



## MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue Victorville, CA 92392-2310  
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

### AUTHORITY TO CONSTRUCT

C015514

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

**EXPIRES LAST DAY OF: MARCH 2027**

#### **OWNER OF OPERATOR (Co. #3190)**

Apex Companies, LLC  
299 West Hillcrest Drive, Suite 220  
Thousand Oaks, CA 91360

#### **EQUIPMENT LOCATION (Fac. #4671)**

Lucerne Valley Garage  
31685 Highway 18  
Lucerne Valley, CA 92356

#### **Description:**

SOIL VAPOR EXTRACTION AND ELECTRIC-CATALYTIC OXIDATION SYSTEM consisting of: Soil vapor extraction and treatment system for in-situ soil remediation of total volatile organic compounds, consisting of: Vapor extraction well(s) and duct(s); inlet entrained liquid/vapor separator; ground-mounted, Electric Catalytic Oxidizer (ECAT) system manufactured by Mako Industries, Model no. MakoCat 300, Serial no. 322. Maximum inlet flow rate is 300 SCFM, nominal catalyst inlet temperature is 750 degrees Fahrenheit, combustion chamber operating temperature is 1,100 degrees Fahrenheit and utilizes a Johnson Matthey Precious Metal Catalyst. Combustion chamber is 96 in long with a cross-sectional area of 450 in<sup>2</sup>. This ECAT system has a minimum control efficiency of 98%. Facility elevation is 2979 feet above MSL.

#### **CONDITIONS:**

1. The equipment shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of air contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit. [District Rule 204]
2. This equipment shall not be operated within 1000 feet of the outer boundary of any K-12 school. Such operation will require the submittal of an application to MDAQMD for a revised permit to operate to ensure the applicable requirements of the California Health and Safety Code, Section 42301.6, may be met.

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 1799

SCC: 50410313

Location/UTM(Km):  
562E/3811N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

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By: **COPY**  
**Brad Poiriez**  
Executive Director

3. The owner/operator of this SVE equipment must:

- (a) Upon completion of extraction, and prior to connecting a different vapor extraction well to the collection system, any vapor extraction wells and/or ducts shall be capped to prevent vapors from venting to the atmosphere; and,
- (b) Vapors shall not be extracted from the soil unless they are vented to the vapor control system, with no detectable leak between the inlet of the extraction blower and the outlet of the vapor control system.

[District Rule 204; District Rule 1320]

4. An identification tag or nameplate shall be displayed on the equipment to show manufacturer, model no., and serial no. The tag(s) or plate(s) shall be issued by the manufacturer and shall adhere to the equipment in a permanent and conspicuous position.

[District Rules 204; District Rule 1320]

5. The most current contact person name, company and phone number shall be displayed in a permanent and conspicuous location.

[District Rule 204]

6. The owner/operator must install, calibrate, and maintain:

(a) A continuous flow indicator and recorder at all inlet streams to the vapor control system to indicate the total vapor flow rate in standard cubic feet per minute (SCFM). The total inlet and outlet flow rates shall not exceed 300 SCFM. If a pressure sensor device is used in place of the flow indicator, a conversion chart shall be made available to indicate the corresponding flow rate, in SCFM, to the pressure reading. The flow rate at the inlet to the vapor control system shall be measured and recorded at least once during each monitoring visit while the equipment is operating.

(b) A continuous temperature measuring and recording device at the combustion chamber inlet, which shall be kept at a minimum of 1100 degrees Fahrenheit.

[District Rule 204; District Rule 1320]

7. Grab samples shall be collected and analyzed once during the first week of operation for Volatile Organic Compounds (VOC) and speciated for toxic compounds of benzene, ethylbenzene, naphthalene, toluene, Total Petroleum Hydrocarbons in the Gasoline Range Organics (GRO) fraction (TPHg), total xylenes, and Poly-Aromatic Hydrocarbon (PAH) as follows:

(a) Samples shall be collected at the inlet and outlet of the soil remediation system;

(b) Sampling shall conform to CARB Method 422 or equivalent. Samples with high moisture shall be collected using an appropriate method such as SCAQMD Method 25.1/25.3 or other methods as approved by the MDAQMD; and,

(c) Analysis shall be conducted using USEPA Method TO-15, 8015B, and 8260B, or other methods present in Condition 8, below, or as approved by the MDAQMD.

[District Rule 204; District Rule 1320]

8. Samples shall be analyzed using the following methods, or others as approved by MDAQMD:

(a) EPA Method TO-15 for full-scan VOC analysis including benzene, ethylbenzene, naphthalene, toluene, Total Petroleum Hydrocarbons in the Gasoline Range Organics (GRO) fraction (TPHg), and total xylenes;

(b) EPA Method 21 for routine VOC measurement using FID, PID, or other Organic Vapor Analyzer (OVA) instruments as approved by MDAQMD;

(c) EPA Method 8015B, 8260B, or 5035 for TPHg, BTEX, MtBE, EtBE, tAME, DIPE, tBA, ethanol, and naphthalene; and,

(d) EPA Method D1946 for Helium, Oxygen, Nitrogen, or Carbon Dioxide.

[District Rule 204]

9. Daily concentrations of Volatile Organic Compounds (VOC) shall be measured at the outlet of the soil remediation system during the first seven days of operation, and once every seven days thereafter, by using a Flame Ionization Detector (FID) or a Photo Ionization Detector (PID) or an MDAQMD approved Organic Vapor Analyzer (OVA) calibrated in parts per million by volume (ppmv) as propane. If another calibrating agent is used, it shall be correlated to and expressed as propane. In the event that a correction factor is used in the determination of concentrations, the output from the analyzer shall be recorded pre and post-correction, and post-correction values shall be used to demonstrate compliance with permit limitations. Documentation supporting the application of this correction factor for this specific measurement device shall be maintained with the facility records, and made available to District, State, or Federal personnel upon request. The analyzer shall be maintained and calibrated per EPA Method 21. Calibration shall be performed prior to each monitoring visit.

[District Rules 204; District Rule 1320]

10. The concentration of Volatile Organic Compounds (VOC) at the outlet of the electric catalytic oxidizer system shall not exceed 60 ppmv, measured as propane, at any time.

[District Rules 204; District Rule 1320]

11. This system shall achieve a minimum destruction efficiency of 98 percent (by mass) from oxidizer inlet to oxidizer outlet and shall not exceed the following emission rates as evidenced by initial and routine analysis:

(i) VOC: 471.41 lb/yr;

(ii) Benzene: 0.01 lb/yr;

(ii) Toluene: 0.02 lb/yr;

(iv) Ethylbenzene: 0.002 lb/yr;

(v) Naphthalene: 0.04 lb/yr;

(vi) Total Xylenes: 0.01 lb/yr;

(vii) Total Petroleum Hydrocarbons in the Gasoline Range Organics (GRO) fraction (TPHg): 0.02 lb/yr; and,

(viii) Poly-Aromatic Hydrocarbon (PAH): 0.04 lb/yr.

[District Rule 204; District Rule 1303; District Rule 1320]

12. To determine compliance with Conditions 10 and 11, within ten days after start-up of this equipment, the owner/operator of this source shall:

a. Analyze inlet gas stream to determine the flow rate and concentration of Volatile Organic Compounds (VOC) present;

b. Analyze exhaust gas stream to determine the flow rate, and the concentration of VOC present;

c. Calculate the benzene, ethylbenzene, naphthalene, toluene, Total Petroleum Hydrocarbons in the Gasoline Range Organics (GRO) fraction (TPHg), total xylenes, and Poly-Aromatic Hydrocarbon (PAH) emission rates in pounds per day based on the exhaust gas analysis and the operating exhaust flow rate. The owner/operator shall decrease the soil vapor flow rate, if necessary, to demonstrate compliance with Conditions 10 and 11;

d. Calculate the VOC abatement efficiency based on the inlet and outlet exhaust gas analysis. For the purpose of determining compliance with Condition 10, the VOC concentration shall be reported as propane, or a MDAQMD Permit Engineering Division approved analog compound.

e. Submit the test results and emission calculations within one (1) month of the testing date electronically to reporting@mdaqmd.ca.gov. Samples shall be analyzed according to the methods outlined in Condition 8, above.

[District Rules 204; District Rule 1320]

13. The owner/operator shall maintain an operations log for this unit current and on-site (or at a central location) for a minimum of two (2) calendar years, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below:

a. Date and duration of each use (in hours);

b. Monthly and calendar year operating hour log;

c. Records of all instrument calibrations, maintenance, and repairs including details of maintenance and repairs performed; and,

d. Records of all VOC and toxic species readings taken at the electric catalytic oxidizer inlet and exhaust.

[District Rule 204]

14. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.

[District Rule 107(b); H&S Code 39607 & 44341-44342; 17 CCR 93400 et seq.; 40 CFR 51, Subpart A]