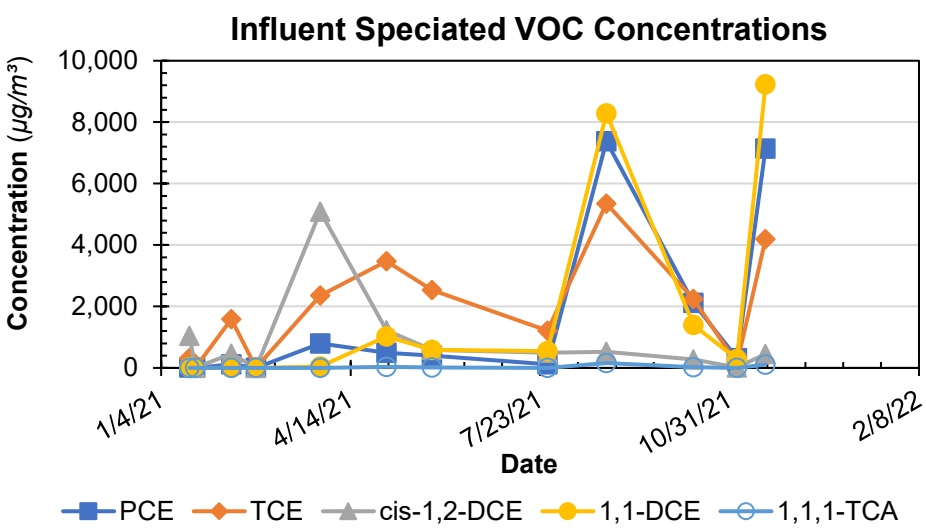
The operational compliance of the SVE system influent and subsequent atmospheric discharge is overseen by the South Coast Air Quality Management District Permit ("SCAQMD"). The specific operations and compliance of the HSC SVE system given in SCAQMD Permit No. G63741. Shown in Tables 1, 4B, and 4C the SVE system followed all SCAQMD permit requirements for the Fourth Quarter 2021 apart from single measurement. A 7% VOC reduction between the inlet and carbon vessel B of was measured on 10/12/2021. This measurement came directly after a fresh carbon replacement and is attributed to a low measured concentration at the influent as opposed to spent carbon.

4.3 System Concentration Trends

Routine monitoring of the SVE system includes laboratory analysis for total and speciated VOC concentrations (Table 5). The laboratory analytical reports are included in Appendix A. The following graph shows the VOC concentrations over time at the system inlet with comparison. The following data trends are observed:

- Total VOC influet concentration trends vary sychronsously with those observed for speciated VOC
- A spike in VOC concentrations is observed directly after closure of the western well with PCE and 1,1-DCE showing the highest detected concentrations.





4.4 Mass of VOC Extracted

The mass of PCE, TCE, cis-1,2-dichloroethene ("cis-1,2-DCE"), 1,1-dichloroethene ("1,1 DCE") and 1,1,1-tirchlorethane ("1,1,1-TCA") extracted during SVE system operation was calculated from the flow rate, operational runtime, and vapor concentration data collected at the inlet to the system (Table 6). Although other VOC are detected in soil vapor, samples from the extraction wells and SVE system influent (Table 5) indicate that these 5 VOC make up most of the extracted VOC. Other notable VOC detected in the soil vapor and the SVE system influent including benzene, toluene, ethylbenzene, total xylenes ("BTEX"), and Freon-113. To estimate the contribution of these additional VOC to the vapor mass extracted the total VOC mass is also calculated

The equation used for calculating mass removed is:

$$\text{Mass removed} = \text{flow rate} \times \text{flow duration} \times \text{concentration}$$

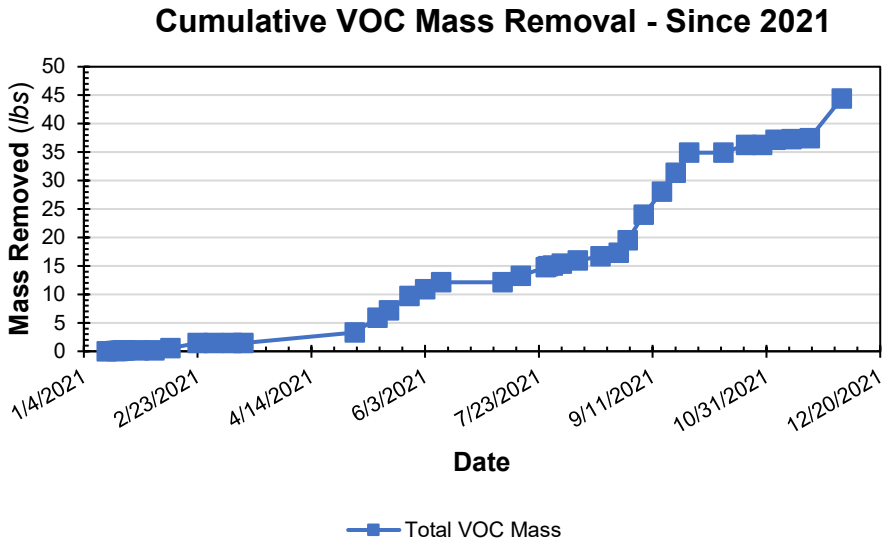
The mass extracted calculations were divided into time periods between flow rate measurements and changes in measured concentration. The flow rate and concentration are assumed to be constant over the defined period.

The detailed mass calculations shown in Table 6. A summary of cumulative VOC removed for this quarter and since the SVE was re-commenced on January 14, 2021 is presented in the table below:

VOC Mass Extraction Summary

Compound	Fourth Quarter 2021 Removed *(lbs)*	Cumulative COC Removed *(lbs)*
PCE	4.46	10.45
TCE	3.13	15.79
cis-1,2-DCE	0.34	4.50
1,1-DCE	5.01	13.33
1,1-TCA	0.07	0.25
Total COPC Removal	**13.01**	**44.41**

For the Fourth Quarter 2021 approximately 13.01 pounds ("lbs") of COPC were removed from the subsurface and cumulatively an estimated 44.41 lbs COPC have been removed An estimate total of 100,155 lbs of VOC had been removed from the subsurface by beginning of 2018 (Geosyntec 2018). This indicates that an estimated total mass of 100,217 lbs of VOC have been removed from the subsurface since SVE began in 1999.The graph below shows the cumulative mass removed since SVE re-commenced on January 14, 2021.



Notable increases in total VOC mass extracted occurred in May 2021 and August 2021. These increases directly related to the closure of wells that are suspected have leaks allowing air to short circuit into the system.

4.5 Summary

Observations and data collected during the Fourth Quarter 2021 SVE system operation further support that there are leaks in subsurface piping system leading to the western well field resulting in inefficiencies in mass removal rates. A significant increase in mass removal rates was when switching extraction to the eastern well field on August 2, 2021.

The SVE system was operational for approximately 1,047 hours during the Fourth Quarter 2021 operation period. The total mass of VOC extracted since the First Quarter 2021 is estimated to be 62 lbs. A SVE System Repair Plan is anticipated to be implemented in the Second Quarter of 2022. A significant increased vapor mass removal is expected upon completion of the Repair Plan.

5.0 WORK PLANNED FOR NEXT REPORTING PERIOD

Work planned for the First Quarter 2022 includes:

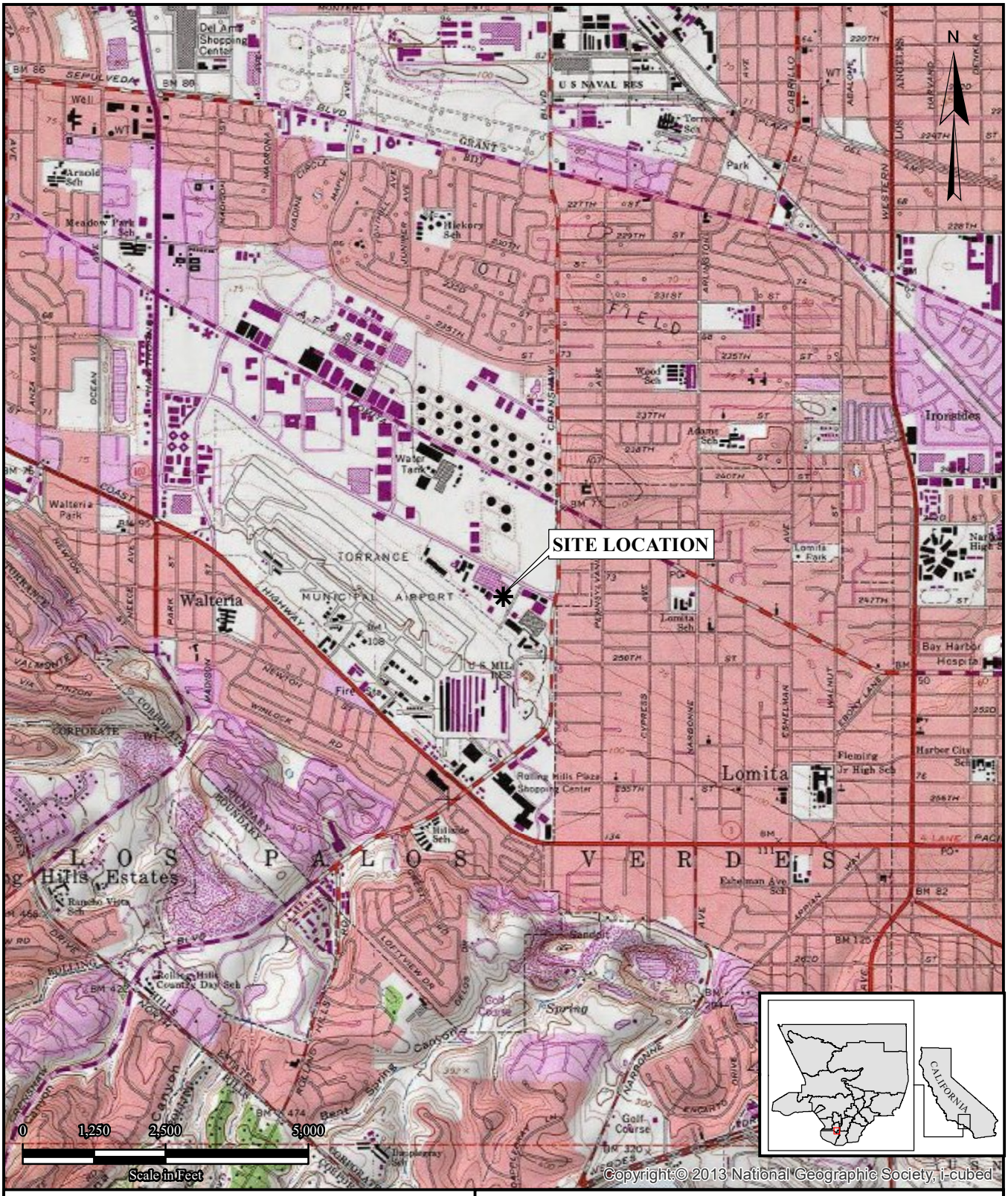
- Implementing the Repair Plan;
- Collecting weekly SVE system operation data including, flow rates, pressure measurements, and PID measurements from the SVE system and individual extraction wells;
- Continued compliance monitoring are required by the SCAQMD;
- Collecting monthly VOC samples from extraction wells and the SVE system; and
- Collecting radius of influence data upon completion of the Repair Plan.

6.0 REFERENCES

CDWR 1961, California Department of Water Resources, Southern District, Bulletin 104 – *Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County*, June 1961.

Geosyntec 2018, *Catalytic Oxidizer Soil Vapor Extraction System Remedial Progress Report (January 2018 – March 2018)* April 30, 2018

FIGURES



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SITE LOCATION MAP

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Skypark Commercial Properties
Torrance, California

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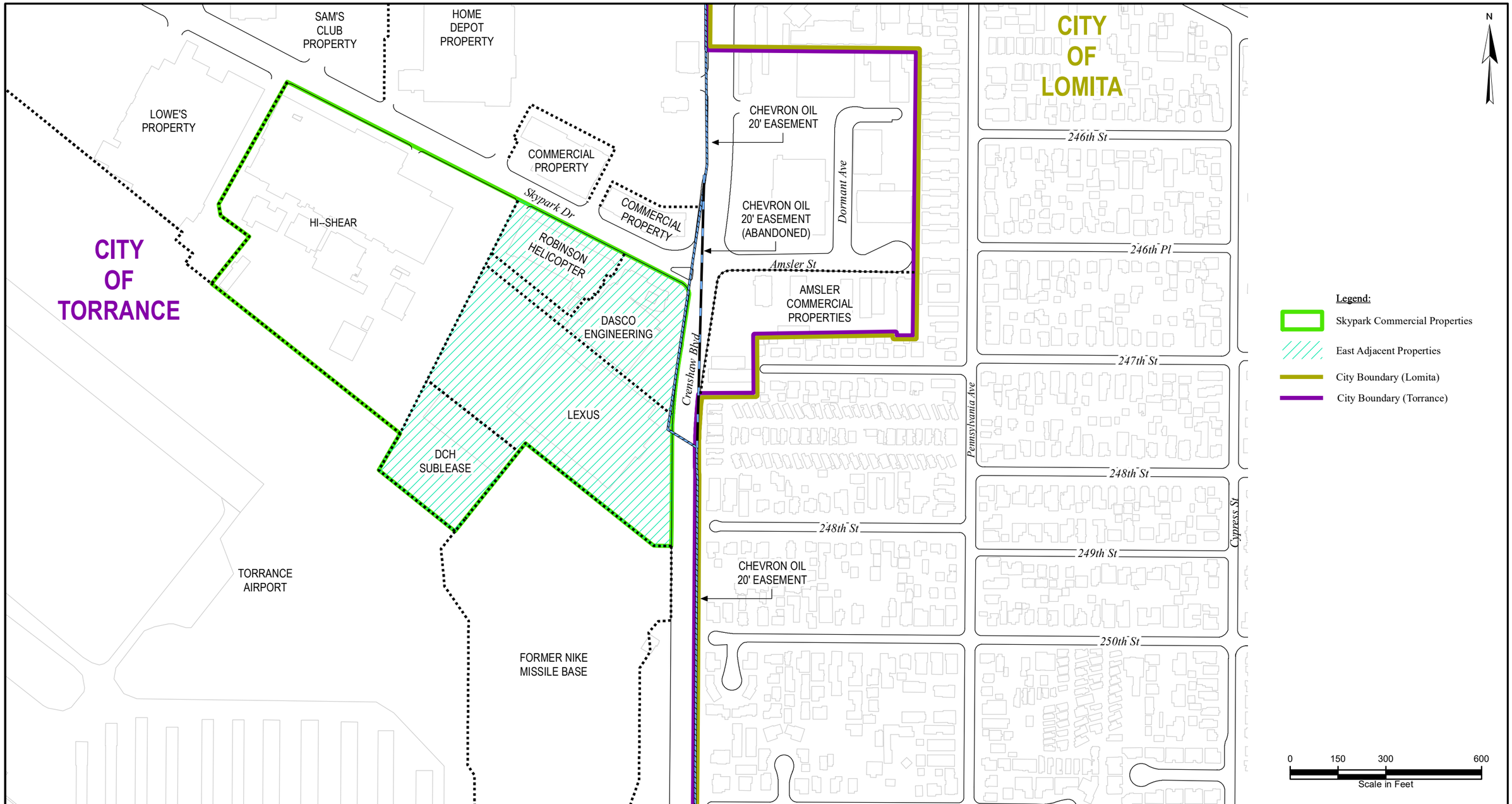

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SITE LAYOUT AND PROPERTY LOCATIONS

SVE System Operation - Fourth Quarter 2021 Report
Skypark Commercial Properties
Torrance, California

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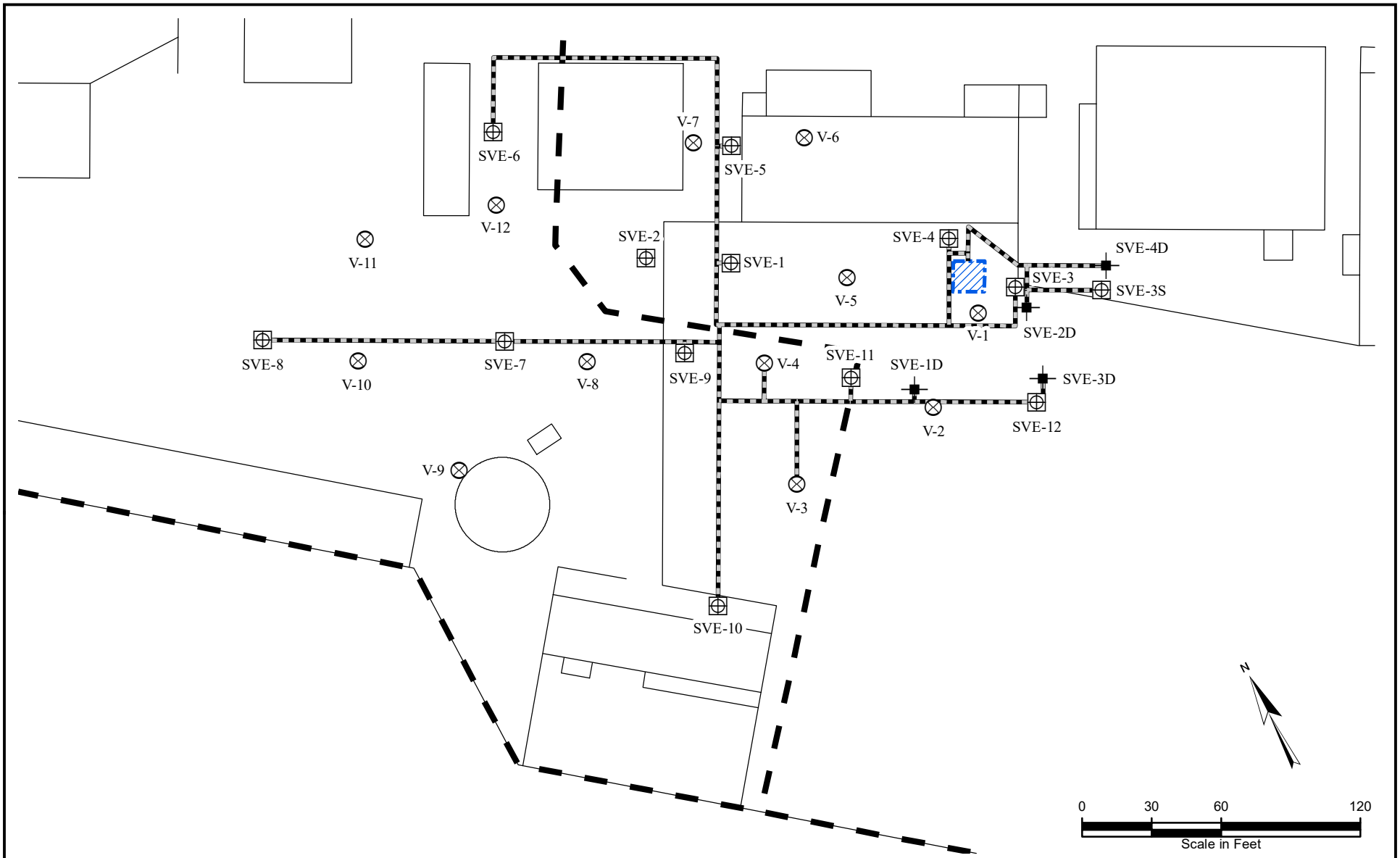

Legend:

- Shallow SVE Well Location
- Deep SVE Well Location
- Passive Vent Well Location
- Approximate SVE System Location
- Approximate Pipe Location (Below Ground)

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HISTORICAL SVE SYSTEM LAYOUT
SVE System Operation - Fourth Quarter 2021 Report
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Designed:	CH	Project Number :	237B-A-4	Figure 3
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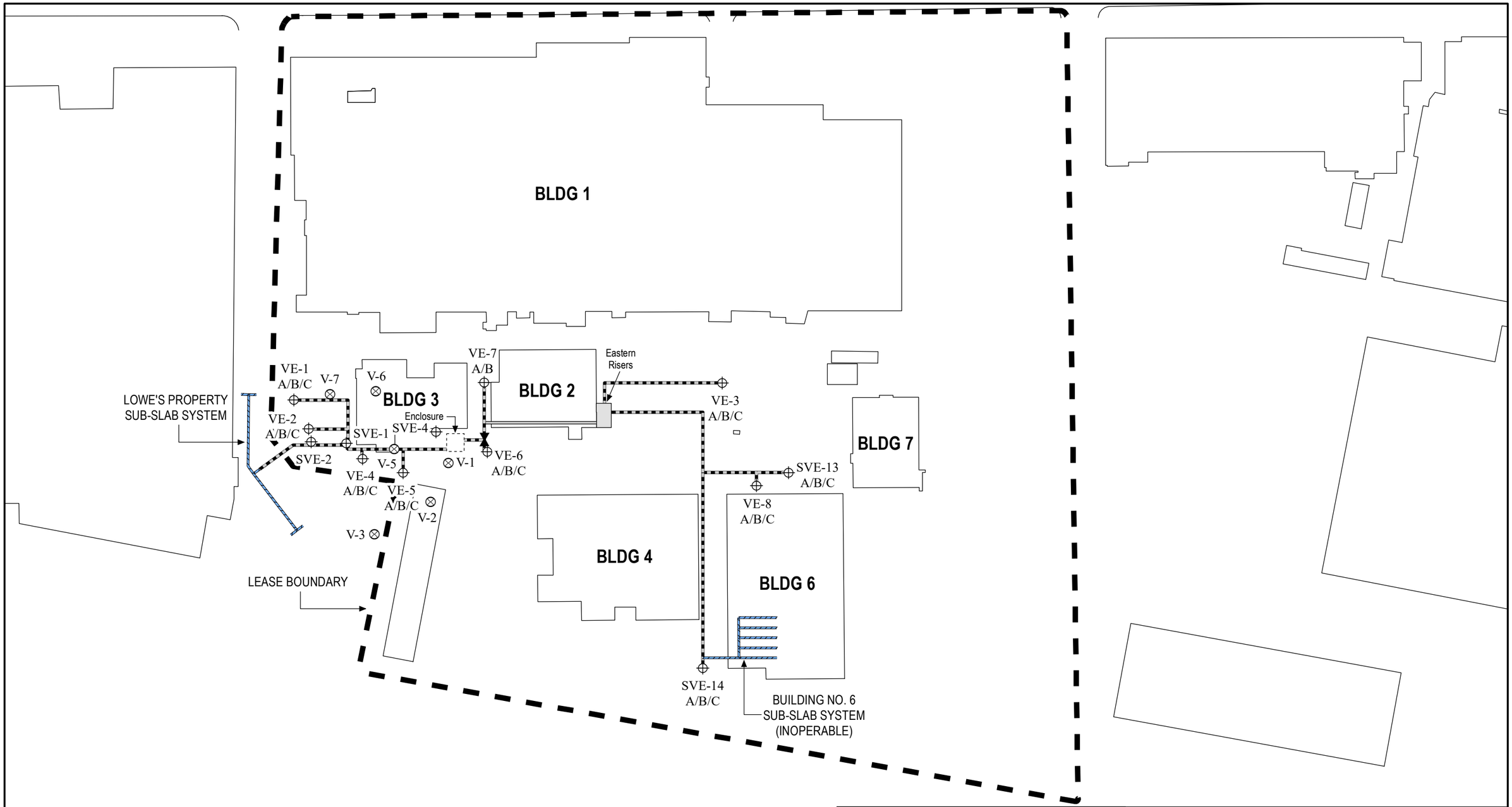

Legend:

- Extraction Well Location
- Pipe (Below Ground)
- Pipe (Above Ground)
- Valve
- Passive Vent Well Location

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CURRENT SVE SYSTEM LAYOUT
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Designed:	CH	Project Number:	237B-A-4	Figure
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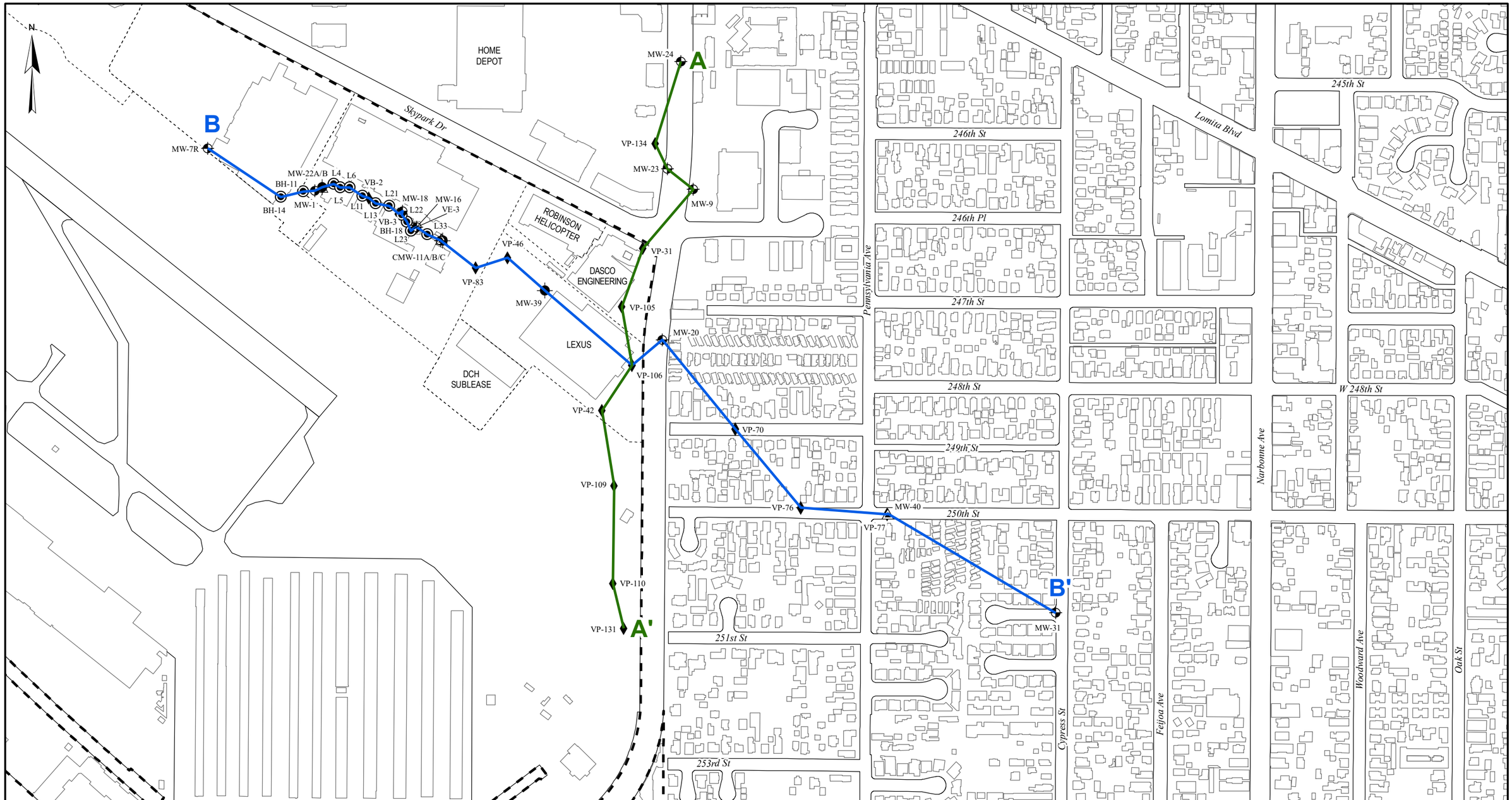

Legend:

- Shallow Monitoring Well Location
- Intermediate Monitoring Well Location
- Deep Monitoring Well Location
- Soil Vapor Probe Location
- Boring Location
- Soil Vapor Extraction Well Location
- Property Boundary
- Lease Boundary
- A — A' / B — B' Cross Section Line Location

0 200 400 800
Scale in Feet

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SITE LAYOUT SHOWING CROSS SECTION LOCATIONS
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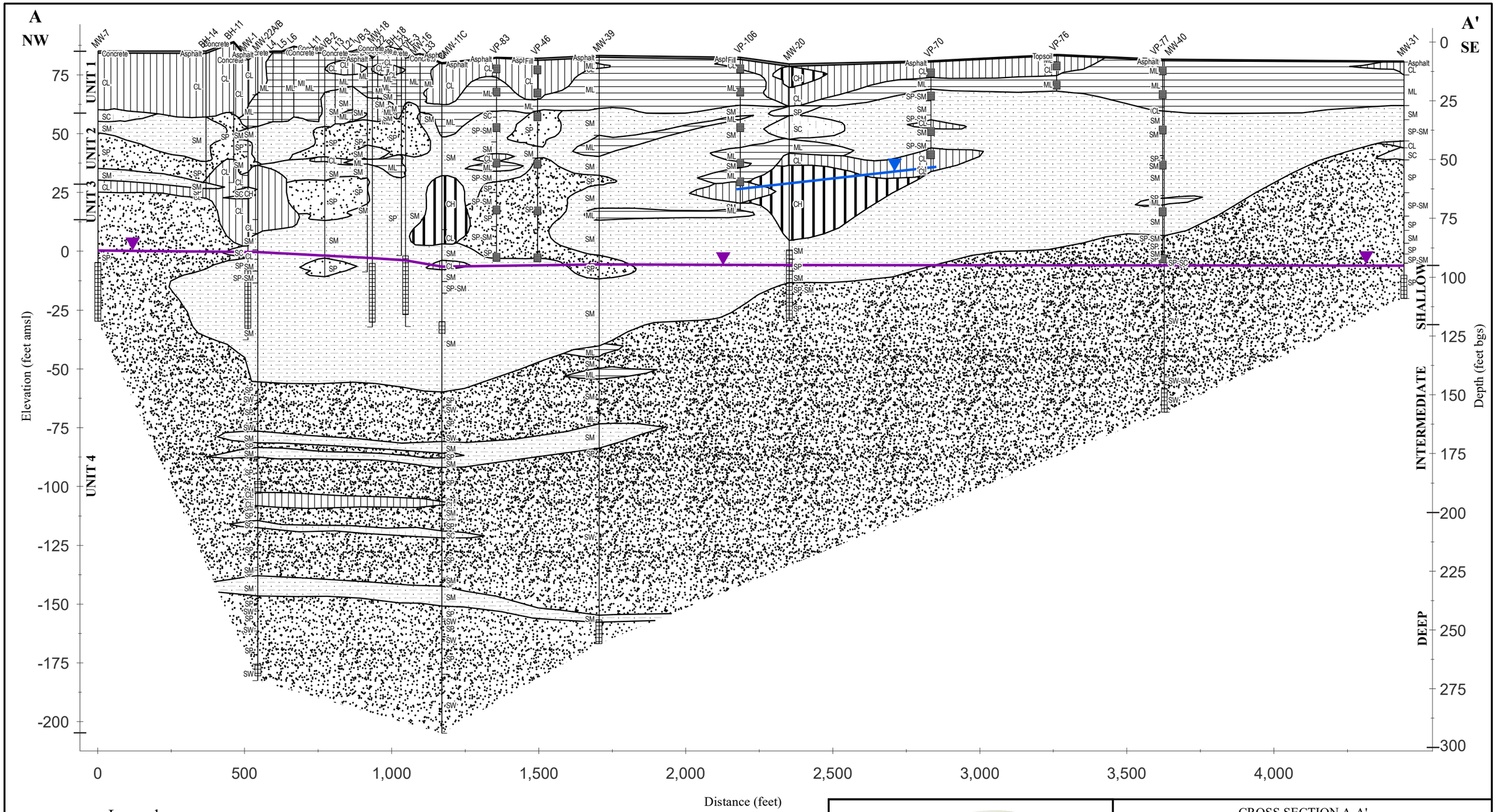

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CROSS SECTION A-A'
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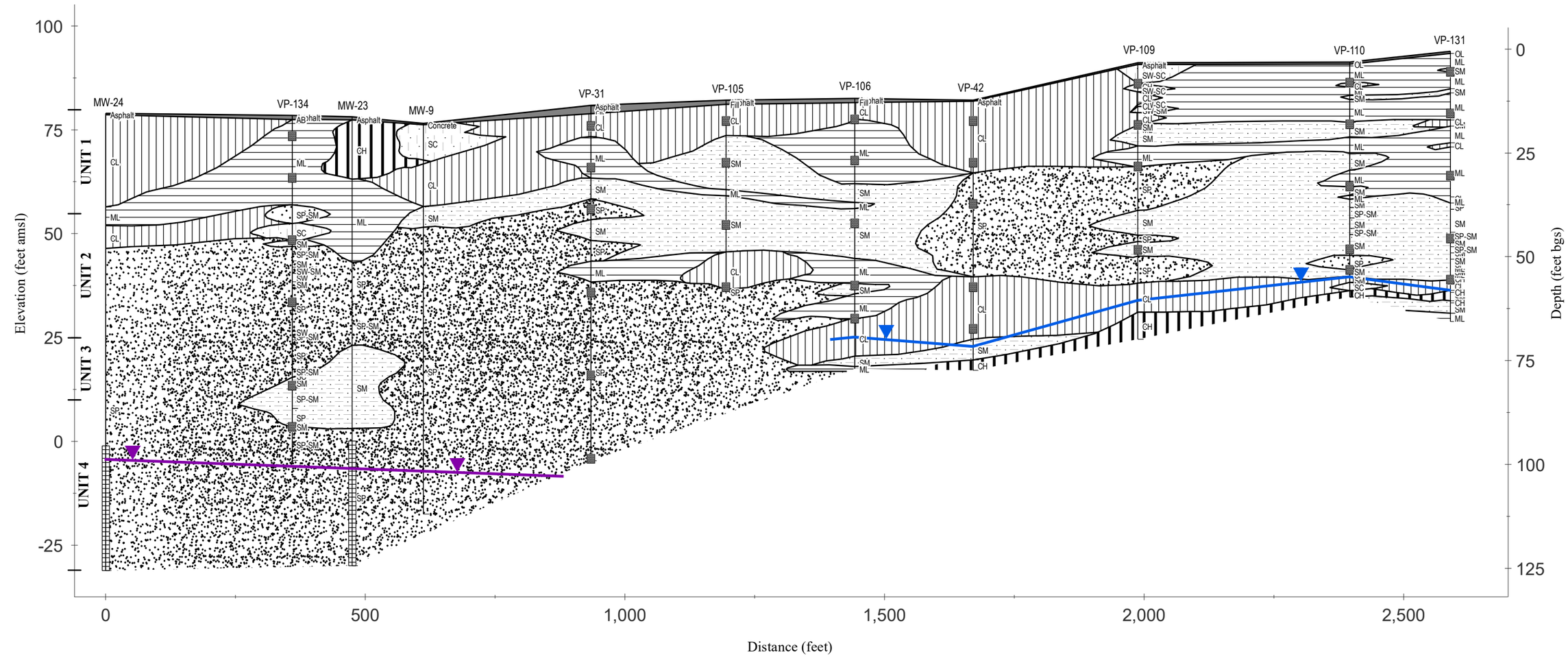

Legend:

Concrete	Silty Sand	Fat Clay	Screened Interval
Silt	Clayey Sand	Perched Water Table	Vapor Probe
Sand	Clay	Regional Water Table	

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CROSS SECTION B-B'
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TABLES

GENESIS ENGINEERING & REDEVELOPMENT

Table 1

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Soil Vapor Extraction and Vent Well Construction Details

Well ID	Year Installed	Year Abandoned	Screened Interval (*feet bgs*)	Screen Length (*feet*)	Casing Diameter (*inches*)
Shallow Extraction Wells					
VE-1A	2014	--	5-30	25	2
VE-2A	2014	--	10-30	20	2
VE-3A	2016	--	12-30	20	2
VE-4A	2014	--	20-40	20	2
VE-5A	2014	--	5-25	25	2
VE-6A	2014	--	5-25	20	2
VE-8A	2016	--	5-25	15	2
SVE-13A	2011	--	7-17	10	2
SVE-14A	2011	--	5-35	20	2
Intermediate Extraction Wells					
SVE-1	1997	--	27-52	25	2
SVE-2	1997	--	29-54	25	2
SVE-4	1999	--	47-56.5	9.5	4
SVE-3S	2002	2013	40-50	10	4
SVE-5	1999	2013	42-57	15	4
SVE-6	1999	2005	47-57	10	4
SVE-7	1999	2005	49-59	10	4
SVE-8	1999	2005	50-60	10	4
SVE-9	1999	2005	44-54	10	4
SVE-10	1999	2005	45-60	15	4
SVE-11	1999	2013	45-55	10	4
SVE-12	1999	2013	45-55	10	4
VE-1B	2014	--	37-57	20	2
VE-2B	2014	--	35-55	20	2
VE-3B	2016	--	45-65	20	2
VE-4B	2014	--	48-68	20	2
VE-5B	2014	--	46-61	15	2
VE-6B	2014	--	43-63	20	2
VE-7A	2014		52-67	15	2
VE-8B	2016	--	35-55	20	2
SVE-13B	2011	--	30-50	20	2
SVE-14B	2011	--	48-58	10	2

GENESIS ENGINEERING & REDEVELOPMENT

Table 1

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Soil Vapor Extraction and Vent Well Construction Details

Well ID	Year Installed	Year Abandoned	Screened Interval (*feet bgs*)	Screen Length (*feet*)	Casing Diameter (*inches*)
Deep Extraction Wells					
SVE-1D	2002	2013	85-105	20	4
SVE-2D	2002	2013	85-105	20	4
SVE-3	1997	2013	70-95	25	2
SVE-3D	2002	2013	85-105	20	4
SVE-4D	2002	2013	85-105	20	4
VE-1C	2014	--	65-85	20	2
VE-2C	2014	--	62-87	25	2
VE-3C	2016	--	72-87	25	2
VE-4C	2014	--	78-88	10	2
VE-5C	2014	--	67-82	15	2
VE-6C	2014	--	72-87	25	2
VE-7B	2014		77-87	10	2
VE-8C	2016	--	67-87	20	2
SVE-13C	2011	--	64-84	20	2
SVE-14C	2011	--	70-90	20	2
Vent Wells					
V-1	1999	--	45-60	25	2
V-2	1999	--	45-60	25	2
V-3	1999	--	45-60	25	2
V-4	1999	2005	45-60	25	2
V-5	1999	--	45-60	25	2
V-6	1999	--	45-60	25	2
V-7	1999	--	45-60	25	2
V-8	1999	2005	45-60	25	2
V-9	1999	2005	45-60	25	2
V-10	1999	2005	45-60	25	2
V-11	1999	2005	45-60	25	2
V-12	1999	2005	45-60	25	2

Notes:

- "feet bgs" - Feet below the ground surface
- "feet amsl" - Feet above mean sea level

GENESIS ENGINEERING & REDEVELOPMENT

Table 2

Hi-Shear Corporation

SVE System Operation - Fourth Quarter 2021

SVE System Operation and Monitoring Data - Influent

Date	Hours of Operation		Field Measurements				Analytical Data
	Hour Meter (*Cumulative*)	Δ Operating Hours	Flow (*scfm*)	Temperature (*°F*)	Neg. Pressure (*in. H_2O*)	Total VOC by PID (*ppmv*)	Total VOC (*ppmv*)
SCAQMD Permit Limits			**500**	**140**	**-**	**1,000**	**1,000**
1/14/21	40,133	0	294	54.9	38.4	151.9	-
1/18/21	40,152	19	292	58.8	45.8	294	-
1/19/21	40,174	22	291	54.0	42.9	292.4	-
1/20/21	40,199	25	376	59	27.3	185.1	-
1/21/21	40,223	24	361	58.1	27.3	145.3	-
1/22/21	40,247	24	365	55.0	27.3	96.3	-
1/28/21	40,380	133	378	55	29.5	-	-
2/4/21	40,598	218	393	50	31.1	-	-
2/10/21	40,719	121	412	60	32	1.1	2
2/23/21	41,003	284	369	60	87.5	-	0.2758
3/2/21	41,172	169	369	60	91	-	-
3/10/21	41,366	194	401	60	94	0	-
3/15/21	**SVE System Shutdown**						
3/29/21	41,367	1	466	78	62	-	2.95
4/29/21	41,400	33	475	78	32	48	-
5/3/21	41,520	120	466	70	32	14.8	2.38
5/13/21	41,760	240	466	68	62	0	-
5/18/21	41,880	120	500	70	60	-	-
5/18/21	**Hour Meter Replaced**						
5/27/21	217	217	466	74	60	-	2.36
6/3/21	382	165	450	70	60	0	-
6/10/21	555	173	440	72	62	-	-
6/10/21	**SVE System Shutdown**						
7/15/21	747	192	388	82	46	0	-
7/20/21	864	117	393	75	46	-	-
7/26/21	1,008	144	401	75	46	-	-
7/27/21	1,034	26	392	72	50	-	0.968
8/2/21	1,173	139	250	68	30	-	-
8/9/21	1,342	169	250	70	30	0	-
8/19/21	1,583	241	274	75	30	0	-
8/27/21	1,777	194	250	80	35	23.5	7.69
8/31/21	1,871	94	249	70	34	14.8	-
9/7/21	2,063	192	284	75	31	0	-
9/15/21	2,234	171	294	80	31	-	-
9/27/21	2,521.6	288	250	73	31.6	-	-
9/27/21	**SVE System Shutdown**						
10/12/21	2521.7	0.1	248	72	38	5.4	2.58
10/22/21	2758.2	236.5	250	62	30	-	-
10/22/21	**SVE System Shutdown**						
10/29/21	2759	0.8	269	75	32	0	-
11/4/21	2898	139	286	70	34	1	<0.0227
11/11/21	3064	166	302	65	36	1	-
11/19/21	3258.3	194.3	284	62	38	40.6	7.02
12/3/21	3,569	311	284	-	-	-	-
12/3/21	**SVE System Shutdown**						

NOTES:

- "scfm" - standard cubic feet per minute
- "°F" - degrees fahrenheit
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3A

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-1 Series)

Well ID	VE-1-A				VE-1-B				VE-1-C			
Screen Interval	5 to 30 feet bgs				37 to 57 feet bgs				65 to 85 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
1/29/14	Open	87.854	8	89	Open	42.946	2.71	34.2594	Open	41.638	7	88
2/6/14	Open	93.304	3	49	Open	27.468	36	48.1263	Open	30.738	5	49
2/20/14	Closed	-	-	-	Open	40.33	9	79.25885	Closed	-	-	-
3/5/14	Open	59.078	2	83	Closed	-	-	-	Open	41.202	-	83
3/24/14	Closed	-	-	-	Open	33.0052	3	85.78445	Closed	-	-	-
4/29/14	Closed	-	-	-	Open	1851	3.26	73.413	Closed	-	-	-
5/23/14	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
6/27/14	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/27/14	Open	21	0	94	Open	8	0.33	93.2617	Open	9	0.11	94
11/24/14	Open	-	1.07	41	Open	179	5.4	36.1627	Open	73	2.21	35
2/19/16	Open	31	16.65	64	Open	9	415	60.9056	Open	10	4.6	61
4/27/16	Open	66.53	1.01	34	Open	8.15	13.52	33.30775	Open	4.6	0.96	34
5/4/16	Open	-	-	-	Open	-	-	-	Closed	-	-	-
7/26/16	Closed	-	-	-	Open	16.31	7.89	52.61265	Closed	-	-	-
8/30/16	Closed	-	-	-	Open	-	7.9	49.34985	Closed	-	-	-
9/27/16	Closed	-	-	-	Open	22.3	14.3	43.7759	Closed	-	-	-
10/25/16	Closed	-	-	-	Open	21.7	13.95	50.3015	Closed	-	-	-
11/30/16	Closed	-	-	-	Open	19.97	20.84	48.53415	Closed	-	-	-
12/19/16	Closed	-	-	-	Open	23.2	17.08	51.3891	Closed	-	-	-
1/31/17	Closed	-	-	-	Open	26.15	19.89	44.935	Closed	-	-	-
2/24/17	Closed	-	-	-	Open	32.03	21.09	57.77875	Closed	-	-	-
3/29/17	Closed	-	-	-	Open	44.22	1.3	89.727	Closed	-	-	-
6/27/17	Closed	-	-	-	Open	16.9	0.12	79.1229	Closed	-	-	-
7/26/17	Open	-	0.55	60	Closed	-	-	-	Open	14.79	1.75	58
8/29/17	Open	-	1.49	42	Closed	-	-	-	Open	1.34	5.32	35
9/26/17	Open	-	-0.1	40	Closed	-	-	-	Open	7.55	7.35	32
10/26/17	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
11/29/17	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
12/26/17	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
1/31/18	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
2/27/18	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
3/28/18	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
1/14/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
1/28/21	-	-	-	-	-	-	-	-	-	-	-	-
2/4/21	Open	-	-	22	Open	-	-	18.7	Open	-	-	18
2/11/21	-	-	-	-	-	-	-	-	-	-	-	-
2/23/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
3/2/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
3/10/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
3/15/21	Closed	-	-	-	Closed				Closed	-	-	-
4/7/21	Open	140.2	40	36	Open	152.4	76	59	Open	159.2	162	65
4/29/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
5/3/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
5/27/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
6/3/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
6/10/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
7/15/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
7/20/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
7/26/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
7/29/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/2/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/9/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/19/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/7/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/15/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/27/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/12/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/29/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3B

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-2 Series)

Well ID	VE2-A				VE2-B				VE2-C			
Screen Interval	10 to 30 feet bgs				35 to 55 feet bgs				62 to 87 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
1/29/14	Open	48.0	18.0	34	Open	48.0	18.0	34.3	Open	48.0	18.0	34
2/6/14	Open	26.2	15.0	38	Open	26.2	15.0	37.7	Open	26.2	15.0	38
2/20/14	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
3/5/14	Open	67.6	16.0	76	Open	67.6	16.0	76.4	Open	67.6	16.0	76
3/24/14	Open	68.3	11.0	64	Open	68.3	11.0	64.0	Open	68.3	11.0	64
4/29/14	Open	-	-	-	Open	-	-	-	Open	-	-	-
5/23/14	Open	-	-	-	Open	-	-	-	Open	-	-	-
6/27/14	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/27/14	Open	-	-	-	Open	-	-	-	Open	-	-	-
11/24/14	Closed	-	-	-	Open	196.0	209.0	89.9	Open	208.0	9.4	89
2/19/16	Closed	-	-	-	Open	18.0	654.0	58.5	Open	10.0	17.0	59
4/27/16	Open	37.4	15.6	35	Open	19.9	239.0	40.8	Open	10.9	9.5	41
5/4/16	Open	-	-	-	-	-	-	-	-	-	-	-
7/26/16	Open	82.3	19.7	49	Open	24.0	219.0	49.5	Open	8.2	11.3	44
8/30/16	Open	-	12.3	45	Open	-	155.0	44.9	Open	-	14.9	45
9/27/16	Open	133.9	8.0	39	Open	23.1	199.0	39.2	Open	10.0	15.4	39
10/25/16	Open	156.7	10.5	43	Open	24.8	223.0	43.1	Open	11.8	15.4	43
11/30/16	Open	172.9	7.2	43	Open	23.2	195.0	42.8	Open	15.2	6.1	43
12/19/16	Open	203.3	6.2	42	Open	33.6	189.0	42.4	Open	7.1	6.7	43
1/31/17	Open	-	4.3	45	Open	22.4	143.0	45.0	Open	6.6	8.7	45
2/24/17	Open	-	4.4	45	Open	21.9	139.0	45.4	Open	6.3	7.2	46
3/29/17	Closed	-	-	-	Open	40.6	114.0	90.5	Open	106.4	8.5	97
6/27/17	Closed	-	-	-	Open	55.2	116.0	78.2	Open	10.2	5.8	78
7/26/17	Closed	-	-	-	Open	44.6	73.0	62.9	Open	13.2	3.6	63
8/29/17	Closed	-	-	-	Open	38.1	91.2	54.7	Open	6.6	8.8	55
9/26/17	Closed	-	-	-	Open	37.3	86.1	53.6	Open	6.5	13.5	53
10/26/17	Closed	-	-	-	Open	52.4	80.3	72.5	Open	12.7	16.2	72
11/29/17	Closed	-	-	-	Open	56.7	53.8	72.2	Open	8.8	23.1	314
12/26/17	Closed	-	-	-	Open	120.6	21.6	72.6	Open	6.9	46.4	72
1/31/18	Closed	-	-	-	Open	129.1	20.4	81.7	Open	21.8	77.0	80
2/27/18	Closed	-	-	-	Open	124.4	21.0	75.7	Open	15.4	56.2	74
3/28/18	Closed	-	-	-	Open	135.0	23.0	74.9	Open	7.9	76.6	72
1/14/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
2/4/21	Open	-	-	26	Open	-	-	25.9	Open	-	-	26
1/28/21	-	-	-	-	-	-	-	-	-	-	-	-
2/11/21	-	-	-	-	-	-	-	-	-	-	-	-
2/23/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
3/2/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
3/10/21	Closed	-	-	-	Open	9.7	-	93.4	Open	0.8	-	93
3/15/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
4/7/21	Open	136.1	390	60	Open	142.9	337	55	Open	145.6	181	59
4/9/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
4/29/21	Open	-	-	-	Open	-	-	-	Closed	-	-	-
5/3/21	Open	-	-	-	Open	-	-	-	Closed	-	-	-
5/27/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
6/3/21	Open	-	-	-	Open	-	-	-	Closed	-	-	-
6/10/21	Open	-	-	-	Open	-	-	-	Closed	-	-	-
7/15/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
7/20/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
7/26/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
7/29/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
8/2/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/9/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/19/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/7/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/15/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/27/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/12/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/29/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3C

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-3 Series)

Well ID	VE3-A				VE3-B				VE3-C			
Screen Interval	20 to 40 feet bgs				48 to 68 feet bgs				78 to 88 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
1/29/14	-	-	-	-	-	-	-	-	-	-	-	-
2/6/14	-	-	-	-	-	-	-	-	-	-	-	-
2/20/14	-	-	-	-	-	-	-	-	-	-	-	-
3/5/14	-	-	-	-	-	-	-	-	-	-	-	-
3/24/14	-	-	-	-	-	-	-	-	-	-	-	-
4/29/14	-	-	-	-	-	-	-	-	-	-	-	-
5/23/14	-	-	-	-	-	-	-	-	-	-	-	-
6/27/14	-	-	-	-	-	-	-	-	-	-	-	-
10/27/14	-	-	-	-	-	-	-	-	-	-	-	-
11/24/14	-	-	-	-	-	-	-	-	-	-	-	-
2/19/16	-	-	-	-	-	-	-	-	-	-	-	-
4/27/16	-	-	-	-	-	-	-	-	-	-	-	-
5/4/16	Open	40.47	394	18	Open	14.19	76.28	17.6735	Open	32.11	15.88	18
7/26/16	Open	41.15	96	23	Open	29.98	19.76	23.3834	Open	0.61	2.8	23
8/30/16	Open	-	67	22	Open	-	6.1	22.15985	Open	-	2.6	22
9/27/16	Open	37.84	64.98	20	Open	35.54	5.2	19.5768	Open	9.42	-0.6	20
10/25/16	Open	49.02	58	26	Open	31.99	5.8	26.1024	Open	9.74	1.5	26
11/30/16	Open	45.91	50.94	24	Open	24.68	6.78	25.0148	Open	16.47	1.35	25
12/19/16	Open	48.2	44.65	27	Open	21.69	6.83	26.51025	Open	0.87	2.2	27
1/31/17	Open	56.44	32.9	30	Open	24.09	4.47	30.31685	Open	1.16	1.48	30
2/24/17	Open	50.27	25.87	30	Open	62.82	6.19	30.31685	Open	1.24	2.35	30
3/29/17	Open	111.06	8.19	44	Open	70.89	10.23	44.8635	Closed	-	-	-
6/27/17	Open	74.26	15.58	40	Open	36.18	9.97	40.64905	Closed	-	-	-
7/26/17	Open	58.82	14.21	36	Open	78.31	9.64	35.48295	Closed	-	-	-
8/29/17	Open	55.47	12.79	31	Open	71.12	11.82	31.2685	Closed	-	-	-
9/26/17	Open	68.5	18.75	81	Open	101	27.28	81.2981	Closed	-	-	-
10/26/17	Open	72.3	16.8	36	Open	61.83	23.92	36.1627	Closed	-	-	-
11/29/17	Open	63.65	9.8	36	Open	52.52	13.7	36.1627	Closed	-	-	-
12/26/17	Open	60.15	10.5	36	Open	26.61	19.3	36.29865	Closed	-	-	-
1/31/18	Open	71.97	11.1	43	Open	28.12	23.8	42.82425	Closed	-	-	-
2/27/18	Open	-	10.7	43	Open	-	27	43.09615	Closed	-	-	-
3/28/18	Open	67.5	12	41	Open	30.6	31	41.0569	Closed	-	-	-
4/8/21	Open	137.4	388	60	Open	142.9	53.5	65	Open	142.9	-	65
4/29/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
5/3/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
5/27/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
6/3/21	Closed	-	-	-	Open	-	-	-	Open	-	-	-
6/10/21	Closed	-	-	-	Open	-	-	-	Open	-	-	-
7/29/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/27/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/31/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/27/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
9/28/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/12/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/22/21	Open	6.5	-	-	Open	6.5	-	-	Open	6.5	-	-
11/19/21	Open	-	-	24	Open	-	-	24.4	Open	-	-	24

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3D

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-4 Series)

Well ID	VE4-A				VE4-B				VE4-C			
Screen Interval	20 to 40 feet bgs				48 to 68 feet bgs				78 to 88 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
1/29/14	Open	47.96	18	34	Open	47.96	18	34.2594	Open	47.96	18	34
2/6/14	Open	26.16	15	38	Open	26.16	15	37.65815	Open	26.16	15	38
2/20/14	Closed	-	-	-	Open	-	-	-	Open	-	-	-
3/5/14	Open	67.58	16	76	Open	67.58	16	76.4039	Open	67.58	16	76
3/24/14	Open	68.2558	11	64	Open	68.2558	11	64.03245	Open	68.2558	11	64
4/29/14	Closed	-	-	-	Open	-	3.26	73.413	Closed	-	-	-
5/23/14	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
6/27/14	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/27/14	Open	11	0	86	Open	8	1.44	86.4642	Open	8	1.22	86
11/24/14	Open	132	2.3	91	Open	-	14.04	76.53985	Open	139	6.84	90
2/19/16	Open	12	4.77	63	Open	12	5.28	62.8089	Open	11	3.6	63
4/27/16	Open	3.65	0.92	40	Open	-	4.96	39.28955	Open	8.65	5.9	39
5/4/16	-	-	-	-	-	-	-	-	-	-	-	-
7/26/16	Closed	-	-	-	Open	14.8	1.35	51.9329	Open	7.76	3.4	52
8/30/16	Closed	-	-	-	Open	-	3.9	48.6701	Open	-	3.5	49
9/27/16	Closed	-	-	-	Open	8.44	-0.66	44.45565	Open	13.13	2.6	45
10/25/16	Closed	-	-	-	Closed	-	-	-	Open	17.26	3.1	50
11/30/16	Closed	-	-	-	Closed	-	-	-	Open	23.49	2.76	49
12/19/16	Closed	-	-	-	Closed	-	-	-	Open	7.97	2.59	52
1/31/17	Closed	-	-	-	Closed	-	-	-	Open	8.29	2.29	57
2/24/17	Closed	-	-	-	Closed	-	-	-	Open	7.64	1.37	57
3/29/17	Closed	-	-	-	Closed	-	-	-	Open	22.48	2.31	86
6/27/17	Closed	-	-	-	Closed	-	-	-	Open	7.89	1.97	78
7/26/17	Open	8.65	0.62	63	Open	3.97	0.95	64.03245	Closed	-	-	-
8/29/17	Open	5.17	1.1	55	Open	1.73	1.35	55.05975	Closed	-	-	-
9/26/17	Open	9.25	-0.92	55	Open	9.45	-0.45	55.33165	Closed	-	-	-
10/26/17	Closed				Closed	-	-	-	Closed	-	-	-
11/29/17	Closed				Closed	-	-	-	Closed	-	-	-
12/26/17	Closed				Closed	-	-	-	Closed	-	-	-
1/31/18	Closed				Closed	-	-	-	Closed	-	-	-
2/27/18	Closed				Closed	-	-	-	Closed	-	-	-
3/28/18	Closed				Closed	-	-	-	Closed	-	-	-
1/14/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
1/28/21	-	-	-	-	-	-	-	-	-	-	-	-
2/4/21	Open	-	-	27	Open		-	26.8	Open		-	27
2/11/21	-	-	-	-	-	-	-	-	-	-	-	-
2/23/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
3/2/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
3/10/21	Open	1.1	-	93	Open	0.5	-	93.3	Open	0.8	-	93
3/15/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
4/7/21	Open	60	159	11	Open	149.7	157	61	Open	156.5	189	64
4/9/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
4/29/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
5/3/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
5/27/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
6/3/21	Closed	-	-	-	Open	-	-	-	Open	-	-	-
6/10/21	Closed	-	-	-	Open	-	-	-	Open	-	-	-
7/15/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
7/20/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
7/26/21	Open	-	-	-	Open	-	-	-	Open	-	-	-
7/29/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/2/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/9/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/19/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/27/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
8/31/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/7/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/15/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
9/27/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/12/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/22/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/29/21	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3E

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-5 Series)

Well ID	VE5-A				VE5-B				VE5-C			
Screen Interval	5 to 25 feet bgs				46 to 61 feet bgs				67 to 82 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
01/29/2014	Open	47.96	18	34	Open	47.96	18	34.2594	Open	47.96	18	34
02/06/2014	Open	26.16	15	38	Open	26.16	15	37.65815	Open	26.16	15	38
02/20/2014	Closed	Closed	Closed	Closed	Closed	-	-	-	-	-	-	-
03/05/2014	Open	67.58	16	76	Open	67.58	16	76.4039	Open	67.58	16	76
03/24/2014	Open	68.2558	11	64	Open	68.2558	11	64.03245	Open	68.2558	11	64
04/29/2014	Closed	-	-	-	Closed	-	-	-	Closed		-	-
05/23/2014	Closed	-	-	-	Closed	-	-	-	Closed		-	-
06/27/2014	Closed	-	-	-	Closed	-	-	-	Closed		-	-
10/27/2014	Open	10	2.13	86	Open	10	1.98	86.1923	Open	10	1.78	86
11/24/2014	Open	127	4.1	91	Open	-	3.8	91.3584	Open	123	10	92
02/19/2016	Open	12	1.4	62	Open	12	1.5	61.85725	Open	12	3.9	62
04/27/2016	Open	0.37	0.88	40	Open	5.59	0.77	40.2412	Open	5.8	3.9	40
05/04/2016	Open	-	-	-	Open	-	-	-	-	-	-	-
07/26/2016	Closed	-	-	-	Closed	-	-	-	Open	7.75	2.25	52
08/30/2016	Closed	-	-	-	Closed	-	-	-	Open	-	2.6	49
09/27/2016	Closed	-	-	-	Closed	-	-	-	Open	9.97	0.34	45
10/25/2016	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
11/30/2016	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
12/19/2016	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
01/31/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/24/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/29/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/27/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
07/26/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/29/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/26/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/26/2017	Open	15.1	-2.31	73	Open	7.51	-2.6	73.00515	Open	9.19	23.12	73
11/29/2017	Open	0.96	-0.3	74	Open	4.67	-0.4	73.82085	Open	7.98	5	74
12/26/2017	Open	2.53	1.5	75	Open	3.64	1.1	75.0444	Open	7.32	3.8	75
01/31/2018	Closed	-	-	-	Closed	-	-	-	Closed		-	-
02/27/2018	Closed	-	-	-	Closed	-	-	-	Closed		-	-
03/28/2018	Closed	-	-	-	Closed	-	-	-	Closed		-	-
01/14/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
01/28/2021	-	-	-	-	-	-	-	-	-	-	-	-
02/04/2021	Open	-	-	27	Open	-	-	27.0	Open	-	-	27
02/11/2021	-	-	-	-	-	-	-	-	-	-	-	-
02/23/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
03/02/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
03/10/2021	Open	0.8	-	93	Open	0.5	-	93.3	Open	0.9	-	93
03/15/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
04/07/2021	Open	156.5	188	64	Open	155.1	85	63	Open	156.5	89	63
04/09/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
04/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/27/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
06/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
07/15/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/20/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/26/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/29/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/02/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/09/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/19/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/31/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/07/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/15/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/12/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/22/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3F

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-6 Series)

Well ID	VE6-A				VE6-B				VE6-C			
Screen Interval	5 to 25 feet bgs				43 to 63 feet bgs				72 to 87 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
01/29/2014	Open	47.96	18	34	Open	48.0	18	34.3	Open	48.0	18	34
02/06/2014	Open	26.16	15	38	Open	26.2	15	37.7	Open	26.2	15	38
02/20/2014	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/05/2014	Open	67.58	16	76	Open	67.6	16	76.4	Open	67.6	16	76
03/24/2014	Open	68.2558	11	64	Open	68.3	11	64.0	Open	68.3	11	64
04/29/2014	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/23/2014	Open	21.447	6.5	89	Open	23.7	11.46	61.4	Open	24.5	3.44	61
06/27/2014	Open	20.034	9.1	60	Open	24.1	14	60.0	Open	33.4	4.5	60
10/27/2014	Open	12.096	7.72	56	Open	23.4	11.12	56.8	Open	30.3	1.38	56
11/24/2014	Open	84	16.27	48	Open	129.0	34.01	48.3	Open	138.0	8.7	48
02/19/2016	Open	12.096	10.16	59	Open	15.5	24.44	59.1	Open	26.2	5.76	58
04/27/2016	Open	12.33	9.63	36	Open	24.2	21.25	35.3	Open	30.9	5.86	40
05/04/2016	-	-	-	-	-	-	-	-	-	-	-	-
07/26/2016	Open	1.75	6.1	39	Open	27.2	21.15	39.0	Open	33.5	1.3	39
08/30/2016	Open	-	4.97	37	Open	-	17.46	37.0	Open	-	1.8	37
09/27/2016	Open	16.69	3.5	34	Open	22.2	19.3	33.9	Open	30.3	-2.35	34
10/25/2016	Open	22.68	5.3	41	Open	25.7	17	41.2	Closed	-	-	-
11/30/2016	Open	34.25	7.02	41	Open	27.5	14.93	41.2	Closed	-	-	-
12/19/2016	Open	3.13	6.55	43	Open	23.1	1.44	42.8	Closed	-	-	-
01/31/2017	Open	1.85	7.15	49	Open	25.0	12.76	48.9	Closed	-	-	-
02/24/2017	Open	1.96	2.08	48	Open	35.6	2.42	48.0	Closed	-	-	-
03/29/2017	Closed	-	-	-	Open	77.3	5.33	74.2	Closed	-	-	-
06/27/2017	Closed	-	-	-	Open	24.2	5.9	64.0	Closed	-	-	-
07/26/2017	Closed	-	-	-	Open	46.9	5.08	53.7	Closed	-	-	-
08/29/2017	Closed	-	-	-	Open	22.8	5.22	47.4	Closed	-	-	-
09/26/2017	Closed	-	-	-	Open	37.7	5.09	47.3	Closed	-	-	-
10/26/2017	Closed	-	-	-	Open	30.1	3.57	58.3	Closed	-	-	-
11/29/2017	Closed	-	-	-	Open	27.6	3.8	60.1	Closed	-	-	-
12/26/2017	Closed	-	-	-	Open	27.0	3.7	60.6	Closed	-	-	-
01/31/2018	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/27/2018	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/28/2018	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
01/14/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
01/28/2021	-	-	-	-	-	-	-	-	-	-	-	-
02/04/2021	Open	-	-	28	Open	-	-	27.8	Open	-	-	28
02/11/2021	-	-	-	-	-	-	-	-	-	-	-	-
02/23/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
03/02/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
03/10/2021	Open	0.4	-	89	Open	6.5	-	88.9	Open	5.2	-	89
03/15/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
04/08/2021	Open	130.6	29	70	Open	121.1	82	60	Open	129.3	32	61
04/29/2021	Closed	-	-	-	Open	-	-	-	Open	-	-	-
05/03/2021	Closed	-	-	-	Open	-	-	-	Open	-	-	-
05/27/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
06/03/2021	Open	-	-	-	Closed	-	-	-	Closed	-	-	-
06/10/2021	Open	-	-	-	Closed	-	-	-	Closed	-	-	-
07/15/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/20/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/26/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/02/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/09/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/19/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/31/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/07/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/12/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/22/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3G

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-7 Series)

Well ID	VE7-A				VE7-B			
Screen Interval	52 to 67 feet bgs				77 to 87 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
01/29/2014	Open	47.96	18	34	Open	48.0	18	34
02/06/2014	Open	26.16	15	38	Open	26.2	15	38
02/20/2014	Closed	-	-	-	Closed	-	-	-
03/05/2014	Open	67.58	16	76	Open	67.6	16	76
03/24/2014	Open	68.2558	11	64	Open	68.3	11	64
04/29/2014	Open	65.3832	533	61	Open	12.912	38.49	60
05/23/2014	Open	26.4951	326	59	Open	12.88	31.05	59
06/27/2014	Open	33.6393	356	58	Open	12.7	36.44	58
10/27/2014	Open	34.0038	361	57	Open	8.3	28.61	57
11/24/2014	Open	14.67	111	47	Open	59.0	27.18	46
02/19/2016	Open	28.0179	20.04	58	Open	10.7	14.89	57
04/27/2016	Open	53.23	218	35	Open	24.39	21.94	35
05/04/2016	Open	-	-	-	Open	-	-	-
07/26/2016	Open	43.97	355	37	Open	10.3	15.96	37
08/30/2016	Open	-	469	39	Open	-	10.19	35
09/27/2016	Open	49.8	109	35	Open	13.9	2.4	32
10/25/2016	Open	59.79	242	39	Open	18.1	3.3	38
11/30/2016	Open	62.09	513	38	Open	12.8	4.25	38
12/19/2016	Open	65.21	429	39	Open	1309.0	3.34	40
01/31/2017	Open	73.06	317	46	Open	12.8	2.38	45
02/24/2017	Open	73.64	1.88	44	Open	12.4	1.62	43
03/29/2017	Open	187.9	266	69	Open	20.3	0.51	64
06/27/2017	Open	91.53	307	60	Open	14.0	1.4	60
07/26/2017	Open	83.07	228	52	Closed	-	-	-
08/29/2017	Open	81.51	283	45	Closed	-	-	-
09/26/2017	Open	118	432	117	Closed	-	-	-
10/26/2017	Open	91.7	358	56	Closed	-	-	-
11/29/2017	Open	88.76	237	58	Closed	-	-	-
12/26/2017	Open	82.83	262	57	Closed	-	-	-
01/31/2018	Open	101.21	606	108	Closed	-	-	-
02/27/2018	Open	93.9	65	63	Closed	-	-	-
03/28/2018	Open	91	52	61	Closed	-	-	-
01/14/2021	Open	-	-	-	Open	-	-	-
01/28/2021	-	-	-	-	-	-	-	-
02/04/2021	Open	-	-	26	Open	-	-	-
02/11/2021	-	-	-	-	-	-	-	-
02/23/2021	Open	-	-	-	Open	-	-	-
03/02/2021	Open	-	-	-	Open	-	-	-
03/10/2021	Open	5	-	30	Open	1.91	-	-
03/15/2021	Open	-	-	-	Open	-	-	-
04/08/2021	Open	111.6	14	50	Open	137.4	11	64
04/29/2021	Open	-	-	-	Open	-	-	-
05/03/2021	Open	-	-	-	Open	-	-	-
05/27/2021	Open	-	-	-	Open	-	-	-
06/03/2021	Open	-	-	-	Open	-	-	-
06/10/2021	Open	-	-	-	Open	-	-	-
07/15/2021	Open	-	-	-	Open	-	-	-
07/20/2021	Open	-	-	-	Open	-	-	-
07/26/2021	Open	-	-	-	Open	-	-	-
07/29/2021	Closed	-	-	-	Closed	-	-	-
08/02/2021	Closed	-	-	-	Closed	-	-	-
08/09/2021	Closed	-	-	-	Closed	-	-	-
08/19/2021	Closed	-	-	-	Closed	-	-	-
08/27/1931	Closed	-	-	-	Closed	-	-	-
08/31/2021	Closed	-	-	-	Closed	-	-	-
09/07/2021	Closed	-	-	-	Closed	-	-	-
09/27/2021	Closed	-	-	-	Closed	-	-	-
10/12/2021	Closed	-	-	-	Closed	-	-	-
10/22/2021	Closed	-	-	-	Closed	-	-	-
10/29/2021	Closed	-	-	-	Closed	-	-	-

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3H

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (VE-8 Series)

Well ID	VE8-A				VE8-B				VE8-C			
Screen Interval	10 to 25 feet bgs				35 to 55 feet bgs				67 to 87 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
05/04/2016	Open	-	123.0	-	Open	-	16	-	Open	-	140.0	-
07/26/2016	Open	0.06	97.5	22	Open	10.41	4.7	22.15985	Open	48.23	105.0	22
08/30/2016	Open	-	37.5	21	Open	-	2.58	21.34415	Open	-	43.5	21
09/27/2016	Open	12.4	59.6	19	Open	22.79	-1.96	18.7611	Open	56.8	14.8	18
10/25/2016	Open	8.12	62.4	25	Open	14.16	1.4	24.87885	Open	57.16	91.0	24
11/30/2016	Open	10.87	45.0	23	Open	9.72	3.55	22.5677	Open	59.17	51.2	23
12/19/2016	Open	0.82	35.1	26	Open	15.81	2.7	24.7429	Open	65.89	68.7	25
01/31/2017	Open	0.64	79.4	29	Open	10.49	2.08	29.3652	Open	57.63	154.0	29
02/24/2017	Open	0.74	5.1	30	Open	6.96	1.92	29.0933	Open	156.98	102.0	29
03/29/2017	Open	30.94	1.9	49	Closed	-	-	-	Open	151.53	92.5	46
06/27/2017	Open	1.22	-0.35	41	Closed	-	-	-	Open	88.7	98.4	41
07/26/2017	Closed	-	-	-	Closed	-	-	-	Open	157.18	59.9	35
08/29/2017	Closed	-	-	-	Closed	-	-	-	Open	153.84	33.4	31
09/26/2017	Closed	-	-	-	Closed	-	-	-	Open	-	110.0	31
10/26/2017	Closed	-	-	-	Closed	-	-	-	Open	70.22	43.3	36
11/29/2017	Closed	-	-	-	Closed	-	-	-	Open	70.21	37.3	36
12/26/2017	Closed	-	-	-	Closed	-	-	-	Open	70.22	61.6	36
01/31/2018	Closed	-	-	-	Closed	-	-	-	Open	89.09	32.0	42
02/27/2018	Closed	-	-	-	Closed	-	-	-	Open	81.09	34.0	41
03/28/2018	Closed	-	-	-	Closed	-	-	-	Open	-	39.0	41
01/14/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/04/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
04/08/2021	Open	12.5	12	90	Open	144.3	135	55	Open	149.7	30	60
04/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
07/29/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/27/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/31/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/12/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/22/2021	Open	6.1	-	-	Open	6.1	-	-	Open	6.1	-	-
11/19/2021	Open	-	-	23	Open	-	-	22.9	Open	-	-	23

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3I

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (SVE-13 Series)

Well ID	SVE13-A				SVE13-B				SVE13-C			
Screen Interval	7 to 17 feet bgs				30 to 50 feet bgs				64 to 84 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
01/17/2011	Open	-	28	70	Open	-	41	70.4221	Open	-	37	71
01/31/2011	Open	-	20	70	Open	-	36	70.28615	Open	-	27	70
03/17/2011	Open	-	28	66	Open	-	32	66.0717	Open	-	65	66
01/31/2012	Open	OVER	4	71	Open	OVER	19	78.17125	Open	OVER	31	78
02/24/2012	Open	OVER	3	80	Open	OVER	11	89.31915	Open	OVER	56	90
03/29/2012	Open	OVER	6	67	Open	OVER	16	65.7998	Open	OVER	6	67
01/31/2013	Open	WATER	5	74	Open	346.59	4	71.10185	Open	1970	4	71
02/28/2013	Open	OVER	8	70	Open	OVER	13	70.1502	Open	OVER	31	70
03/27/2013							Inaccessible					
01/29/2014	Open	16.4154	300	34	Open	48.178	223	34.2594	Open	29.43	514	34
02/06/2014	Open	16.9604	109	39	Closed	Closed	85.7	38.6098	Open	Closed	191	40
02/20/2014	Open	WATER	60.3	55	Open	WATER	67	55.05975	Open	WATER	203	62
03/05/2014	Open	-	-	-	Closed	Closed	Closed	Closed	Closed			
03/24/2014	Open	-	102	56	Open	55.3284	61	70.1502	Open	30.5418	195	57
04/27/2014	Open	9	143	52	Open	245.97	110	52.61265	Open	177	244	53
04/29/2014	Open	-	121	57	Open	-	80.65	57.099	Open	21	262	57
05/23/2014	Open	-	77.86	57	Open	-	39.37	56.69115	Open	21	154	57
06/27/2014	Open	-	60.72	58	Open	245.97	32.52	54.9238	Open	15	116	55
10/27/2014	Open	9	143	52	Open	245.97	110	52.61265	Open	16	244	53
11/24/2014	Open	-	284	41	Open	-	236	40.5131	Open	-	345	41
02/19/2016	Open	8	1.69	50	Open	277.56	5.32	49.89365	Open	13	5.32	50
04/27/2016	Open	-	52.55	32	Open	-	15.52	33.30775	Open	44.36	56.91	34
05/04/2016	Open	-	-	-	Open	-	-	-	Open	-	-	-
07/26/2016	Open	11.52	94.98	27	Open	23.6	5.17	27.32595	Open	13.47	1503	27
08/30/2016	Open	-	43.51	27	Open	-	2.6	25.96645	Open	-	315	26
09/27/2016	Open	9.17	63.04	24	Open	23.41	-1.52	23.6553	Open	13.61	556	24
10/25/2016	Open	11.49	57.19	33	Closed	-	-	-	Open	13.25	1015	32
11/30/2016	Open	9.04	28.79	34	Closed	-	-	-	Open	17.71	78	29
12/19/2016	Open	0.59	48.94	35	Closed	-	-	-	Open	41.34	631	34
01/31/2017	Open	1.19	52.55	40	Closed	-	-	-	Open	0.67	37.85	39
02/24/2017	Open	0.46	52.66	40	Closed	-	-	-	Open	0.52	37.09	39
03/29/2017	Open	33.15	50.28	55	Closed	-	-	-	Open	53.84	37.86	61
06/27/2017	Open	3.33	59.7	52	Closed	-	-	-	Open	0.74	38.63	51
07/26/2017	Open	2.25	41.82	44	Closed	-	-	-	Open	0.38	32.27	44
08/29/2017	Open	0.21	44.23	39	Closed	-	-	-	Open	1.12	20.06	39
09/26/2017	Open	10.1	73.75	74	Closed	-	-	-	Open	9.85	46.25	806
10/26/2017	Open	10.19	29.9	46	Open	-	-2.56	45.1354	Open	18.74	15.46	46
11/29/2017	Open	0.9	21.6	74	Open	-	0	46.35895	Open	0.7	11.1	46
12/26/2017	Open	0.2	22	48	Open	-	1.9	47.17465	Open	0.88	14.6	806
01/31/2018	Open	11.02	24.3	57	Closed	-	-	-	Open	4.26	11.8	47
02/27/2018	Open	-	18	57	Closed	-	-	-	Open	-	20	57
03/28/2018	Open	142	26	52	Closed	-	-	-	Open	68	19.6	52
01/14/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/04/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
04/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
07/29/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/27/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/31/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/12/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/22/2021	Open	7.0	-	-	Open	6.7	-	-	Open	6.5	-	-
11/19/2021	Open	21.6	80.1	31	Open	19.8	27.9	18.1	Open	19.8	85.1	31

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 3J

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Vapor Extraction Well Head Data (SVE-14 Series)

Well ID	SVE14-A				SVE14-B				SVE14-C			
Screen Interval	15 to 35 feet bgs				48 to 58 feet bgs				70 to 90 feet bgs			
Parameters	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum	Open / Closed	Flow Rate	Total VOC	Vacuum
Date		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*		*SCFM*	*(ppm)*	*(in.H_2O)*
01/17/2011	Open	-	1	70	Open	-	1071	70.694	Open	-	824	71
01/31/2011	Open	-	2	70	Open	-	684	70.694	Open	-	651	71
03/17/2011	Open	-	2	66	Open	-	425	66.47955	Open	-	349	67
01/31/2012	Closed	-	-	-	Closed	OVER	78	79.1229	Open	OVER	73	79
02/24/2012	Closed	-	-	-	Closed	113	12	91.0865	Open	31.5	17	91
03/29/2012	Closed	-	-	-	Closed	31.5	2	66.0717	Open	80.9	20	66
01/31/2013	Closed	-	-	-	Closed	1875	5	74.7725	Open	4938	18	75
02/28/2013	Closed	-	-	-	Closed	43	19	70.28615	Open	91	24	70
03/27/2013	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
01/29/2014	Closed	-	-	-	Closed	32.046	7	34.39535	Open	47.96	18	34
02/06/2014	Closed	-	-	-	Closed	Closed	5	38.3379	Open	26.16	15	38
02/20/2014	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/05/2014	Closed	-	-	-	Closed	78.48	6	76.4039	Open	67.58	16	76
03/24/2014	Closed	-	-	-	Closed	Closed	Closed	Closed	Open	68.2558	11	64
04/27/2014	Closed	-	-	-	Closed	38.11	0.05	89.727	Open	271.26	12.61	53
04/29/2014	Closed	-	-	-	Closed	-	-	-	Open	785.61	22.51	58
05/23/2014	Closed	-	-	-	Closed	-	-	-	Open	426.42	15.78	57
06/27/2014	Closed	-	-	-	Closed	-	-	-	Open	277.29	16.56	55
10/27/2014	Closed	-	-	-	Closed	-	0.05	89.727	Open	271.26	12.61	53
11/24/2014	Closed	-	-	-	Closed	-	14.04	76.53985	Open	-	40.85	41
02/19/2016	Closed	-	-	-	Closed	142.74	2.64	39.83335	Open	233.28	2.64	40
04/27/2016	Closed	-	-	-	Closed	-	2.07	33.30775	Open	93.48	15.19	33
05/04/2016	Closed	-	-	-	Closed	-	-	-	Open	-	-	-
07/26/2016	Closed	-	-	-	Closed	18.4	1.57	27.86975	Open	34.17	1.9	28
08/30/2016	Closed	-	-	-	Closed	-	1.69	26.51025	Open	-	2.5	27
09/27/2016	Closed	-	-	-	Closed	19.13	-1.98	24.1991	Open	36.49	0.58	25
10/25/2016	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
11/30/2016	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
12/19/2016	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
01/31/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/24/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/29/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/27/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
07/26/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
08/29/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
09/26/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
10/26/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
11/29/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
12/26/2017	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
01/31/2018	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/27/2018	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/28/2018	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
01/14/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
02/04/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
03/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
04/08/2021	Closed	144.3	5	51	Closed	148.3	7	56	Closed	149.7	15	54
04/29/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
05/27/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/03/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
06/10/2021	Closed	-	-	-	Closed	-	-	-	Closed	-	-	-
07/29/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/27/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
08/31/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/12/2021	Open	-	-	-	Open	-	-	-	Open	-	-	-
10/22/2021	Open	9.2	-	-	Open	7.5	-	-	Open	7.5	-	-
11/19/2021	Open	30.6	7.3	6	Open	25.1	5	11.5	Open	21.6	27.9	9

NOTES:

- "scfm" - standard cubic feet per minute
- "In. H_2O" - inches of water
- "ppmv" - parts per million volume

GENESIS ENGINEERING & REDEVELOPMENT

Table 4A

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

SCAQMD Compliance Monitoring - Carbon Vessel A

Sample ID	Date	Field Measurements	Analytical Data		
		Total VOC by PID	Total VOC	PCE	TCE
		ppmV	*ppmV*		
After Carbon Vessel A	1/14/21	60.1	-	-	-
	1/18/21	4.5	-	-	-
	2/11/21	0.4	-	-	-
	2/23/21	0	0.68	0.0117	0.0020
	3/2/21	0	-	-	-
	3/10/21	0	-	-	-
	3/29/21	-	6.53	0.1216	0.9583
	4/29/21	100	-	-	-
	5/3/21	-	7.07	<0.0012	2.5900
	5/13/21	0	-	-	-
	5/27/21	-	12.10	0.0873	5.7300
	6/3/21	0	-	-	-
	7/15/21	0	-	-	-
	7/20/21	-	-	-	-
	7/27/21	-	4.28	<0.0012	<0.0015
	8/9/21	0	-	-	-
	8/19/21	0	-	-	-
	8/27/21	18.5	5.11	0.4305	0.6178
	8/31/21	7.7	-	-	-
	9/7/21	0	-	-	-
	10/12/21	7.1	-	-	-
	10/29/21	0	-	-	-
	11/11/21	0	-	-	-
	11/19/21	26.6	4.45	0.0069	<0.0015
SCAQMD Permit Limits		**-**	**-**	**-**	**-**

NOTES:

- "PCE" - Tetrachloroethane
- "TCE" - Trichloroethene
- "-" - data unavailable

GENESIS ENGINEERING & REDEVELOPMENT

Table 4B

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

SCAQMD Compliance Monitoring - Carbon Vessel B

Sample Name	Date	Field Measurements	Percent Reduction	Analytical Data		
		Total VOC	Inlet - Vessel B	Total VOC	PCE	TCE
		ppmV	*%*	*ppmV*		
After Carbon Vessel B	1/14/21	41.6	73%	-	-	-
	1/18/21	7.1	98%	-	-	-
	2/11/21	0	100%	-	-	-
	2/23/21	0	**-155%**	0.70	0.0135	<0.0015
	3/2/21	0	100%	-	-	-
	3/10/21	-	-	-	-	-
	4/29/21	**115**	**-140%**	-	-	-
	5/3/21	-	**-113%**	5.08	<0.0012	**1.92**
	5/13/21	0	100%	-	-	-
	5/27/21	-	**-637%**	17.40	0.127	**7.31**
	6/3/21	0	100%	-	-	-
	7/15/21	0	100%	-	-	-
	7/20/21	-	-	-	-	-
	7/27/21	-	**-36%**	1.32	<0.0012	<0.0015
	8/9/21	0	100%	-	-	-
	8/19/21	0	100%	-	-	-
	8/27/21	20.5	84%	3.75	<0.0012	**1.13**
	8/31/21	7.3	**5%**	-	-	-
	9/7/21	0	100%	-	-	-
	10/12/21	2.4	**7%**	-	-	-
	10/29/21	0	100%	-	-	-
	11/11/21	0	100%	-	-	-
	11/19/21	5.8	17%	-	-	-
SCAQMD Permit Limits		**50**	**10%**	**50**	**0.20**	**0.20**

NOTES:

- "PCE" - Tetrachloroethane
- "TCE" - Trichloroethene
- "**Bold**" - Exceeds Permit Limits
- "-" - Data Unavailable

GENESIS ENGINEERING & REDEVELOPMENT

Table 4C

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

SCAQMD Compliance Monitoring - SVE System Effluent

Sample ID	Date	Field Measurements	Analytical Data		
		Total VOC by PID	Total VOC	PCE	TCE
		ppmV	*ppmV*		
Effluent (after Carbon Vessel C)	1/14/2021	44.3	-	-	-
	1/18/2021	15.5	-	-	-
	2/11/2021	0	-	-	-
	2/23/2021	0	0.27	<0.0012	<0.0015
	3/2/2021	0	-	-	-
	3/10/2021	0	-	-	-
	3/29/2021	-	33.20	<0.0012	<0.0015
	4/29/2021	**108**	-	-	-
	5/3/2021	-	5.22	<0.0012	0.0050
	5/13/2021	0	-	-	-
	5/27/2021	-	11.00	**0.0448**	**1.99**
	6/3/2021	0	-	-	-
	7/15/2021	0	-	-	-
	7/20/2021	0	-	-	-
	7/27/2021	-	1.15	0.0015	<0.0015
	8/9/2021	0	-	-	-
	8/19/2021	0	-	-	-
	8/27/2021	10	1.40	0.0012	<0.0015
	8/31/2021	0	-	-	-
	9/7/2021	0	-	-	-
	10/12/2021	0.8	-	-	-
	10/29/2021	0	-	-	-
	11/11/2021	0	-	-	-
	11/19/2021	16.4	4.45	0.0103	<0.0015
SCAQMD Permit Limits		**50**	**50**	**0.20**	**0.20**

NOTES:

- "PCE" - Tetrachloroethane
- "TCE" - Trichloroethene
- "**Bold**" - Exceeds Permit Limits
- "-" - Data Unavailable

GENESIS ENGINEERING & REDEVELOPMENT

Table 5

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

SVE System VOC Concentrations

Sample Name	Date Sampled	Concentration ($\mu g/m^3$)													
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	1,1,1-TCA	Freon 113	Total VOC
Influent	1/19/21	13.6	316	1,050	12.9	28.9	22.5	221	33.2	7.85	28.8	10.6	<20	2.51	2,612
	1/22/21	<1.36	<1.07	<0.793	<0.793	<0.793	1.97	154	55.7	9.71	33.5	11.5	<1.09	<1.53	744
	2/10/21	121	1,590	465	<8	<8	<8	18	50	<8.0	24	9	<20	<16	7,060
	2/23/21	<8.0	8	<8	<8	<8	<8	27	38	<8.0	18	<8	<8	<16	972
	3/29/21	793	2,360	5,090	15	50	<8	25	36	9	31	12	<8	<16	10,400
	5/3/21	490	3,470	1,220	11	1,020	<8	14	98	22	31	11	33	23	8,380
	5/27/21	399	2,540	585	<8	592	<8	30	79	<8	19	<8	12	<16	8,330
	7/27/21	118	1,210	493	<8	550	<8	<8	38	<8	<16	<9	<8	<16	3,410
	8/27/21	7,380	5,350	528	<8	8,290	<8	<8	12	<8	23	11	158	92	27,100
	10/12/21	2,120	2,240	280	<8	1,400	<8	<8	15	<8	<16	<8	24	<16	9,090
	11/4/21	318	141	12	<8	290	<8	<8	<8	<8	<16	<8	<8	<16	<2,000
	11/19/21	7,140	4,190	453	<8	9,230	<8	<8	21	10	36	<8	108	95	21,300
VE1-A	1/12/21	606	2,960	1,410	3.65	3.98	<0.511	7.22	39.2	4.55	17.9	5.90	<8	88	-
	3/15/21	1,230	6,630	1,600	<8	9	<8	24	23	<8	19	<8	<8	<16	-
VE1-B	1/12/21	659	5,320	2,350	6.02	1.15	<0.511	4.47	38.4	5.51	21.5	7.15	568	1,260	-
	3/15/21	4,580	55,300	31,300	193.00	<8	8	24	35	<8	25	10	568	<16	-
	7/27/21	653	9,240	959	<8	79.00	<8	<8	26	<8	<16	<8	32	<16	
VE1-C	1/12/21	726	2,930	1,200	3.17	1.06	<0.511	3.48	33.3	5.2	22	7.37	<8	38	-
	3/15/21	1,890	14,800	3,790	13.00	<8	39	23	25	<8	19	<8	<8	86	-
	7/27/21	919	11,700	672	<8	258	<8	<8	35	<8	<16	<8	11	47	13,700
VE2-A	3/15/21	22,000	64,500	22,700	401	66	97	25	67	<8	20	9	<20	1,550	-
VE2-B	3/15/21	14,800	36,600	8,160	87	13.00	<8	28	45	<8	17	<8	<8	40	
	7/27/21	23,100	296,000	57,700	461	85.00	<8	<8	108	<8	<16	<8	1,130	<16	379,000
VE2-C	3/15/21	9,490	16,500	2,610	17	<8	<8	25	31	<8	17	8	<8	<16	-

GENESIS ENGINEERING & REDEVELOPMENT

Table 5

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

SVE System VOC Concentrations

Sample Name	Date Sampled	Concentration ($\mu g/m^3$)													
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	1,1,1-TCA	Freon 113	Total VOC
VE3-A	1/12/21	1,580	18,100	666	<15.9	955	<10.2	<12.8	<37.7	5.38	21.1	7.63	<20	1,550	-
	3/15/21	3,310	4,420	482	<8	<8	<8	25	19	<8	<16	<8	<20	<16	-
VE3-B	1/12/21	51	1,080	33	<7.93	8.32	<5.11	<6.39	39.2	4.60	17.0	5.72	<8	40	-
	3/15/21	3,800	5,030	581	<8	8	<8	26	19	<8	<16	<8	<8	<16	-
VE3-C	1/12/21	369	4,850	191	<7.93	78.1	<5.11	<6.39	48.6	4.21	16.4	5.64	<20	4,060	-
	3/15/21	5,130	10,500	1,200	13	30	<8	45	24	<8	<16	<8	<20	<16	-
VE4-A	1/12/21	774	8,140	3,630	64.6	55.5	0.527	4.44	34.4	5.12	19.6	6.72	<8	<16	-
	3/15/21	2,100	3,170	606	<8	16	<8	21	18	<8	17	<8	<8	<16	-
VE4-B	1/12/21	674	3,180	1,120	9.83	9.71	<0.511	3.87	32.2	4.73	18.9	6.46	<20	252	-
	3/15/21	1,930	8,110	4,660	56	94	<8	23	15	<8	<16	<8	<20	<16	-
	7/27/21	674	2,730	205	<8	112	<8	<8	27	<8	<16	<8	<8	<16	3,750
VE4-C	1/12/21	539	1,590	634	3.33	5.83	<0.511	6.90	34.9	4.73	19.9	7.11	<8	59	-
	3/15/21	1,590	7,170	1,140	9	109	<8	20	13	<8	<16	<8	<8	<16	-
	7/27/21	759	10,000	1,440	<8	654	<8	<8	33	<8	<16	<8	<8	<16	12,900
VE5-A	3/15/21	1,320	2,780	329	<8	16	<8	21	11	<8	<16	<8	45	<16	-
VE5-B	3/15/21	1,300	2,130	298	<8	12	<8	25	13	<8	<16	<8	<8	<16	-
VE5-C	3/15/21	1,130	15,800	2,130	15	<8	<8	19	10	<8	<16	<8	<20	<16	-
VE6-A	1/12/21	441	2,120	464	2.87	18.8	<0.511	6.07	29.6	5.59	22.5	7.5	<8	<16	-
	3/15/21	1,000	2,350	181	<8	12	<8	17	10	<8	<16	<8	<8	<16	-
VE6-B	1/12/21	515	2,710	539	2.96	20.8	<0.511	6.80	27.3	7.67	32.0	10.7	<20	270	-
	3/15/21	5,550	29,400	664	<8	1,690	<8	24	10	<8	<16	<8	<20	42	-
	7/27/21	854	14,800	458	<8	280	<8	<8	40	10	19	<8	<8	<16	16,500

GENESIS ENGINEERING & REDEVELOPMENT

Table 5

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

SVE System VOC Concentrations

Sample Name	Date Sampled	Concentration (µg/m³)													
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	1,1,1-TCA	Freon 113	Total VOC
VE6-C	1/12/21	487	2,500	495	2.58	19.9	<0.511	6.90	25.2	7.85	32.8	11.0	<8	<16	-
	3/15/21	5,770	11,100	307	<8	3,340	<8	20	9	<8	<16	<8	<8	109	-
	7/27/21	985	7,990	149	<8	297	<8	<8	40	8	16	<8	<8	<16	9,480
VE7-A	3/15/21	2,350	3,410	79	<8	<8	<8	17	<8	<8	<16	<8	<20	<40	-
	7/27/21	917	5,190	299	<8	245	<8	<8	31	<8	<16	<8	<8	<16	6,700
VE7-B	3/15/21	2,350	3,410	79	<8	<8	<8	17	<8	<8	<16	<8	<20	<40	-
	7/27/21	943	4,250	211	<8	789	<8	<8	31	<8	<16	<8	<8	<16	6,280
VE8-A	8/9/21	Well Open-Not Sampled													
VE8-B	8/9/21	Well Open-Not Sampled													
VE8-C	8/9/21	Well Open-Not Sampled													
SV13-A	8/9/21	439	95	<8	<8	13	<8	<8	24	9	18	<8	<8	<16	4,330
SV13-B	8/9/21	53,600	10,200	893	13	6,550	<8	<8	19	<8	<16	<8	172	253	86,200
SV13-C	8/9/21	3,940	2,290	702	165	53	<8	<8	25	12	25	11	<8	<16	11,000
SV14-A	8/9/21	190	15	<8	<8	25	<8	<8	<16	16	32	14	<8	<16	5,680
SV14-B	8/9/21	736	57	<8	<8	15	<8	<8	<16	12	25	12	<8	<16	7,120
SV14-C	8/9/21	6,430	1,070	<8	<8	11,200	<8	<8	<16	13	27	12	8	36	23,500

NOTES:

- "PCE" - Tetrachloroethane
- "TCE" - Trichloroethene
- "cis-1, 2-DCE" - cis-1,2-Dichloroethene
- "trans-1, 2-DCE" trans- 1,1-Dichloroethene
- "1,1,1-TCA" - 1,1,1-Trichloroethane
- "-" - Data Unavailable
- "Underline" - Value Calculated
- "µg/m³" - micrograms per cubic meter
- "1,1-DCE" - 1,1-Dichloroethene

GENESIS ENGINEERING & REDEVELOPMENT

Table 6

Hi-Shear Corporation
SVE System Operation - Fourth Quarter 2021

Mass Extraction Calculations

Date Start	Date End	Hour Meter (Cumulative)	Δ Operating Hours	Elapsed Time (minutes)	Flow Rate (scfm)	Volume Air		PCE Conc. (µg/m³)	TCE Conc. (µg/m³)	cis-1,2-DCE Conc. (µg/m³)	1,1-DCE Conc. (µg/m³)	1,1,1-TCA Conc. (µg/m³)	Mass of PCE		Mass of TCE		Mass of cis-1,2-DCE		Mass of 1,1-DCE		Mass of 1,1,1-TCA		Total COPC Removed	
						Total (ft^3)	Total (m^3)						kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs
																							Total Mass Removed as of March 2018**	100,155
1/14/21	1/14/21	40,133	0	0	294	0	0	13.6	316	1,050	29	20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00
1/15/21	1/18/21	40,152	19	1,140	292	332,424	9,413	13.6	316	1,050	29	20	0.0001	0.0003	0.0030	0.0065	0.0099	0.0217	0.0003	0.0006	0.0002	0.0004	0.0134	0.03
1/18/21	1/19/21	40,174	22	1,320	291	384,120	10,877	13.6	316	1,050	29	20	0.0001	0.0003	0.0034	0.0076	0.0114	0.0251	0.0003	0.0007	0.0002	0.0005	0.0155	0.03
1/19/21	1/20/21	40,199	25	1,500	376	564,480	15,984	13.6	316	1,050	29	20	0.0002	0.0005	0.0051	0.0111	0.0168	0.0369	0.0005	0.0010	0.0003	0.0007	0.0228	0.05
1/20/21	1/21/21	40,223	24	1,440	361	519,322	14,706	13.6	316	1,050	29	20	0.0002	0.0004	0.0046	0.0102	0.0154	0.0340	0.0004	0.0009	0.0003	0.0006	0.0210	0.05
1/21/21	1/22/21	40,247	24	1,440	365	524,966	14,865	1.36	1.07	0.793	0.793	1.09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.00
1/22/21	1/28/21	40,380	133	8,009	382	3,059,362	86,631	1.36	1.07	0.793	0.793	1.09	0.0001	0.0003	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0004	0.00
1/28/21	2/4/21	40,598	218	13,063	393	5,133,838	145,374	1.36	1.07	0.793	0.793	1.09	0.0002	0.0004	0.0002	0.0003	0.0001	0.0003	0.0001	0.0003	0.0002	0.0003	0.0007	0.00
2/4/21	2/11/21	40,719	121	7,248	412	2,983,277	84,477	121	1,590	465	8	20	0.0102	0.0225	0.1343	0.2955	0.0393	0.0864	0.0007	0.0015	0.0017	0.0037	0.1862	0.41
2/11/21	2/23/21	41,003	284	17,040	369	6,295,598	178,271	121	1,590	465	8	20	0.0216	0.0475	0.2835	0.6236	0.0829	0.1824	0.0014	0.0031	0.0036	0.0078	0.3929	0.86
2/23/21	3/2/21	41,172	169	10,140	369	3,746,324	106,084	8	8	8	8	8	0.0008	0.0019	0.0008	0.0019	0.0008	0.0019	0.0008	0.0019	0.0008	0.0019	0.0042	0.01
3/2/21	3/10/21	41,366	194	11,640	369	4,300,514	121,777	8	8	8	8	8	0.0010	0.0021	0.0010	0.0021	0.0010	0.0021	0.0010	0.0021	0.0010	0.0021	0.0049	0.01
3/10/21	3/15/21	41,400	34	2,040	401	817,836	23,158	8	8	8	8	8	0.0002	0.0004	0.0002	0.0004	0.0002	0.0004	0.0002	0.0004	0.0002	0.0004	0.0009	0.00
SVE System Down-Knock Out System Repair																								
3/29/21	5/3/21	41,520	120	7,200	493	3,548,448	100481	739	2,360	5,090	50	8	0.0743	0.1634	0.2371	0.5217	0.5114	1.1252	0.0050	0.0111	0.0008	0.0018	0.8287	1.82
5/3/21	5/13/21	41,760	240	14,400	466	6,710,400	190017	490	3,470	1,220	1,020	33	0.0931	0.2048	0.6594	1.4506	0.2318	0.5100	0.1938	0.4264	0.0063	0.0138	1.1844	2.61
5/13/21	5/18/21	41,880	120	7,200	466	3,355,200	95009	490	3,470	1,220	1,020	33	0.0466	0.1024	0.3297	0.7253	0.1159	0.2550	0.0969	0.2132	0.0031	0.0069	0.5922	1.30
5/18/21	5/27/21	0-New Hour Meter	217	13,020	500	6,507,396	184269	490	3,470	1,220	1,020	33	0.0903	0.1986	0.6394	1.4067	0.2248	0.4946	0.1880	0.4135	0.0061	0.0134	1.1485	2.53
5/27/21	6/3/21	382	165	9,900	466	4,608,450	130497	399	2,540	585	592	12	0.0521	0.1145	0.3315	0.7292	0.0763	0.1679	0.0773	0.1700	0.0016	0.0034	0.5387	1.19
6/3/21	6/10/21	555	173	10,380	450	4,671,000	132268	399	2,540	585	592	12	0.0528	0.1161	0.3360	0.7391	0.0774	0.1702	0.0783	0.1723	0.0016	0.0035	0.5460	1.20
SVE System Shutdown to Replace Carbon																								
6/10/21	7/7/21	555	0	0	388	0	0	339	2,540	493	592	12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00
7/7/21	7/15/21	747	192	11,520	393	4,527,360	128200	339	2,540	493	592	12	0.0435	0.0956	0.3256	0.7164	0.0632	0.1390	0.0759	0.1670	0.0015	0.0034	0.5097	1.12
7/15/21	7/26/21	1,008	261	15,660	401	6,279,660	177820	339	2,540	493	592	12	0.0603	0.1326	0.4517	0.9937	0.0877	0.1929	0.1053	0.2316	0.0021	0.0047	0.7070	1.56
7/26/21	7/27/21	1,031	23	1,380	392	540,960	15318	339	2,540	493	592	12	0.0052	0.0114	0.0389	0.0856	0.0076	0.0166	0.0091	0.0200	0.0002	0.0004	0.0609	0.13
7/27/21	7/29/21	1,079	48	2,880	250	720,000	20388	118	1,210	493	1,550	8	0.0024	0.0053	0.0247	0.0543	0.0101	0.0221	0.0316	0.0695	0.0002	0.0004	0.0689	0.15
7/29/21	8/2/21	1,173	94	5,640	250	1,410,000	39927	118	1,210	493	1,550	8	0.0047	0.0104	0.0483	0.1063	0.0197	0.0433	0.0619	0.1362	0.0003	0.0007	0.1349	0.30
8/2/21	8/9/21	1,342	169	10,140	274	2,778,360	78674	118	1,210	493	1,550	8	0.0093	0.0204	0.0952	0.2094	0.0388	0.0853	0.1219	0.2683	0.0006	0.0014	0.2658	0.58
8/9/21	8/19/21	1,583	241	14,460	250	3,615,000	102365	118	1,210	493	1,550	8	0.0121	0.0266	0.1239	0.2725	0.0505	0.1110	0.1587	0.3491	0.0008	0.0018	0.3459	0.76
8/19/21	8/27/21	1,777	194	11,640	250	2,910,000	82402	118	1,210	493	1,550	8	0.0097	0.0214	0.0997	0.2194	0.0406	0.0894	0.1277	0.2810	0.0007	0.0015	0.2784	0.61
8/27/21	8/31/21	1,871	94	5,640	284	1,601,760	45357	7,380	5,350	528	8,290	158	0.3347	0.7364	0.2427	0.5338	0.0239	0.0527	0.3760	0.8272	0.0072	0.0158	0.9845	2.17
8/31/21	9/7/21	2,066	195	11,700	286	3,346,200	94754	7,380	5,350	528	8,290	158	0.6993	1.5384	0.5069	1.1153	0.0500	0.1101	0.7855	1.7281	0.0150	0.0329	2.0567	4.52
9/7/21	9/15/21	2,234	168	10,080	294	2,963,520	83917	7,380	5,350	528	8,290	158	0.6193	1.3625	0.4490	0.9877	0.0443	0.0975	0.6957	1.5305	0.0133	0.0292	1.8215	4.01
9/15/21	9/21/21	2,375	141	8,460	294	2,487,240	70431	7,380	5,350	528	8,290	158	0.5198	1.1435	0.3768	0.8290	0.0372	0.0818	0.5839	1.2845	0.0111	0.0245	1.5288	3.36
9/21/21	9/27/21	2,522	147	8,820	294	2,593,080	73428	7,380	5,350	528	8,290	158	0.5419	1.1922	0.3928	0.8642	0.0388	0.0853	0.6087	1.3392	0.0116	0.0255	1.5938	3.51
SVE System Shutdown-Maintenance and Replace Carbon																								
9/27/21	10/12/21	2522	0.1	6	248	1,488	42	7,380	5,350	528	8,290	158	0.0003	0.0007	0.0002	0.0005	0.0000	0.0000	0.0003	0.0008	0.0000	0.0000	0.0009	0.00
10/12/21	10/22/21	2,758	237	14,190	250	3,547,500	100454	2,120	2,240	280	1,400	24	0.2130	0.4685	0.2250	0.4950	0.0281	0.0619	0.1406	0.3094	0.0024	0.0053	0.6092	1.34
SVE System Shutdown-Maintenance																								
10/22/21	10/29/21	2,759	1	48	269	12,902	365	2,120	2,240	280	1,400	24	0.0008	0.0017	0.0008	0.0018	0.0001	0.0002	0.0005	0.0011	0.0000	0.0000	0.0022	0.00
10/29/21	11/4/21	2,898	139	8,340	286	2,381,904	67448	2,120	2,240	280	1,400	24	0.1430	0.3146	0.1511	0.3324	0.0189	0.0415	0.0944	0.2077	0.0016	0.0036	0.4090	0.90
11/4/21	11/11/21	3,064	166	9,960	302	3,011,904	85287	318	141	12	290	8	0.0271	0.0597	0.0120	0.0265	0.0010	0.0023	0.0247	0.0544	0.0007	0.0015	0.0656	0.14
11/11/21	11/19/21	3,258	194	11,658	284	3,313,204	93819	318	141	12	290	8	0.0298	0.0656	0.0132	0.0291	0.0011	0.0025	0.0272	0.0599	0.0008	0.0017	0.0721	0.16
11/19/21	12/3/21	3,569	311	18,641	284	5,297,715	150014	7,140	4,190	453	9,230	108	1.0711	2.3564	0.6286	1.3828	0.0680	0.1495	1.3846	3.0462	0.0162	0.0356	3.1685	6.97
SVE System Shutdown-Maintenance and Waste Disposal																								
			4,269		**Total**	**91,243,015**	**2,583,728**						**4.79**	**10.54**	**7.18**	**15.79**	**2.05**	**4.50**	**6.06**	**13.33**	**0.11**	**0.25**	**20.19**	**100,199**

NOTES:

- "PCE" - Tetrachloroethane
- "TCE" - Trichloroethene
- "cis-1, 2-DCE" - cis-1,2-Dichloroethene
- "trans-1, 2-DCE" trans- 1,1-Dichloroethene
- "1, 1-DCE" - 1,1-Dichloroethene
- "1,1,1-TCA" - 1,1,1-Trichloroethane
- "scfm" - standard cubic feet per minute
- "m³" - cubic meters
- "µg/m³" - micrograms per cubic meter
- "kg" - kilograms
- "lbs" - pounds
- "**" - As per April 30, 2018 Catalytic Oxidizer Soil Vapor Extraction System Remedial Progress Report (January 2018 – March 2018)

GENESIS ENGINEERING & REDEVELOPMENT

APPENDIX A

Laboratory Analytical Reports

JONES ENVIRONMENTAL, INC.

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805-399-0060

11007 FOREST PLACE
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WWW.JONESENV.COM

JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering and Redevelopment	**Report date:**	10/13/2021
Client Address:	20675 S. Western Ave. Ste. 104 Torrance, CA	**Jones Ref. No.:**	ST-18418
		Client Ref. No.:	237B-A-5
Attn:	John Duhl	**Date Sampled:**	10/12/2021
		Date Received:	10/12/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA	**Date Analyzed:**	10/12/2021
		Physical State:	Soil Gas

ANALYSES REQUESTED

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

Approval:

Colby Wakeman
QA/QC Manager

JONES ENVIRONMENTAL, INC.

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JONES ENVIRONMENTAL LABORATORY RESULTS

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Client Address:	20675 S. Western Ave. Ste. 104 Torrance, CA	**Jones Ref. No.:**	ST-18418
		Client Ref. No.:	237B-A-5
Attn:	John Duhl	**Date Sampled:**	10/12/2021
		Date Received:	10/12/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA	**Date Analyzed:**	10/12/2021
		Physical State:	Soil Gas

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

Sample ID: **Influent**

Jones ID: **ST-18410-01**

Analytes:		**Reporting Limit**	**Units**
Benzene	ND	8	µg/m3
Bromobenzene	ND	8	µg/m3
Bromodichloromethane	ND	8	µg/m3
Bromoform	ND	8	µg/m3
n-Butylbenzene	ND	12	µg/m3
sec-Butylbenzene	ND	12	µg/m3
tert-Butylbenzene	ND	12	µg/m3
Carbon tetrachloride	ND	8	µg/m3
Chlorobenzene	ND	8	µg/m3
Chloroform	ND	8	µg/m3
2-Chlorotoluene	ND	12	µg/m3
4-Chlorotoluene	ND	12	µg/m3
Dibromochloromethane	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	8	µg/m3
Dibromomethane	ND	8	µg/m3
1,2- Dichlorobenzene	ND	16	µg/m3
1,3-Dichlorobenzene	ND	16	µg/m3
1,4-Dichlorobenzene	ND	16	µg/m3
Dichlorodifluoromethane	ND	8	µg/m3
1,1-Dichloroethane	ND	8	µg/m3
1,2-Dichloroethane	ND	8	µg/m3
1,1-Dichloroethene	**1400**	8	µg/m3
cis-1,2-Dichloroethene	**280**	8	µg/m3
trans-1,2-Dichloroethene	ND	8	µg/m3
1,2-Dichloropropane	ND	8	µg/m3
1,3-Dichloropropane	ND	8	µg/m3
2,2-Dichloropropane	ND	16	µg/m3
1,1-Dichloropropene	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID: **Influent**

Jones ID: **ST-18410-01**

Analytes:		**Reporting Limit**	**Units**
cis-1,3-Dichloropropene	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	8	µg/m3
Ethylbenzene	ND	8	µg/m3
Freon 113	ND	16	µg/m3
Hexachlorobutadiene	ND	24	µg/m3
Isopropylbenzene	ND	8	µg/m3
4-Isopropyltoluene	ND	8	µg/m3
Methylene chloride	ND	8	µg/m3
Naphthalene	ND	40	µg/m3
n-Propylbenzene	ND	8	µg/m3
Styrene	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	16	µg/m3
Tetrachloroethene	**2120**	8	µg/m3
Toluene	**15**	8	µg/m3
1,2,3-Trichlorobenzene	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	16	µg/m3
1,1,1-Trichloroethane	**24**	8	µg/m3
1,1,2-Trichloroethane	ND	8	µg/m3
Trichloroethene	**2240**	8	µg/m3
Trichlorofluoromethane	ND	16	µg/m3
1,2,3-Trichloropropane	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	8	µg/m3
Vinyl chloride	ND	8	µg/m3
m,p-Xylene	ND	16	µg/m3
o-Xylene	ND	8	µg/m3
MTBE	ND	40	µg/m3
Ethyl-tert-butylether	ND	40	µg/m3
Di-isopropylether	ND	40	µg/m3
tert-amylmethylether	ND	40	µg/m3
tert-Butylalcohol	ND	400	µg/m3
TIC:			
Total VOCs as Hexane	**9090**	80	µg/m3

Dilution Factor 1

Surrogate Recoveries:		**QC Limits**
Dibromofluoromethane	136%	60 - 140
Toluene-d_8	87%	60 - 140
4-Bromofluorobenzene	89%	60 - 140

Batch ID: D1-101221-01

ND = Value below reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering and Redevelopment	**Report date:**	10/13/2021
Client Address:	20675 S. Western Ave. Ste. 104 Torrance, CA	**Jones Ref. No.:** **Client Ref. No.:**	ST-18418 237B-A-5
Attn:	John Duhl	**Date Sampled:** **Date Received:**	10/12/2021 10/12/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA	**Date Analyzed:** **Physical State:**	10/12/2021 Soil Gas

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

Sample ID: **Influent**

Jones ID: **ST-18410-01**

Analytes:		**Reporting Limit**	**Units**
Benzene	ND	0.0025	ppmV
Bromobenzene	ND	0.0012	ppmV
Bromodichloromethane	ND	0.0014	ppmV
Bromoform	ND	0.0008	ppmV
n-Butylbenzene	ND	0.0022	ppmV
sec-Butylbenzene	ND	0.0022	ppmV
tert-Butylbenzene	ND	0.0022	ppmV
Carbon tetrachloride	ND	0.0013	ppmV
Chlorobenzene	ND	0.0017	ppmV
Chloroform	ND	0.0016	ppmV
2-Chlorotoluene	ND	0.0023	ppmV
4-Chlorotoluene	ND	0.0023	ppmV
Dibromochloromethane	ND	0.0009	ppmV
1,2-Dibromo-3-chloropropane	ND	0.0008	ppmV
1,2-Dibromoethane (EDB)	ND	0.001	ppmV
Dibromomethane	ND	0.0011	ppmV
1,2- Dichlorobenzene	ND	0.0027	ppmV
1,3-Dichlorobenzene	ND	0.0027	ppmV
1,4-Dichlorobenzene	ND	0.0026	ppmV
Dichlorodifluoromethane	ND	0.0016	ppmV
1,1-Dichloroethane	ND	0.002	ppmV
1,2-Dichloroethane	ND	0.002	ppmV
1,1-Dichloroethene	**0.3531**	0.002	ppmV
cis-1,2-Dichloroethene	**0.0706**	0.002	ppmV
trans-1,2-Dichloroethene	ND	0.002	ppmV
1,2-Dichloropropane	ND	0.0017	ppmV
1,3-Dichloropropane	ND	0.0017	ppmV
2,2-Dichloropropane	ND	0.0035	ppmV
1,1-Dichloropropene	ND	0.0022	ppmV

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID: **Influent**

Jones ID: **ST-18410-01**

Analytes:		**Reporting Limit**	**Units**
cis-1,3-Dichloropropene	ND	0.0018	ppmV
trans-1,3-Dichloropropene	ND	0.0018	ppmV
Ethylbenzene	ND	0.0018	ppmV
Freon 113	ND	0.0021	ppmV
Hexachlorobutadiene	ND	0.0023	ppmV
Isopropylbenzene	ND	0.0016	ppmV
4-Isopropyltoluene	ND	0.0015	ppmV
Methylene chloride	ND	0.0023	ppmV
Naphthalene	ND	0.0076	ppmV
n-Propylbenzene	ND	0.0016	ppmV
Styrene	ND	0.0019	ppmV
1,1,1,2-Tetrachloroethane	ND	0.0012	ppmV
1,1,2,2-Tetrachloroethane	ND	0.0023	ppmV
Tetrachloroethene	**0.3125**	0.0012	ppmV
Toluene	**0.0040**	0.0021	ppmV
1,2,3-Trichlorobenzene	ND	0.0022	ppmV
1,2,4-Trichlorobenzene	ND	0.0022	ppmV
1,1,1-Trichloroethane	**0.0044**	0.0015	ppmV
1,1,2-Trichloroethane	ND	0.0015	ppmV
Trichloroethene	**0.4168**	0.0015	ppmV
Trichlorofluoromethane	ND	0.0028	ppmV
1,2,3-Trichloropropane	ND	0.0013	ppmV
1,2,4-Trimethylbenzene	ND	0.0016	ppmV
1,3,5-Trimethylbenzene	ND	0.0016	ppmV
Vinyl chloride	ND	0.0031	ppmV
m,p-Xylene	ND	0.0037	ppmV
o-Xylene	ND	0.0018	ppmV
MTBE	ND	0.0111	ppmV
Ethyl-tert-butylether	ND	0.0096	ppmV
Di-isopropylether	ND	0.0096	ppmV
tert-amylmethylether	ND	0.0096	ppmV
tert-Butylalcohol	ND	0.1318	ppmV
TIC:			
Total VOCs as Hexane	**2.58**	0.0227	ppmV

Dilution Factor 1

Surrogate Recoveries:		**QC Limits**
Dibromofluoromethane	136%	60 - 140
Toluene-d_8	87%	60 - 140
4-Bromofluorobenzene	89%	60 - 140

Batch ID: D1-101221-01

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Genesis Engineering and Redevelopment	**Report date:**	10/13/2021
Client Address:	20675 S. Western Ave. Ste. 104 Torrance, CA	**Jones Ref. No.:** **Client Ref. No.:**	ST-18418 237B-A-5
Attn:	John Duhl	**Date Sampled:** **Date Received:**	10/12/2021 10/12/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA	**Date Analyzed:** **Physical State:**	10/12/2021 Soil Gas

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

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**101221-D1MB1**	**101221-D1SB1**	**Reporting Limit**	**Units**
Analytes:				
Benzene	ND	ND	8	µg/m3
Bromobenzene	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	8	µg/m3
Bromoform	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	8	µg/m3
Chloroform	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	8	µg/m3
Dibromomethane	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	10	µg/m3

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

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

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**101221-D1MB1**	**101221-D1SB1**	**Reporting Limit**	**Units**
Analytes:				
cis-1,3-Dichloropropene	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	8	µg/m3
Ethylbenzene	ND	ND	8	µg/m3
Freon 113	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	8	µg/m3
Methylene chloride	ND	ND	8	µg/m3
Naphthalene	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	8	µg/m3
Styrene	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	8	µg/m3
Toluene	ND	ND	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	8	µg/m3
Trichloroethene	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	8	µg/m3
m,p-Xylene	ND	ND	16	µg/m3
o-Xylene	ND	ND	8	µg/m3
MTBE	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	400	µg/m3
TIC:				
Total VOCs as Hexane	ND	ND	80	µg/m3
Dilution Factor	1	1		
Surrogate Recoveries:			**QC Limits**	
Dibromofluoromethane	137%	137%	60 - 140	
Toluene-d_8	85%	89%	60 - 140	
4-Bromofluorobenzene	88%	89%	60 - 140	
Batch ID:	D1-101221-01	D1-101221-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client: Genesis Engineering and Redevelopment
Client Address: 20675 S. Western Ave. Ste. 104, Torrance, CA

Report date: 10/13/2021
Jones Ref. No.: ST-18418
Client Ref. No.: 237B-A-5

Attn: John Duhl

Date Sampled: 10/12/2021
Date Received: 10/12/2021
Date Analyzed: 10/12/2021
Physical State: Soil Gas

Project: HSC, 2600 Skypark Dr., Torrance, CA

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

Batch ID: D1-101221-01

Jones ID:	**101221-D1LCS1**	**101221-D1LCSD1**			**101221-D1CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	71%	74%	4.5%	60 - 140	109%	80 - 120
1,1-Dichloroethene	83%	84%	2.1%	60 - 140	83%	80 - 120
Cis-1,2-Dichloroethene	127%	128%	1.2%	70 - 130	112%	80 - 120
1,1,1-Trichloroethane	99%	101%	2.3%	70 - 130	98%	80 - 120
Benzene	105%	107%	1.6%	70 - 130	101%	80 - 120
Trichloroethene	109%	109%	0.3%	70 - 130	105%	80 - 120
Toluene	99%	101%	2.1%	70 - 130	93%	80 - 120
Tetrachloroethene	109%	109%	0.4%	70 - 130	106%	80 - 120
Chlorobenzene	105%	106%	0.9%	70 - 130	100%	80 - 120
Ethylbenzene	124%	121%	2.0%	70 - 130	113%	80 - 120
1,2,4 Trimethylbenzene	97%	103%	6.0%	70 - 130	97%	80 - 120
Gasoline Range Organics (C4-C12)	106%	108%	1.7%	70 - 130	101%	80 - 120
Surrogate Recovery:						
Dibromofluoromethane	137%	138%		60 - 140	130%	60 - 140
Toluene-d_8	87%	87%		60 - 140	90%	60 - 140
4-Bromofluorobenzene	89%	89%		60 - 140	93%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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Soil-Gas Chain-of-Custody Record

Client: GER
Client Address:
Project Name: HSC
Project Address: 2600 Skypark Dr, Torrance, CA
Report To: John Duhl
Email/Phone: jduhl@gercorp.com
Sampler: E. Macias

Date: 10-12-21
Client Project #: 237B-A-5

Turn Around Requested
- ☐ Immediate Attention-200%
- ☐ Rush 24 Hours-100%
- ☐ Rush 48 Hours-75%
- ☐ Rush 72 Hours-50%
- ☐ Rush 96 Hours-25%
- ☑ Normal - No Surcharge

Reporting Limits Requested
☐ 20 ug/m³ ☐ 8 ug/m³ ☐ __ ug/m³

Tedlar Hold-Time Requested:
- ☐ 6 hr (DTSC)
- ☑ 72 hr (EPA)
- ☐ 5 Day

Tracer
- ☐ n-pentane
- ☐ n-hexane
- ☐ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ _____

Units
☑ ug/m³ ☐ ug/L ☐ ppmV

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID _____

LAB USE ONLY
Jones Project #: ST-18418
Page 1 of 1
Sample Container: Tedlar
If different than above, see Notes.

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Jones ID (Lab Use Only)	Purge Rate (mL/min)	Pump ID	Magnehelic ID	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	8260B VOCs	Gasoline Range Organics	ASTM D1946, Methane/Fixed Gas/H_2S	Total VOCs as Hexane	Magnehelic Vacuum (In/H_2O)	Number of Containers	Notes & Special Instructions
Influent			10/12/21	1220	ST-18418-01				SG	X			X		1	

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name
	Erick Macias		K. Horkle
Company: GER	Date: 10-12-21 Time: 1350	Company: Jones Env.	Date: 10/12/2021 Time: 1350
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name
Company	Date Time	Company	Date Time

Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering & Redevelopment	**Report date:**	11/4/2021
Client Address:	20675 S Western Ave. Suite 104 Torrance, CA	**Jones Ref. No.:**	ST-18586
		Client Ref. No.:	237B-A-J
Attn:	John Duhl	**Date Sampled:**	11/3/2021
		Date Received:	11/4/2021
Project:	Hi-Shear	**Date Analyzed:**	11/4/2021
Project Address:		**Physical State:**	Soil Gas

ANALYSES REQUESTED

1. EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Approval: _____

Douglas A. Fowler, B.S.
Stationary Lab Chemist

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering & Redevelopment	**Report date:**	11/4/2021
Client Address:	20675 S Western Ave. Suite 104 Torrance, CA	**Jones Ref. No.:**	ST-18586
		Client Ref. No.:	237B-A-J
Attn:	John Duhl	**Date Sampled:**	11/3/2021
		Date Received:	11/4/2021
Project:	Hi-Shear	**Date Analyzed:**	11/4/2021
		Physical State:	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID: **Influent**

Jones ID: **ST-18586-01**

Analytes:		**Reporting Limit**	**Units**
Benzene	ND	8	µg/m3
Bromobenzene	ND	8	µg/m3
Bromodichloromethane	ND	8	µg/m3
Bromoform	ND	8	µg/m3
n-Butylbenzene	ND	12	µg/m3
sec-Butylbenzene	ND	12	µg/m3
tert-Butylbenzene	ND	12	µg/m3
Carbon tetrachloride	ND	8	µg/m3
Chlorobenzene	ND	8	µg/m3
Chloroform	ND	8	µg/m3
2-Chlorotoluene	ND	12	µg/m3
4-Chlorotoluene	ND	12	µg/m3
Dibromochloromethane	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	8	µg/m3
Dibromomethane	ND	8	µg/m3
1,2- Dichlorobenzene	ND	16	µg/m3
1,3-Dichlorobenzene	ND	16	µg/m3
1,4-Dichlorobenzene	ND	16	µg/m3
Dichlorodifluoromethane	ND	8	µg/m3
1,1-Dichloroethane	ND	8	µg/m3
1,2-Dichloroethane	ND	8	µg/m3
1,1-Dichloroethene	**290**	8	µg/m3
cis-1,2-Dichloroethene	**12**	8	µg/m3
trans-1,2-Dichloroethene	ND	8	µg/m3
1,2-Dichloropropane	ND	8	µg/m3
1,3-Dichloropropane	ND	8	µg/m3
2,2-Dichloropropane	ND	16	µg/m3
1,1-Dichloropropene	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID: **Influent**

Jones ID: **ST-18586-01**

		Reporting Limit	Units
Analytes:			
cis-1,3-Dichloropropene	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	8	µg/m3
Ethylbenzene	ND	8	µg/m3
Freon 113	ND	16	µg/m3
Hexachlorobutadiene	ND	24	µg/m3
Isopropylbenzene	ND	8	µg/m3
4-Isopropyltoluene	ND	8	µg/m3
Methylene chloride	ND	8	µg/m3
Naphthalene	ND	40	µg/m3
n-Propylbenzene	ND	8	µg/m3
Styrene	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	16	µg/m3
Tetrachloroethene	**318**	8	µg/m3
Toluene	ND	8	µg/m3
1,2,3-Trichlorobenzene	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	16	µg/m3
1,1,1-Trichloroethane	ND	8	µg/m3
1,1,2-Trichloroethane	ND	8	µg/m3
Trichloroethene	**141**	8	µg/m3
Trichlorofluoromethane	ND	16	µg/m3
1,2,3-Trichloropropane	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	8	µg/m3
Vinyl chloride	ND	8	µg/m3
m,p-Xylene	ND	16	µg/m3
o-Xylene	ND	8	µg/m3
MTBE	ND	40	µg/m3
Ethyl-tert-butylether	ND	40	µg/m3
Di-isopropylether	ND	40	µg/m3
tert-amylmethylether	ND	40	µg/m3
tert-Butylalcohol	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3
TIC:			
n-Pentane	ND	80	µg/m3
n-Hexane	ND	80	µg/m3
n-Heptane	ND	80	µg/m3
Dilution Factor	1		

Surrogate Recoveries:		**QC Limits**
Dibromofluoromethane	98%	60 - 140
Toluene-d_8	102%	60 - 140
4-Bromofluorobenzene	102%	60 - 140

Batch ID:	G1-110421-01	G1-110421-01	G1-110421-01	G1-110421-01	G1-110421-01

ND = Value below reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering & Redevelopment	**Report date:**	11/4/2021
Client Address:	20675 S Western Ave. Suite 104 Torrance, CA	**Jones Ref. No.:**	ST-18586
		Client Ref. No.:	237B-A-J
Attn:	John Duhl	**Date Sampled:**	11/3/2021
		Date Received:	11/4/2021
Project:	Hi-Shear	**Date Analyzed:**	11/4/2021
		Physical State:	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**Influent**		
Jones ID:	**ST-18586-01**	**Reporting Limit**	**Units**
Analytes:			
Benzene	ND	0.0025	ppmV
Bromobenzene	ND	0.0012	ppmV
Bromodichloromethane	ND	0.0014	ppmV
Bromoform	ND	0.0008	ppmV
n-Butylbenzene	ND	0.0022	ppmV
sec-Butylbenzene	ND	0.0022	ppmV
tert-Butylbenzene	ND	0.0022	ppmV
Carbon tetrachloride	ND	0.0013	ppmV
Chlorobenzene	ND	0.0017	ppmV
Chloroform	ND	0.0016	ppmV
2-Chlorotoluene	ND	0.0023	ppmV
4-Chlorotoluene	ND	0.0023	ppmV
Dibromochloromethane	ND	0.0009	ppmV
1,2-Dibromo-3-chloropropane	ND	0.0008	ppmV
1,2-Dibromoethane (EDB)	ND	0.001	ppmV
Dibromomethane	ND	0.0011	ppmV
1,2- Dichlorobenzene	ND	0.0027	ppmV
1,3-Dichlorobenzene	ND	0.0027	ppmV
1,4-Dichlorobenzene	ND	0.0026	ppmV
Dichlorodifluoromethane	ND	0.0016	ppmV
1,1-Dichloroethane	ND	0.002	ppmV
1,2-Dichloroethane	ND	0.002	ppmV
1,1-Dichloroethene	**0.0731**	0.002	ppmV
cis-1,2-Dichloroethene	**0.0030**	0.002	ppmV
trans-1,2-Dichloroethene	ND	0.002	ppmV
1,2-Dichloropropane	ND	0.0017	ppmV
1,3-Dichloropropane	ND	0.0017	ppmV
2,2-Dichloropropane	ND	0.0035	ppmV
1,1-Dichloropropene	ND	0.0022	ppmV

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID: **Influent**

Jones ID:	**ST-18586-01**	**Reporting Limit**	**Units**
Analytes:			
cis-1,3-Dichloropropene	ND	0.0018	ppmV
trans-1,3-Dichloropropene	ND	0.0018	ppmV
Ethylbenzene	ND	0.0018	ppmV
Freon 113	ND	0.0021	ppmV
Hexachlorobutadiene	ND	0.0023	ppmV
Isopropylbenzene	ND	0.0016	ppmV
4-Isopropyltoluene	ND	0.0015	ppmV
Methylene chloride	ND	0.0023	ppmV
Naphthalene	ND	0.0076	ppmV
n-Propylbenzene	ND	0.0016	ppmV
Styrene	ND	0.0019	ppmV
1,1,1,2-Tetrachloroethane	ND	0.0012	ppmV
1,1,2,2-Tetrachloroethane	ND	0.0023	ppmV
Tetrachloroethene	**0.0469**	0.0012	ppmV
Toluene	ND	0.0021	ppmV
1,2,3-Trichlorobenzene	ND	0.0022	ppmV
1,2,4-Trichlorobenzene	ND	0.0022	ppmV
1,1,1-Trichloroethane	ND	0.0015	ppmV
1,1,2-Trichloroethane	ND	0.0015	ppmV
Trichloroethene	**0.0262**	0.0015	ppmV
Trichlorofluoromethane	ND	0.0028	ppmV
1,2,3-Trichloropropane	ND	0.0013	ppmV
1,2,4-Trimethylbenzene	ND	0.0016	ppmV
1,3,5-Trimethylbenzene	ND	0.0016	ppmV
Vinyl chloride	ND	0.0031	ppmV
m,p-Xylene	ND	0.0037	ppmV
o-Xylene	ND	0.0018	ppmV
MTBE	ND	0.0111	ppmV
Ethyl-tert-butylether	ND	0.0096	ppmV
Di-isopropylether	ND	0.0096	ppmV
tert-amylmethylether	ND	0.0096	ppmV
tert-Butylalcohol	ND	0.1318	ppmV
Total VOCs as Hexane	ND	0.0227	ppmV
TIC:			
n-Pentane	ND	0.0271	ppmV
n-Hexane	ND	0.0227	ppmV
n-Heptane	ND	0.0191	ppmV
Dilution Factor	1		

Surrogate Recoveries:		**QC Limits**
Dibromofluoromethane	98%	60 - 140
Toluene-d_8	102%	60 - 140
4-Bromofluorobenzene	102%	60 - 140

Batch ID:	G1-110421-01	G1-110421-01	G1-110421-01	G1-110421-01	G1-110421-01

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Genesis Engineering & Redevelopment	**Report date:**	11/4/2021
Client Address:	20675 S Western Ave. Suite 104 Torrance, CA	**Jones Ref. No.:** **Client Ref. No.:**	ST-18586 237B-A-J
Attn:	John Duhl	**Date Sampled:** **Date Received:**	11/3/2021 11/4/2021
Project:	Hi-Shear	**Date Analyzed:** **Physical State:**	11/4/2021 Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**110421-G1MB1**	**110421-G1SB1**	**Reporting Limit**	**Units**
Analytes:				
Benzene	ND	ND	8	µg/m3
Bromobenzene	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	8	µg/m3
Bromoform	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	8	µg/m3
Chloroform	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	8	µg/m3
Dibromomethane	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	10	µg/m3

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**110421-G1MB1**	**110421-G1SB1**	**Reporting Limit**	**Units**
Analytes:				
cis-1,3-Dichloropropene	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	8	µg/m3
Ethylbenzene	ND	ND	8	µg/m3
Freon 113	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	8	µg/m3
Methylene chloride	ND	ND	8	µg/m3
Naphthalene	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	8	µg/m3
Styrene	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	8	µg/m3
Toluene	ND	ND	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	8	µg/m3
Trichloroethene	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	8	µg/m3
m,p-Xylene	ND	ND	16	µg/m3
o-Xylene	ND	ND	8	µg/m3
MTBE	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	400	µg/m3
TIC:				
n-Pentane	ND	ND	80	µg/m3
n-Hexane	ND	ND	80	µg/m3
n-Heptane	ND	ND	80	µg/m3
Dilution Factor	1	1		
Surrogate Recoveries:			**QC Limits**	
Dibromofluoromethane	96%	93%	60 - 140	
Toluene-d_8	104%	103%	60 - 140	
4-Bromofluorobenzene	102%	102%	60 - 140	
Batch ID:	G1-110421-01	G1-110421-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client: Genesis Engineering & Redevelopment
Client Address: 20675 S Western Ave. Suite 104
Torrance, CA

Attn: John Duhl

Project: Hi-Shear

Report date: 11/4/2021
Jones Ref. No.: ST-18586
Client Ref. No.: 237B-A-J

Date Sampled: 11/3/2021
Date Received: 11/4/2021
Date Analyzed: 11/4/2021
Physical State: Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Batch ID: G1-110421-01

Jones ID:	**110421-G1LCS1**	**110421-G1LCSD1**			**110421-G1CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	62%	61%	1.1%	60 - 140	80%	80 - 120
1,1-Dichloroethene	109%	102%	6.2%	60 - 140	106%	80 - 120
Cis-1,2-Dichloroethene	107%	112%	4.2%	70 - 130	109%	80 - 120
1,1,1-Trichloroethane	93%	95%	1.6%	70 - 130	104%	80 - 120
Benzene	106%	103%	2.2%	70 - 130	107%	80 - 120
Trichloroethene	104%	110%	5.5%	70 - 130	110%	80 - 120
Toluene	106%	105%	0.5%	70 - 130	105%	80 - 120
Tetrachloroethene	104%	105%	1.5%	70 - 130	108%	80 - 120
Chlorobenzene	114%	112%	1.7%	70 - 130	115%	80 - 120
Ethylbenzene	117%	108%	8.2%	70 - 130	121%[1]	80 - 120
1,2,4 Trimethylbenzene	119%	107%	11.2%	70 - 130	123%[1]	80 - 120
Gasoline Range Organics (C4-C12)	112%	106%	5.7%	70 - 130	106%	80 - 120
Surrogate Recovery:						
Dibromofluoromethane	95%	96%		60 - 140	94%	60 - 140
Toluene-d_8	104%	102%		60 - 140	103%	60 - 140
4-Bromofluorobenzene	102%	102%		60 - 140	103%	60 - 140

[1]Recovery outside of acceptable limits. LCS/LCSD recoveries and RPD were within QC limits, therefore data was accepted.

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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Soil-Gas Chain-of-Custody Record

Client: Genesis Engineering + Redevelopment
Client Address: 20675 S. Western Ave, Torrance CA
Project Name: Hi-Shear
Project Address:
Report To: John Duhl
Email/Phone: jduhl@gercorp.com
Sampler: E. Chavez/C. Mayhew

Date: 11/3/21
Client Project #: 2578-A-J

Tedlar Hold-Time Requested:
- ☐ 6 hr (DTSC)
- ☒ 2 hr (EPA)
- ☐ 5 Day

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

Turn Around Requested
- ☐ Immediate Attention-200%
- ☐ Rush 24 Hours-100%
- ☐ Rush 48 Hours-75%
- ☐ Rush 72 Hours-50%
- ☐ Rush 96 Hours-25%
- ☒ Normal - No Surcharge

Tracer
- ☐ n-pentane
- ☐ n-hexane
- ☐ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ ____

Reporting Limits Requested
☐ 20 ug/m³ ☐ 8 ug/m³ ☐ ___ ug/m³

Units
☒ ug/m³ ☐ ug/L ☒ ppmV

LAB USE ONLY
Jones Project #: ST-18586
Page 1 of 1
Sample Container:
If different than above, see Notes.

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Jones ID (Lab Use Only)	Purge Rate (mL/min)	Pump ID	Magnehelic ID	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	8260B	Gasoline Range Organics	ASTM D1946, Methane/Fixed Gas/H_2S	Total VOCs as Hexane	Magnehelic Vacuum (in/H_2O)	Number of Containers	Notes & Special Instructions
INFLUENT			11/3/21	0916	ST-18586-01				SG	X			X			

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name
[signature]	John Duhl	[signature]	J Watkins
Company	Date / Time	Company	Date / Time
	11/4/21 10:45	JEL	11/4 1040
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name
[signature]	J Watkins	V Probert	Victoria Probert
Company	Date / Time	Company	Date / Time
JEL	11/4 1125	Jones	11/4 1137

Total Number of Containers: 1

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering + Redevelopment	**Report date:**	11/19/2021
Client Address:	20675 S Western Ave Suite 104 Torrance, CA 90501	**Jones Ref. No.:**	ST-18680
		Client Ref. No.:	237B-A-5
Attn:	Chris Hammond	**Date Sampled:**	11/19/2021
		Date Received:	11/19/2021
Project:	HSC	**Date Analyzed:**	11/19/2021
Project Address:	2600 Skypark Dr. Torrance, CA 90501	**Physical State:**	Soil Gas

ANALYSES REQUESTED

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

Approval: Juan Camacho

Juan Camacho, M.S.
Stationary Lab Technical Manager

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering + Redevelopment	**Report date:**	11/19/2021
Client Address:	20675 S Western Ave Suite 104 Torrance, CA 90501	**Jones Ref. No.:** **Client Ref. No.:**	ST-18680 237B-A-5
Attn:	Chris Hammond	**Date Sampled:**	11/19/2021
		Date Received:	11/19/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA 90501	**Date Analyzed:** **Physical State:**	11/19/2021 Soil Gas

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

Sample ID:	**INFLUENT**	**EFFLUENT**	**VESSEL A**		
Jones ID:	**ST-18680-01**	**ST-18680-02**	**ST-18680-03**	**Reporting Limit**	**Units**
Analytes:					
Benzene	ND	ND	ND	8	µg/m3
Bromobenzene	ND	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	ND	8	µg/m3
Bromoform	ND	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	ND	8	µg/m3
Chloroform	**9**	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	8	µg/m3
Dibromomethane	ND	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	**9**	8	µg/m3
1,2-Dichloroethane	ND	ND	ND	8	µg/m3
1,1-Dichloroethene	**9230**	**1260**	**13000**	8	µg/m3
cis-1,2-Dichloroethene	**453**	ND	**197**	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID:	**INFLUENT**	**EFFLUENT**	**VESSEL A**		
Jones ID:	**ST-18680-01**	**ST-18680-02**	**ST-18680-03**	**Reporting Limit**	**Units**
Analytes:					
cis-1,3-Dichloropropene	ND	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	8	µg/m3
Ethylbenzene	**10**	ND	ND	8	µg/m3
Freon 113	**95**	ND	**145**	16	µg/m3
Hexachlorobutadiene	ND	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	ND	8	µg/m3
Methylene chloride	ND	ND	ND	8	µg/m3
Naphthalene	ND	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	ND	8	µg/m3
Styrene	ND	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	16	µg/m3
Tetrachloroethene	**7140**	**70**	**47**	8	µg/m3
Toluene	**21**	**26**	**23**	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	16	µg/m3
1,1,1-Trichloroethane	**108**	ND	**17**	8	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	8	µg/m3
Trichloroethene	**4190**	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	**8**	ND	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	ND	8	µg/m3
m,p-Xylene	**36**	**21**	**20**	16	µg/m3
o-Xylene	ND	ND	ND	8	µg/m3
MTBE	ND	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	ND	400	µg/m3
Total VOCs as Hexane	**21300**	**1370**	**13500**	80	µg/m3
TIC:					
n-Pentane	ND	ND	ND	80	µg/m3
n-Hexane	ND	ND	ND	80	µg/m3
n-Heptane	ND	ND	ND	80	µg/m3
Dilution Factor	1	1	1		
Surrogate Recoveries:				**QC Limits**	
Dibromofluoromethane	85%	86%	86%	60 - 140	
Toluene-d_8	99%	100%	98%	60 - 140	
4-Bromofluorobenzene	94%	93%	93%	60 - 140	
Batch ID:	E3-111921-01	E3-111921-01	E3-111921-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Genesis Engineering + Redevelopment	**Report date:**	11/19/2021
Client Address:	20675 S Western Ave Suite 104 Torrance, CA 90501	**Jones Ref. No.:** **Client Ref. No.:**	ST-18680 237B-A-5
Attn:	Chris Hammond	**Date Sampled:** **Date Received:**	11/19/2021 11/19/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA 90501	**Date Analyzed:** **Physical State:**	11/19/2021 Soil Gas

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

Sample ID:	**INFLUENT**	**EFFLUENT**	**VESSEL A**		
Jones ID:	**ST-18680-01**	**ST-18680-02**	**ST-18680-03**	**Reporting Limit**	**Units**
Analytes:					
Benzene	ND	ND	ND	0.0025	ppmV
Bromobenzene	ND	ND	ND	0.0012	ppmV
Bromodichloromethane	ND	ND	ND	0.0014	ppmV
Bromoform	ND	ND	ND	0.0008	ppmV
n-Butylbenzene	ND	ND	ND	0.0022	ppmV
sec-Butylbenzene	ND	ND	ND	0.0022	ppmV
tert-Butylbenzene	ND	ND	ND	0.0022	ppmV
Carbon tetrachloride	ND	ND	ND	0.0013	ppmV
Chlorobenzene	ND	ND	ND	0.0017	ppmV
Chloroform	**0.0018**	ND	ND	0.0016	ppmV
2-Chlorotoluene	ND	ND	ND	0.0023	ppmV
4-Chlorotoluene	ND	ND	ND	0.0023	ppmV
Dibromochloromethane	ND	ND	ND	0.0009	ppmV
1,2-Dibromo-3-chloropropane	ND	ND	ND	0.0008	ppmV
1,2-Dibromoethane (EDB)	ND	ND	ND	0.0010	ppmV
Dibromomethane	ND	ND	ND	0.0011	ppmV
1,2- Dichlorobenzene	ND	ND	ND	0.0027	ppmV
1,3-Dichlorobenzene	ND	ND	ND	0.0027	ppmV
1,4-Dichlorobenzene	ND	ND	ND	0.0026	ppmV
Dichlorodifluoromethane	ND	ND	ND	0.0016	ppmV
1,1-Dichloroethane	ND	ND	**0.0022**	0.0020	ppmV
1,2-Dichloroethane	ND	ND	ND	0.0020	ppmV
1,1-Dichloroethene	**2.33**	**0.318**	**3.28**	0.0020	ppmV
cis-1,2-Dichloroethene	**0.114**	ND	**0.0497**	0.0020	ppmV
trans-1,2-Dichloroethene	ND	ND	ND	0.0020	ppmV
1,2-Dichloropropane	ND	ND	ND	0.0017	ppmV
1,3-Dichloropropane	ND	ND	ND	0.0017	ppmV
2,2-Dichloropropane	ND	ND	ND	0.0035	ppmV
1,1-Dichloropropene	ND	ND	ND	0.0022	ppmV

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID:	**INFLUENT**	**EFFLUENT**	**VESSEL A**		
Jones ID:	**ST-18680-01**	**ST-18680-02**	**ST-18680-03**	**Reporting Limit**	**Units**
Analytes:					
cis-1,3-Dichloropropene	ND	ND	ND	0.0018	ppmV
trans-1,3-Dichloropropene	ND	ND	ND	0.0018	ppmV
Ethylbenzene	**0.0023**	ND	ND	0.0018	ppmV
Freon 113	**0.0124**	ND	**0.0189**	0.0021	ppmV
Hexachlorobutadiene	ND	ND	ND	0.0023	ppmV
Isopropylbenzene	ND	ND	ND	0.0016	ppmV
4-Isopropyltoluene	ND	ND	ND	0.0015	ppmV
Methylene chloride	ND	ND	ND	0.0023	ppmV
Naphthalene	ND	ND	ND	0.0076	ppmV
n-Propylbenzene	ND	ND	ND	0.0016	ppmV
Styrene	ND	ND	ND	0.0019	ppmV
1,1,1,2-Tetrachloroethane	ND	ND	ND	0.0012	ppmV
1,1,2,2-Tetrachloroethane	ND	ND	ND	0.0023	ppmV
Tetrachloroethene	**1.05**	**0.0103**	**0.0069**	0.0012	ppmV
Toluene	**0.0056**	**0.0069**	**0.0061**	0.0021	ppmV
1,2,3-Trichlorobenzene	ND	ND	ND	0.0022	ppmV
1,2,4-Trichlorobenzene	ND	ND	ND	0.0022	ppmV
1,1,1-Trichloroethane	**0.0198**	ND	**0.0031**	0.0015	ppmV
1,1,2-Trichloroethane	ND	ND	ND	0.0015	ppmV
Trichloroethene	**0.780**	ND	ND	0.0015	ppmV
Trichlorofluoromethane	ND	ND	ND	0.0028	ppmV
1,2,3-Trichloropropane	ND	ND	ND	0.0013	ppmV
1,2,4-Trimethylbenzene	**0.0016**	ND	ND	0.0016	ppmV
1,3,5-Trimethylbenzene	ND	ND	ND	0.0016	ppmV
Vinyl chloride	ND	ND	ND	0.0031	ppmV
m,p-Xylene	**0.0083**	**0.0048**	**0.0046**	0.0037	ppmV
o-Xylene	ND	ND	ND	0.0018	ppmV
MTBE	ND	ND	ND	0.0111	ppmV
Ethyl-tert-butylether	ND	ND	ND	0.0096	ppmV
Di-isopropylether	ND	ND	ND	0.0096	ppmV
tert-amylmethylether	ND	ND	ND	0.0096	ppmV
tert-Butylalcohol	ND	ND	ND	0.1318	ppmV
Total VOCs as Hexane	**7.02**	**0.451**	**4.45**	0.567	ppmV
TIC:					
n-Pentane	ND	ND	ND	0.0271	ppmV
n-Hexane	ND	ND	ND	0.0227	ppmV
n-Heptane	ND	ND	ND	0.0191	ppmV
Dilution Factor	1	1	1		
Surrogate Recoveries:				**QC Limits**	
Dibromofluoromethane	85%	86%	86%	60 - 140	
Toluene-d_8	99%	100%	98%	60 - 140	
4-Bromofluorobenzene	94%	93%	93%	60 - 140	
Batch ID:	E3-111921-01	E3-111921-01	E3-111921-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Genesis Engineering + Redevelopment	**Report date:**	11/19/2021
Client Address:	20675 S Western Ave Suite 104 Torrance, CA 90501	**Jones Ref. No.:** **Client Ref. No.:**	ST-18680 237B-A-5
Attn:	Chris Hammond	**Date Sampled:** **Date Received:**	11/19/2021 11/19/2021
Project:	HSC 2600 Skypark Dr. Torrance, CA 90501	**Date Analyzed:** **Physical State:**	11/19/2021 Soil Gas

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

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**111921-E3MB1**	**111921-E3SB1**	**Reporting Limit**	**Units**
Analytes:				
Benzene	ND	ND	8	µg/m3
Bromobenzene	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	8	µg/m3
Bromoform	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	8	µg/m3
Chloroform	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	8	µg/m3
Dibromomethane	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	10	µg/m3

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

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

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**111921-E3MB1**	**111921-E3SB1**	**Reporting Limit**	**Units**
Analytes:				
cis-1,3-Dichloropropene	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	8	µg/m3
Ethylbenzene	ND	ND	8	µg/m3
Freon 113	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	8	µg/m3
Methylene chloride	ND	ND	8	µg/m3
Naphthalene	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	8	µg/m3
Styrene	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	8	µg/m3
Toluene	ND	ND	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	8	µg/m3
Trichloroethene	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	8	µg/m3
m,p-Xylene	ND	ND	16	µg/m3
o-Xylene	ND	ND	8	µg/m3
MTBE	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	400	µg/m3
TIC:				
n-Pentane	ND	ND	80	
n-Hexane	ND	ND	80	µg/m3
n-Heptane	ND	ND	80	µg/m3
Dilution Factor	1	1		
Surrogate Recoveries:			**QC Limits**	
Dibromofluoromethane	86%	86%	60 - 140	
Toluene-d_8	100%	98%	60 - 140	
4-Bromofluorobenzene	96%	95%	60 - 140	
Batch ID:	E3-111921-01	E3-111921-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client: Genesis Engineering + Redevelopment
Client Address: 20675 S Western Ave Suite 104
Torrance, CA 90501

Report date: 11/19/2021
Jones Ref. No.: ST-18680
Client Ref. No.: 237B-A-5

Attn: Chris Hammond

Date Sampled: 11/19/2021
Date Received: 11/19/2021
Date Analyzed: 11/19/2021
Physical State: Soil Gas

Project: HSC
2600 Skypark Dr.
Torrance, CA 90501

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

Batch ID: E3-111921-01

Jones ID:	**111921-E3LCS1**	**111921-E3LCSD1**			**111921-E3CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	93%	87%	7.4%	60 - 140	102%	80 - 120
1,1-Dichloroethene	128%	126%	2.2%	60 - 140	112%	80 - 120
Cis-1,2-Dichloroethene	113%	109%	3.1%	70 - 130	107%	80 - 120
1,1,1-Trichloroethane	88%	88%	0.2%	70 - 130	90%	80 - 120
Benzene	129%	127%	1.2%	70 - 130	119%	80 - 120
Trichloroethene	137%	133%	2.4%	70 - 130	112%	80 - 120
Toluene	130%	126%	2.7%	70 - 130	120%	80 - 120
Tetrachloroethene	138%	137%	0.5%	70 - 130	116%	80 - 120
Chlorobenzene	126%	124%	1.4%	70 - 130	114%	80 - 120
Ethylbenzene	133%	126%	5.3%	70 - 130	118%	80 - 120
1,2,4 Trimethylbenzene	115%	111%	3.7%	70 - 130	105%	80 - 120
Total VOCs as Hexane	127%	123%	3.2%	70 - 130	115%	80 - 120
Surrogate Recovery:						
Dibromofluoromethane	85%	85%		60 - 140	87%	60 - 140
Toluene-d_8	99%	100%		60 - 140	101%	60 - 140
4-Bromofluorobenzene	99%	96%		60 - 140	99%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

JONES ENVIRONMENTAL, INC.

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Soil-Gas Chain-of-Custody Record

Client: Genesis Engineering + Redevelopment
Client Address: 20675 S Western Ave, Ste 104, Torrance, CA 90501
Project Name: HSC
Project Address: 2600 Skypark Dr, Torrance, CA
Report To: Chris Hammond
Email/Phone: chammond@gercorp.com
Sampler: E Macias

Date: 11-19-2
Client Project #: 237B-A-5

Tedlar Hold-Time Requested:
- ☐ 6 hr (DTSC)
- ☑ 72 hr (EPA)
- ☐ 5 Day

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID _____

Turn Around Requested
- ☐ Immediate Attention-200%
- ☐ Rush 24 Hours-100%
- ☐ Rush 48 Hours-75%
- ☐ Rush 72 Hours-50%
- ☐ Rush 96 Hours-25%
- ☑ Normal - No Surcharge

Tracer
- ☐ n-pentane
- ☐ n-hexane
- ☐ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ _____

Reporting Limits Requested
☐ 20 ug/m³ ☐ 8 ug/m³ ☐ __ ug/m³

Units
☐ ug/m³ ☐ ug/L ☑ ppmV

LAB USE ONLY
Jones Project #: ST-18680
Page ____ of ____
Sample Container: ____
If different than above, see Notes.

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Jones ID (Lab Use Only)	Purge Rate (mL/min)	Pump ID	Magnehelic ID	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	8260B	Gasoline Range Organics	ASTM D1946, Methane/Fixed Gas/H_2S	Total VOC as Hexane	Magnehelic Vacuum (In/H_2O)	Number of Containers	Notes & Special Instructions
Influent			11-19-21	1015	ST-18680-01				SG	X			X		1	
Effluent			↓	1000	ST-18680-02				↓	↓			↓		↓	
Vessel A			↓	0950	ST-18680-03				↓	↓			↓		↓	

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name
[signature]	C. Macias		
Company	**Date / Time**	**Company**	**Date / Time**
GE+R	11.19.21 1307		
Relinquished By (Signature)	**Printed Name**	**Received By Laboratory (Signature)**	**Printed Name**
		[signature]	Doug Fowler
Company	**Date / Time**	**Company**	**Date / Time**
		JEL	11/19/21 1307

3 Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.