Engineering Evaluation
WellTest, Inc.
Portable Sources, 1615 Ocean Avenue, San Francisco, CA 95112
Plant No. 19967
Application No. 708526
Project Description: Soil Vapor Extraction System

Background

WellTest, Inc. has applied for a modification to an existing permit for a portable soil vapor extraction (SVE) unit to modify the equipment and operate within 1,000 feet of a K-12 school:

S-7 Portable Soil Vapor Extraction System
Make: Rietschle, Model: VLR 400, Max. 275 cfm

Abated By

A-7 Granular Activated Carbon Vessels
Two (2) 300-lb. GAC Vessels in Series,
Total 600 lbs.

S-7 Portable Soil Vapor Extraction (SVE) is already permitted at the Air District. Please refer to Application 30992.

The proposed portable soil vapor extraction (SVE) operation will take place in the parking lot behind 1611 and 1615 Ocean Avenue, San Francisco, CA 95112. The applicant also listed 1271 – 1275 Capitol Avenue, San Francisco as their operation location, because 1611– 1615 Ocean Avenue and 1271 – 1275 Capitol Avenue enclose the same parking lot.

This site is currently occupied by businesses and residences. Previous soil characterization tests on site showed high levels of perchloroethylene (PCE). The facility is proposing a soil vapor extraction system in order to improve soil gas conditions and reduce potential vapor intrusion risk for their tenants.

The portable SVE system at this site will consist of three blowers with the maximum flow rate of 275 cfm. A flow meter will be installed to ensure that the flow rate is not exceeded. The blower will be abated by two (2) 300 lbs. granular activated carbon (GAC) vessels (total 600 lbs.) in series.

As mentioned above, the main compound found in the soil was PCE. Emissions calculations were based on laboratory results from samples taken at the site.

This project is not expected to trigger Health Risk Assessment per Regulation 2-5, Table 1.

Procedures are outlined in the conditions found below. The applicant will be required to provide written notification at the start of the operation. The applicant will be required to stay below the

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acute and chronic trigger levels of Regulation 2-5. Effluent volatile organic compound (VOC) concentrations will be monitored with a flame-ionization detector (FID).

There is a K-12 school within 1,000 feet of the proposed SVE system. Therefore, school public notification is required per Regulation 2-1-412.

This facility is not located within the boundary of an overburdened community. Therefore, overburdened community public notification is not required per Regulation 2-1-412.

Emission Calculations

Initial soil vapor data is used to estimate precursor organic compound (POC), non-precursor organic compound (NPOC), and toxic air contaminant (TAC) emissions. It is assumed that the equipment can operate 24 hours a day, 365 days a year.

The following assumptions are used to estimate emissions.

- Operating conditions: Pressure = 1 Atm; Inlet Temperature = 21^{o}C; 1 mole occupies 24.15 Liters (or 386.8 ft3/pound-mol).
- Toxic Air Contaminants (TAC) emissions will be based on soil vapor data submitted with this application.
- There will be one SVE system consisting of one blower.
- The organic influent flow rate of the SVE system will be max. 275 scfm.
- The blower will be abated by two 300-lb. granular activated carbon (GAC) vessels (total 600 lbs.) in series pursuant to Regulation 8-47-301.
- The abatement efficiency of 99.33% for all pollutants were proposed by the applicant.
- Emissions are from soil characterization tests completed in November of 2019 for Roux Associates by Environmental Support Technologies.

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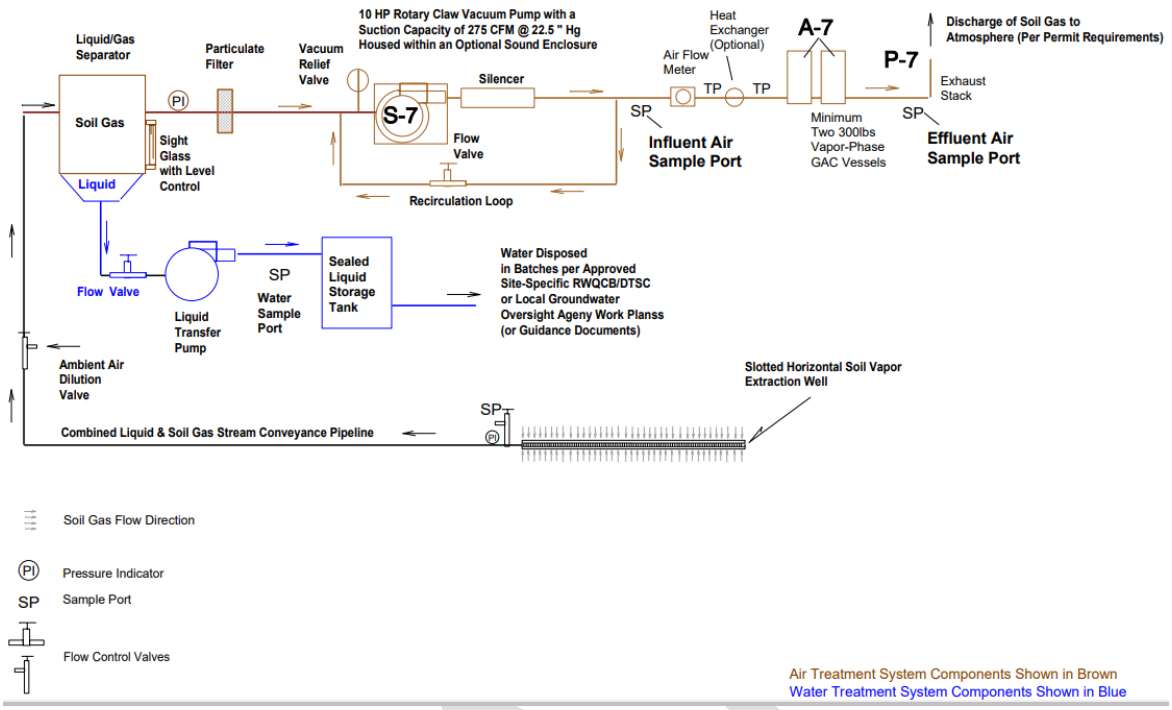

Figure 1. *Process Flow Diagram of the Proposed Portable SVE System Provided By the Facility.*

Abated emissions for the SVE system are shown in Table 1 below.

Table 1. S-7 SVE System Abated Emissions

Pollutant	CAS #	Abated Emissions				
		Inlet Conc. (ug/m3)	Hourly Emission Rate (lb/hour)	Daily Emission Rate (lb/day)	Annual Emission Rate (lb/year)	Annual Emission Rate (ton/year)
TPH	N/A	7,899,533	5.45E-02	1.31E+00	4.77E+02	2.39E-01
Benzene	71-43-2	8	5.65E-08	1.36E-06	4.95E-04	2.48E-07
Bromomethane	74-83-9	35	2.41E-07	5.79E-06	2.11E-03	1.06E-06
Chloroform	67-66-3	700	4.83E-06	1.16E-04	4.23E-02	2.11E-05
Carbon disulfide	75-15-0	21	1.45E-07	3.48E-06	1.27E-03	6.34E-07
1,2-Dibromoethane	106-93-4	820	5.65E-06	1.36E-04	4.95E-02	2.48E-05
1,1,-Dichloroethane	75-34-3	840	5.79E-06	1.39E-04	5.07E-02	2.54E-05
Ethylbenzene	100-41-4	7	4.96E-08	1.19E-06	4.35E-04	2.17E-07

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Styrene	100-42-5	15	1.03E-07	2.48E-06	9.06E-04	4.53E-07
1,1,2,2-Tetrachloroethane	79-34-5	4	2.76E-08	6.62E-07	2.42E-04	1.21E-07
Perchloroethylene (PCE), Tetrachloroethylene, Tetrachloroethene	127-18-4	230,000	1.59E-03	3.81E-02	1.39E+01	6.95E-03
Toluene	108-88-3	280	1.93E-06	4.63E-05	1.69E-02	8.46E-06
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	1,300	8.96E-06	2.15E-04	7.85E-02	3.93E-05
Xylenes	1330-20-7	437	3.01E-06	7.23E-05	2.64E-02	1.32E-05

Notes:
1. It is assumed that equipment will operate 24 hours a day, 365 days a year.
2. The abatement efficiency of 99.33% is assumed for all pollutants.

Organic emissions for the SVE system are shown in Table 2 below.

Table 2. Organic Emissions Review for S-7

Pollutant	Effluent Volumetric Concentration (ppmv)	Hourly Emission Rate (lb/hour)	Daily Emission Rate (lb/day)	Annual Emission Rate (lb/year)	Annual Emission Rate (ton/year)
POC	79.6	0.05	1.3	477	0.239
NPOC	2.3	0.00	0.0	14	0.007
Total	81.9	0.06	1.3	491	0.246

Notes:
1. It is assumed that equipment will operate 24 hours a day, 365 days a year.
2. Non-Precursor Organic Compounds (NPOCs) have been determined based on Regulation 1-234 and 40 CFR 51.100(s)(1). NPOCs have negligible photochemical reactivity.
3. POC and NPOC emissions are based on the abatement efficiency of 99.33% for all pollutants.
3. Effluent volumetric concentrations are measured as methane.
4. The total effluent volumetric concentration will be used to set the GAC vessels breakthrough monitoring condition.

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Cumulative Increase
Cumulative emissions for the facility are shown in Table 3 below.

Table 3. Cumulative Increase			
Pollutant	**Current Permitted Emissions, Post 4/5/1991 (ton/year)**	**Application New Emissions Increase (ton/year)**	**New Cumulative Increase (ton/year)**
POC	3.974	0.208	4.182

This is an existing facility. While the existing emissions include the emissions from S-7, this modification application results in an increase in emission.

Health Risk Assessment (HRA)
The applicant has provided a written demonstration on January 21, 2026 that this project (AN 708526) is not related to other active projects at this facility. This facility owns multiple portable SVE units. They rent out each SVE unit to a different facility for different soil cleanup jobs. Every project the facility operates has a stand-alone unique regulatory-issued cleanup case identification number. Therefore, each project is distinct.

S-7 (AN 708526) is the only equipment that will be operating at 1615 Ocean Avenue, San Francisco, CA 95112. The facility has never operated any of their SVE equipment at this address, and there is no plan to operate their other equipment at this address in the future.

Therefore, for Health Risk Assessment purposes, S-7 is not related to the other portable SVE units because S-7 is neither (1) a reasonably foreseeable consequence of the previous project, nor (2) a critical element or integral part of the previous project.

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Emissions from S-7 SVE system are shown in Table 4 below.

At the given rates in Table 4, emissions do not exceed the Chronic Trigger Levels in Regulation 2-5, Table 2-5-1. Therefore, this project did not trigger a Health Risk Assessment (HRA).

Table 4. S-7 Abated Emissions Review - Regulation 2-5

Pollutant	CAS #	Hourly Emission Rate (lb/hour)	Acute Trigger Level (lb/hour)	Exceeds Acute Trigger Level?	Annual Emission Rate (lb/year)	Chronic Trigger Level (lb/year)	Exceeds Chronic Trigger Level?
TPH	N/A	5.45E-02	N/A	N/A	4.77E+02	N/A	N/A
Benzene	71-43-2	5.65E-08	1.20E-02	No	4.95E-04	2.90E+00	No
Bromomethane	74-83-9	0.00E+00	1.70E+00	No	0.00E+00	1.90E+02	No
Chloroform	67-66-3	4.83E-06	6.60E-02	No	4.23E-02	1.50E+01	No
Carbon disulfide	75-15-0	1.45E-07	2.70E+00	No	1.27E-03	3.10E+04	No
1,2-Dibromoethane	106-93-4	5.65E-06	N/A	No	4.95E-02	1.10E+00	No
1,1,-Dichloroethane	75-34-3	5.79E-06	N/A	No	5.07E-02	5.00E+01	No
1,1-Dichloroethene	75-35-4	1.72E-08	N/A	No	1.51E-04	2.70E+03	No
Ethylbenzene	100-41-4	4.96E-08	N/A	No	4.35E-04	3.30E+01	No
Methylene Chloride (dichloromethane)	75-09-2	1.72E-08	6.20E+00	No	1.51E-04	8.20E+01	No
Methyl-tert-butyl ether (MTBE)	1634-04-4	0.00E+00	N/A	No	0.00E+00	1.60E+02	No
Styrene	100-42-5	1.03E-07	9.30E+00	No	9.06E-04	3.50E+04	No
1,1,2,2-Tetrachloroethane	79-34-5	2.76E-08	N/A	No	2.42E-04	1.40E+00	No
Perchloroethylene (PCE), Tetrachloroethylene, Tetrachloroethene	127-18-4	1.59E-03	8.80E+00	No	1.39E+01	1.40E+01	No
Toluene	108-88-3	1.93E-06	2.20E+00	No	1.69E-02	1.60E+04	No
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	8.96E-06	N/A	No	7.85E-02	4.10E+01	No
Vinyl Chloride (chloroethylene)	75-01-4	1.72E-07	8.00E+01	No	1.51E-03	1.10E+00	No
Xylenes	1330-20-7	3.01E-06	9.70E+00	No	2.64E-02	2.70E+04	No

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Offsets

Pursuant to Regulation 2-2-302, offsets must be provided for any new or modified source at a site that emits, or is permitted to emit, more than 10 tons per year of precursor organic compounds (POCs) or nitrogen oxides (NO_X). Furthermore, pursuant to Regulation 2-2-303 offsets must be provided for any new or modified source at a major site with a cumulative increase that exceeds 1.0 ton per year of PM_{10}, $PM_{2.5}$, or sulfur dioxide (SO_2).

The site is not expected to have a PTE greater than 10 tons per year of POC or NO_X, nor is the site a major site of PM_{10}, $PM_{2.5}$, and SO_2. Therefore, the requirements of Regulations 2-2-302 and 2-2-303 do not apply.

Best Available Control Technology (BACT)

In accordance with Regulation 2-2-301, Best Available Control Technology (BACT) is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxides (SO_2), particulate matter less than 10 micrometer (PM_{10}) and particulate matter less than 2.5 micrometer ($PM_{2.5}$).

With the proposed abatement device, NPOC and POC emissions are expected to be below 10 pound per day for the SVE system. Therefore, BACT is not required.

California Environmental Quality Act (CEQA)

This project is classified as ministerial under the Air District Regulation 2-1-311, because the engineering review for this project requires only the application of standard emission factors and established formulas as specified in Chapter 9.2 of the Air District's Permit Handbook. This project does not trigger BACT or TBACT and is not subject to the health risk assessment requirements of Regulation 2, Rule 5. This review follows objective procedures and applies standard permit conditions; and therefore, the review of this project is not discretionary as defined by CEQA. Since this project is ministerial, it is not subject to CEQA review requirement of Regulation 2-1-310, and no further CEQA analysis is required.

Compliance

This project is located within 1,000 feet of the following K-12 school:

- Stratford School (301 De Montfort Ave, San Francisco, CA 94112)

Therefore, this project triggers school public notification per Regulation 2-1-412.

This project is not located within the boundaries of an Overburdened Community (OBC) as defined in Regulation 2-1-243. Therefore, this project does not trigger an OBC public notification per Regulation 2-1-412.

Regulation 8-47-301 requires that any Soil Vapor Extraction operation which emits benzene, vinyl chloride, tetrachloroethene, methylene chloride, and/or trichloroethene shall be vented to a control device which reduces emissions to the atmosphere by at least 90 percent by weight. The facility

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has proposed to install activated carbon vessels with at least 99.33 percent abatement efficiency to reduce emissions. Therefore, this project complies with the requirements of this rule.

The facility is required to keep the pertinent records per modified Condition #100870 pursuant to Regulation 8-47-501.

Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAPS) are not triggered.

Permit Conditions

Condition # 100870 applies to S-7 and A-7.

Condition # 27434 has been revised to exclude S-7 and A-7.

Revised Permit Condition # 27434 – Applies to S-6 & S-8

1. The operator/operator of the Portable Soil Vapor Extraction Systems (S6 and S8) shall provide written notification to the Engineering Division at least 3 days prior to startup of operation at any new location. The notification shall include:

a. The relevant application Number 30992 and Plant Number 19967.

b. Street address, including zip code, for the location where the equipment will be operated.

c. The name and telephone number of a contact person where the equipment will be operated.

d. The date of initial start-up and estimated duration of operations at that location.

e. The distance from the source to the outer boundary of the nearest K through 12 school, or indication that the distance is greater than 1,000 feet.

f. The distance from the source to the outer boundary of the nearest overburdened community, or indication that the distance is greater than 1,000 feet.

In the event that the start-up is delayed less than 5 days, the operator may provide telephone notice of said change to the assigned Plant Engineer in the Engineering Division. If the startup is delayed more than 5 days, written notification must be resubmitted.

[Basis: Regulation 2-1-413]

2. The owner/operator of S6 and S8 shall not operate or retain the sources at any single location for a period in excess of 12 consecutive months, following the date of initial operation. If the portable sources remain at any fixed location for more than 12 months, they will lose their portability and shall be subject to the requirements of Regulation 2, Rules 1, 2, and 5, as if they were new sources. [Basis: Regulations 2-1-403 and 2-1-413]

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3. The owner/operator shall operate S6 and S8, at all times in conformance with the eligibility requirements set forth in Regulation 2-1-413 for portable equipment.

[Basis: Regulation 2-1-413]

4. The owner/operator shall not operate S6 and S8 within 1,000 feet of the outer boundary of any other K-12 school, unless the applicable requirements of the California Health and Safety Code Section 42301.6 have been met. This will require the submittal of an application for a revised Permit to Operate. [Basis: California Health and Safety Code Section 42301.6 and Regulation 2-1-412]

5. The owner/operator shall not operate S6 and S8 within 1,000 feet of an overburdened community per Regulation 2-1-243, unless the applicable requirements of Regulation 2-1-412 have been met. This will require the submittal of an application for a revised Permit to Operate.

Please refer to the following map for the Overburdened Community determination: https://www.baaqmd.gov/about-air-quality/interactive-data-maps

[Basis: Regulation 2-1-412 and Regulation 2-1-243]

6.The owner/operator shall abate the precursor organic compound (POC)/non-precursor organic compound (NPOC) emissions from the portable soil vapor extraction systems (S6 and S8) with the respective Activated Carbon Vessels (A6 and A8), each consisting of a minimum of two (2) 300 lb activated carbon vessels in series, during all periods of operation. [Basis: Regulation 8, Rule 47, Toxics]

7. The influent vapor flow rate for each Portable SVE (S6 and S8) shall not exceed 275 standard cubic feet per minute (scfm).

[Basis: Cumulative Increase, Toxics.]

8. In no event shall the toxic air contaminant (TAC) emissions to the atmosphere from S6 or S8 exceed the trigger levels listed in District Regulation 2-5, Table 2-5-1.

[Basis: Regulation 8, Rule 47, Toxics]

9. Upon initial start-up and start-up at any new location, the owner/operator shall take air samples from S6 and S8 for laboratory analysis using EPA Method TO-15. The air samples shall be taken at the following locations:

a. At the inlet to the first carbon vessel in series.

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b. At the outlet of the carbon vessel that is last in series prior to venting to the atmosphere.

[Basis: Regulation 2-1-403]

10. The owner/operator shall use the results from the laboratory report to calculate the following:

a. Organics (POC and NPOC) emissions to demonstrate compliance with Part 10.

b. TAC emissions emitted to the atmosphere, using the maximum permitted flow rate of the system (S6 and S8).

[Basis: Regulation 2-1-403, Regulation 8-47-301].

11. The owner/operator shall submit the laboratory report and calculated TAC emissions within 21 days of the initial startup and startup at any new location, to demonstrate compliance with Parts 1 through 10 of this condition.

[Basis: Regulation 2-1-403]

12. During operation of A6 and A8, the owner/operator shall monitor with a flame-ionization detector (FID), or other method approved in writing by the District's Source Test Manager at the following locations:

a. At the inlet to the second to last carbon vessel in series.

b. At the inlet to the last carbon vessel in series.

c. At the outlet of the last carbon vessel in series, prior to venting to the atmosphere.

[Basis: Regulations 1-523 and 2-1-403]

13. The owner/operator shall record these monitor readings in a monitoring log at the time they are taken. The owner/operator shall use the monitoring results to estimate the frequency of carbon change-out necessary to maintain compliance with Parts 15 through 16 of this condition and shall be conducted on a daily basis.

a. If the owner/operator can demonstrate one (1) month of consecutive daily monitoring readings where the sum of monitoring results at each outlet of each SVE system is lower than 2 ppmv measured as methane, the monitoring frequency may be reduced to weekly.

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b. After the monitoring frequency has been reduced to weekly, if the owner/operator can demonstrate one (1) month of consecutive weekly monitoring readings at each outlet of each SVE system is lower than 2 ppmv, measured as methane, the monitoring frequency may be reduced to once every two (2) weeks.

c. After the monitoring frequency has been reduced to once every two (2) weeks, if the owner/operator can demonstrate one (1) month of consecutive bi-weekly readings where the monitoring results of each SVE system is lower than 2 ppmv, measured as methane, the monitoring frequency may be reduced to monthly.

If any subsequent results from monitoring where the sum of monitoring results at each outlet of each SVE system exceed 2 ppmv, measured as methane, the owner/operator shall revert to daily monitoring. If monitoring reverts back to daily, the owner/operator may reduce the monitoring frequency in accordance with Parts 13(a) through (c) of this condition.

[Basis: Cumulative Increase, Toxics, and Regulations 8-47 and 2-1-403]

14. The owner/operator of S6 and S8 shall maintain the following information for each month of operation:

a. Hours and time of operation.

b. Each emission test, analysis, or monitoring results logged in for the day of operation they were taken.

c. Total throughput of soil vapor from source each SVE system in standard cubic feet.

Such records shall be retained and made available for inspection by the District for two (2) years following the date the data is recorded.

[Basis: Recordkeeping]

15. During the operation of the abatement devices, the first vessel of each abatement system described in Part 6 shall be immediately changed out with unspent carbon upon breakthrough, defined as the detection at the outlet of the last vessel in excess of the higher of the following limits:

a. 1.0 % of the inlet stream concentration to the carbon bed.

b. 10 ppmv (measured as methane).

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[Basis: Cumulative Increase and Regulations 8-47 and 2-1-403]

16. During the operation of the abatement devices, the last carbon vessel of each abatement system described in Part 6 shall be immediately changed out with unspent carbon upon breakthrough, defined as the detection at the outlet of the last vessel in excess of the higher of the following limits:

    a. 1.0 % of the inlet stream concentration to the carbon bed.

    b. 10 ppmv (measured as methane).

    [Basis: Cumulative Increase and Regulations 8-47 and 2-1-403]

17. Within 30 days after the end of every calendar year, the operator of S6 and S8 shall provide the assigned Plant Engineer in the Engineering Division a year end summary showing the following information:

a. The location(s) at which the equipment was operated including the dates operated at each location.

b. The total throughput of contaminated soil vapor for the previous four (4) quarters (indicated in cubic feet).

c. Benzene, 1,2-Dichloroethane, Ethylbenzene, Tetrachloroethylene, Toluene, Xylenes (total), and other measured toxic air contaminant emissions for the previous four (4) quarters (indicated in pounds).

[Basis: Regulation 1-523]

18. The owner/operator of S6 and S8 shall report any noncompliance with these conditions to the Compliance and Enforcement Division at the time that it is first discovered. The owner/operator shall detail the corrective action taken and include the data showing the exceedance as well as the time of occurrence in the submittal.

[Basis: Regulation 2-1-403]

19. The owner/operator of S6 and S8 shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this condition. All measurements, records and data required to be maintained by the operator shall be retained for at least two (2) years following the date the data is recorded.

[Basis: Regulation 1-523]

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20. Upon final completion of the remediation project, the operator of S6 and S8 shall notify the Engineering Division within two weeks of decommissioning the operation.

[Basis: Regulation 2-1-403]

Permit Condition #100870 for S-7 and A-7

1. The operator/operator of the Portable Soil Vapor Extraction Systems (S-7) shall provide written notification to the Engineering Division at least 3 days prior to startup of operation at any new location. The notification shall include:

a. The relevant application number and Plant Number 19967.
b. Street address, including zip code, for the location where the equipment will be operated.
c. The name and telephone number of a contact person where the equipment will be operated.
d. The date of initial start-up and estimated duration of operations at that location.
e. The distance from the source to the outer boundary of the nearest K through 12 school, or indication that the distance is greater than 1,000 feet.
f. The distance from the source to the outer boundary of the nearest overburdened community, or indication that the distance is greater than 1,000 feet.

In the event that the start-up is delayed less than 5 days, the operator may provide telephone notice
of said change to the assigned Plant Engineer in the Engineering Division. If the startup is delayed
more than 5 days, written notification must be resubmitted.
[Basis: Regulation 2-1-413]

2. The owner/operator of S-7 shall not operate or retain the sources at any single location for a period in excess of 12 consecutive months, following the date of initial operation. If the portable sources remain at any fixed location for more than 12 months, they will lose their portability and shall be subject to the requirements of Regulation 2, Rules 1, 2, and 5, as if they were new sources.
[Basis: Regulations 2-1-403 and 2-1-413]

3. The owner/operator shall operate S-7, at all times in conformance with the eligibility requirements set forth in Regulation 2-1-413 for portable equipment.
[Basis: Regulation 2-1-413]

4. The owner/operator shall not operate S-7 within 1,000 feet of the outer boundary of any other K-12 school, unless the applicable requirements of the California Health and Safety Code Section 42301.6 have been met. This will require the submittal of an application for a revised Permit to Operate.

These notification requirements have been satisfied for operation at the following location:
1615 Ocean Avenue, San Francisco, CA 95112 (Application Number 708526)

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[Basis: California Health and Safety Code Section 42301.6 and Regulation 2-1-412]

5. The owner/operator shall not operate S-7 within 1,000 feet of an overburdened community per Regulation 2-1-243, unless the applicable requirements of Regulation 2-1-412 have been met. This will require the submittal of an application for a revised Permit to Operate. Please refer to the following map for the Overburdened Community determination: https://www.baaqmd.gov/about-air-quality/interactive-data-maps
[Basis: Regulation 2-1-412 and Regulation 2-1-243]

6. The influent vapor flow rate from the blower shall not exceed 275 scfm from the Soil Vapor Extraction (SVE) System at any given time.
[Basis: Cumulative Increase, Regulation 2-5].

7. The owner/operator shall abate the precursor organic compound (POC)/non-precursor organic compound (NPOC) emissions from each soil-vapor extraction system with the granular activated carbon vessel (GAC) during all periods of operation as follows:

S-7 SVE system shall be abated by
Two (2) 300-lb. Granular Activated Carbon vessels (total 600 lbs. GAC) in series (A-7).
[Basis: Regulations 8-47-301 and 8-47-302 and Regulation 2-5].

8. The total organics (sum of POC and NPOC) abatement efficiency of the abatement systems described in Part 7 shall be maintained at a minimum of 99.33% by weight or a maximum outlet total organics (sum of POC and NPOC) concentration of 10 ppmv (measured as methane) at all outlets of S-7 combined.
[Basis: Regulations 8-47-301 and 8-47-302 and Regulation 2-5].

9. In no event shall the toxic air contaminant (TAC) emissions to the atmosphere from each abatement system exceed the trigger levels listed in District Regulation 2-5, Table 2-5-1.
[Basis: Regulation 2-5].

10. The owner/operator shall not emit from the SVE system (S-7) more than 477 pounds of precursor organic compounds (POC) and 14 pounds of non-precursor organic compounds (NPOC) per 12-month consecutive period.
[Basis: Cumulative Increase]

11. Upon initial start-up, the owner/operator shall take air samples from the SVE system (S-7) for laboratory analysis using EPA Method TO-15. The air samples shall be taken at the following locations of each abatement system described in Part 2:
a. At the inlet to the first vessel in series.
b. At the outlet of the last vessel in series prior to venting to the atmosphere.
[Basis: Regulation 2-1-403, Regulation 8-47-301].

12. The owner/operator shall use the results from the laboratory report to calculate the following:

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a. Organics (POC and NPOC) emissions to demonstrate compliance with Part 8.
b. Organics (POC and NPOC) abatement efficiency or outlet Organics (POC and NPOC) concentration of the SVE system (S-7) to demonstrate compliance with Part 7.
c. TAC emissions emitted to the atmosphere, using the maximum permitted flow rate of the SVE system (S-7).

13. The owner/operator shall submit the laboratory report, abatement efficiency, outlet POC concentration, and calculated POC, NPOC, TAC emissions within 21 days of the initial startup, to demonstrate compliance with Parts 6 through 10 of this condition.
[Basis: Regulation 2-1-403, Regulation 2-5].

14. During operation of the abatement device (A-7), the owner/operator shall monitor with a flame-ionization detector (FID), or other method approved in writing by the District's Source Test Manager at the following locations of each abatement system described in Part 2:
a. At the inlet of the first vessel in series.
b. At the inlet of the second vessel in series.
c. At the outlet of the last vessel in series, prior to venting into the atmosphere.
[Basis: Regulations 8-47 and 2-1-403]

15. The owner/operator shall record these monitor readings in a monitoring log at the time they are taken. The owner/operator shall use the monitoring results to estimate the frequency of carbon change-out necessary to maintain compliance with Parts 17 and 18 of this condition and shall be conducted on a daily basis.

a. If the owner/operator can demonstrate one (1) month of consecutive daily monitoring readings where the sum of monitoring results at each outlet of the SVE system (S-7) is lower than 2 ppmv measured as methane, the monitoring frequency may be reduced to weekly.

b. After the monitoring frequency has been reduced to weekly, if the owner/operator can demonstrate one (1) month of consecutive weekly monitoring readings at each outlet of the SVE system (S-7) is lower than 2 ppmv, measured as methane, the monitoring frequency may be reduced to once every two (2) weeks.

c. After the monitoring frequency has been reduced to once every two (2) weeks, if the owner/operator can demonstrate one (1) month of consecutive bi-weekly readings where the monitoring results of the SVE system (S-7) is lower than 2 ppmv, measured as methane, the monitoring frequency may be reduced to monthly.

If any subsequent results from monitoring where the sum of monitoring results at each outlet of the SVE system (S-7) exceed 2 ppmv, measured as methane, the owner/operator shall revert to daily monitoring. If monitoring reverts back to daily, the owner/operator may reduce the monitoring frequency in accordance with Parts 15(a) through (c) of this condition.
[Basis: Cumulative Increase, Toxics, and Regulations 8-47 and 2-1-403]

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16. The owner/operator shall maintain the following information for each month of operation:
a. Hours and time of operation.
b. Each emission test, analysis, or monitoring results logged in for the day of operation they were taken.
c. Total throughput of the SVE system (S-7) in standard cubic feet.

Such records shall be retained and made available for inspection by the District for two (2) years following the date the data is recorded.
[Basis: Recordkeeping]

17. During the operation of the abatement devices, the first vessel of each abatement system described in Part 7 shall be immediately changed out with unspent carbon upon breakthrough, defined as the detection at the outlet of the last vessel in excess of the higher of the following limits:
a. 0.66% of the inlet stream concentration to the carbon bed.
b. 10 ppmv (measured as methane).
[Basis: Cumulative Increase and Regulations 8-47 and 2-1-403]

18. During the operation of the abatement devices, the last vessel of each abatement system described in Part 7 shall be immediately changed out with unspent carbon upon breakthrough, defined as the detection at the outlet of the last vessel in excess of the higher of the following limits:
a. 0.66% of the inlet stream concentration to the carbon bed.
b. 10 ppmv (measured as methane).
[Basis: Cumulative Increase and Regulations 8-47 and 2-1-403]

19. Within 30 days after the end of every calendar year, the operator of S-7 shall provide the assigned Plant Engineer in the Engineering Division a year end summary showing the following information:

a. The location(s) at which the equipment was operated including the dates operated at each location.
b. The total throughput of contaminated soil vapor for the previous four (4) quarters (indicated in cubic feet).
c. Benzene, 1,2-Dichloroethane, Ethylbenzene, Tetrachloroethylene, Toluene, Xylenes (total), and other measured toxic air contaminant emissions for the previous four (4) quarters (indicated in pounds).
[Basis: Regulation 1-523]

20. The owner/operator shall report any noncompliance with these conditions to the Compliance and Enforcement Division at the time that it is first discovered. The owner/operator shall detail the corrective action taken and include the data showing the exceedance as well as the time of occurrence in the submittal.
[Basis: Regulation 2-1-403]

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21. The owner/operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this condition. All measurements, records and data required to be maintained by the operator shall be retained for at least two (2) years following the date the data is recorded.
[Basis: Regulation 8-47]

22. Upon final completion of the remediation project, the operator shall notify the Engineering Division within two weeks of decommissioning the operation.
[Basis: Regulation 2-1-403]

Recommendation

The Air District has reviewed the material contained in the permit application for the proposed project and has made a preliminary determination that the project is expected to comply with all applicable requirements of Air District, state, and federal air quality-related regulations. The preliminary recommendation is to issue a modified Permit to Operate for the equipment listed below. However, the proposed source is located within 1,000 feet of a K-12 school, which triggers public notification requirements per Regulation 2-1-412. After the comments are received from the public and reviewed, the Air District will make a final determination on the permit.

I recommend that the Air District initiate a public notice and consider any comments received prior to taking any final action on issuance of modified Permit to Operate for the following equipment:

S-7 Portable Soil Vapor Extraction System
Make: Rietschle, Model: VLR 400, Max. 275 cfm

Abated By

A-7 Granular Activated Carbon Vessels
Two (2) 300-lb. GAC Vessels in Series,
Total 600 lbs.

Youjin Kim, Air Quality Engineer
March 17, 2026

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