



**Plant Name: Napa-Vallejo Waste Management Authority**  
**Synthetic Minor Operating Condition**  
**Condition No. 12418**

**Plant No. A9183**

Condition # 12418

### SYNTHETIC MINOR OPERATING PERMIT

American Canyon Sanitary Landfill  
End of Eucalyptus Road, Napa, CA 94558  
Plant #9183

#### Sources and Abatement Devices:

- S-1, Class III Landfill with Landfill Gas Collection System
- A-2, Landfill Gas Flare

This facility, Site # A9183, has a synthetic minor operating permit. This operating permit covers all equipment existing at this facility as of permit issuance. The sources and abatement devices are listed above.

The following conditions establish the federally enforceable permit terms that ensure this plant is classified as a Synthetic Minor Facility under District Regulation 2, Rule 6, Major Facility Review, and ensure it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. All applications submitted by the applicant and all modifications to the plant's equipment after issuance of the synthetic minor permit must be evaluated to ensure that the facility will not exceed the synthetic minor general limits below, and that sufficient monitoring, recordkeeping, and reporting requirements are imposed to ensure enforceability of the limits.

Any revision to a condition establishing this plant's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purpose of maintaining the facility as a synthetic minor must undergo the procedures specified by Rule 2-6, section 423. The basis for the synthetic minor conditions is an emission limit of 95 tons per year for regulated air pollutants, of 90,000 tons per year for greenhouse gases (on a CO<sub>2</sub> equivalent basis), an emission limit for a single hazardous air pollutant of 9 tons per year, and an emission limit for a combination of hazardous air pollutants of 23 tons per year.

Any District conditions that do not establish this facility as a synthetic minor are marked with an asterisk. The facility must comply with all conditions, regardless of asterisks, and must comply with all District requirements for new and modified sources regardless of its status as a synthetic minor.

1. In no event shall the emissions from this site exceed any of the emission limits listed below. The owner/operator shall demonstrate compliance with these emission limits by complying with all emission limits, monitoring procedures, and



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record keeping requirements identified in Parts 4-16 below. (Basis: Regulation 2-6-423)

NOx	95 tons/year
CO	95 tons/year
POC	95 tons/year
PM10	95 tons/year
SO2	95 tons/year
Any Single HAP	9 tons/year
Combination of HAPs	23 tons/year
CO2e	90,000 tons/year

2. The landfill at this facility is closed. The owner/operator shall not accept any solid waste at this landfill, shall not dispose of any waste materials at this landfill, and shall not re-use any waste materials in a manner consistent with disposal at the landfill. The total cumulative amount of all wastes placed in the landfill shall not exceed 4.23 million tons. The maximum design capacity of the landfill (total volume of all wastes and cover materials placed in the landfill, excluding final cover) shall not exceed 7 million cubic yards. (Basis: Regulation 2-1-301, 40 CFR Parts 60.752(d)(2) and 60.752(b)(2)(v)(A))
3. NMOC gas emissions from this landfill, as determined in accordance with 40 CFR Part 60.754(b), shall not exceed 50 Mg/year. To demonstrate compliance with this requirement, the owner/operator shall maintain records of the total amount of landfill gas collected from the landfill on an annual basis and shall maintain records of all NMOC concentration measurements made for the landfill gas collected from this site. (Basis: 40 CFR Parts 60.752(d)(2) and 60.752(b)(2)(v)(C))
4. The owner/operator shall ensure that all collected landfill gas is vented to the A-2 Landfill Gas Flare, and/or one or more of the two IC engines, S-2 and S-3, at Plant #11671. The owner/operator shall ensure that raw landfill gas is not vented to the atmosphere, except for unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair, which is performed in compliance with Regulation 8, Rule 34, Sections 113, 117, or 118, and for inadvertent component or surface leaks that do not exceed the limits specified in Regulation 8, Rule 34, Sections 301.2 or 303. (Basis: Regulation 8, Rule 34)
5. The American Canyon Sanitary Landfill shall be equipped with a landfill gas collection system. The owner/operator shall ensure that the landfill gas collection system, described in subpart 5a below, is operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be disconnected, removed, or completely closed, without prior written authorization from the District, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118.



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- a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system components listed below, which includes all start-up/shut-down notifications submitted through September 18, 2011. Well and collector locations, depths, and lengths are as described in Permit Applications #8677, #14817, and #23761. The owner/operator shall apply for and receive a Change of Condition from the District before altering the landfill gas collection system described below. Installing or decommissioning wells is considered an alteration which is subject to this Change of Condition requirement. Adding or modifying risers, laterals, or header pipes are not subject to this Change of Condition requirement. The authorized number of landfill gas collection system components is the baseline count listed below, plus any components added and minus any components decommissioned pursuant to subpart 5b below, as evidenced by start-up/shut-down notification letters to the District.

Vertical Gas Extraction Wells:	56
Gas/Leachate Extraction Wells:	31
Total Landfill Gas Extraction Wells:	8

- b. The owner/operator has been issued a Change of Condition for the additional landfill gas collection system component alterations described below as of September 18, 2011. Well and collector locations, depths, and lengths are as described in the facility's Gas Collection and Control System Design Plan.
- Install up to 25 new vertical wells
  - Decommission up to 25 vertical wells
  - Modify wellhead monitoring locations, as needed, provided that each landfill gas collection system component described in subpart 5a is adequately represented by a wellhead monitoring location. The owner/operator shall maintain adequate documentation on site that identifies all landfill gas collection system components that are represented by each wellhead monitoring location.

Wells installed, relocated, replaced, or shutdown pursuant to subpart 5b shall be added to or removed from subpart 5a in accordance with the procedures identified in Regulation 2-6-423.6. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305, 2-6-423.6)

6. The A-2 Landfill Gas Flare shall be equipped with both local and remote alarm systems. (Basis: Regulation 8-34-301)
7. The A-2 Landfill Gas Flare shall be equipped with a flow meter and recorder meeting the requirements of Regulation 8-34-508.  
(Basis: Cumulative Increase, Regulations 8-34-301, 8-34-501.10, and 8-34-508)



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8. The owner/operator shall ensure that the heat input to the A-2 Landfill Gas Flare does not exceed 576 million BTU per day and does not exceed 210,240 million BTU per year. In order to demonstrate compliance with this part, the owner/operator shall calculate and record, on a monthly basis, the maximum daily and total monthly heat input to the flare based on
  - a. the landfill gas flow rate recorded pursuant to subpart 14a below,
  - b. the average methane concentration in the landfill gas based on the most recent source test, and
  - c. a high heating value of 1013 BTU per cubic foot of methane at 60 degrees F.(Basis: Cumulative Increase, Regulation 2-1-301)
  
9. The minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F. The owner/operator shall ensure that the combustion zone temperature of the A-2 Landfill Gas Flare is maintained at a minimum of 1400 degrees F, averaged over any three-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature, the District may, upon request, revise this minimum temperature limit.  
(Basis: Regulations 2-5-301, 8-34-301.3)
  
10. The owner/operator shall ensure that nitrogen oxide (NO<sub>x</sub>) emissions from the A-2 Landfill Gas Flare do not exceed 37 ppmv NO<sub>x</sub>, expressed as NO<sub>2</sub> and corrected to 3% O<sub>2</sub>, dry basis, unless the owner/operator demonstrates that NO<sub>x</sub> emissions from A-2, calculated as NO<sub>2</sub>, do not exceed 0.06 pounds per MM BTU. (Basis: RACT and Cumulative Increase)
  
11. The owner/operator shall ensure that carbon monoxide (CO) emissions from the A-2 Landfill Gas Flare do not exceed 203 ppmv, corrected to 3% O<sub>2</sub>, dry, unless the owner/operator demonstrates that CO emissions from A-2 do not exceed 0.20 pounds per MM BTU. (Basis: RACT and Cumulative Increase)
  
12. The owner/operate shall comply with one of the following sulfur related limits and the associated monitoring procedure to demonstrate compliance with sulfur dioxide emission limitations for A-2:
  - a. Sulfur dioxide emissions in the exhaust from the A-2 Landfill Gas Flare shall not exceed 1.37 pounds per hour and the sulfur dioxide concentration in the exhaust from A-2 shall not exceed the Regulation 9-1-302 limit (300 ppmv, dry basis). To demonstrate compliance with this subpart, the owner/operator shall comply with the annual source testing requirements in Part 14e.
  - b. The concentration of total reduced sulfur compounds (TRS), expressed as hydrogen sulfide (H<sub>2</sub>S), in the landfill gas collected from S-1 shall not



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exceed 85 ppmv of TRS, expressed as H<sub>2</sub>S, dry basis. To demonstrate compliance with this subpart, the owner/operator shall comply with the annual landfill gas laboratory analysis procedures in Part 15.

- c. The average concentration of hydrogen sulfide in collected landfill shall not exceed 76 ppmv of H<sub>2</sub>S. To demonstrate compliance with this subpart, the owner/operator shall collect and test samples of landfill gas on an annual basis in accordance with the following procedures. All testing shall be conducted no later than 12 months after the previous test. Landfill gas samples shall be collected at the inlet to the landfill gas flare. For each annual test, the owner/operator shall collect three samples of landfill gas and shall test each sample for hydrogen sulfide concentration (ppmv of H<sub>2</sub>S) using a Draeger tube. The owner/operator shall follow the manufacturer's instructions for using the Draeger tube and interpreting the results. The owner/operator shall maintain records of the test date, the H<sub>2</sub>S concentration for each sample, and the average H<sub>2</sub>S concentration for each annual test. This average H<sub>2</sub>S concentration shall be compared to the limit above to assess compliance with this subpart.

(Basis: Cumulative Increase and Regulation 9-1-302)

- \*13. The owner/operator shall submit a permit application for a change of permit conditions if any site-specific landfill gas characterization test indicates that the landfill gas at this site contains any of the following compounds at a level greater than the concentration listed below. The permit application shall be submitted to the Permit Services Division within 45 days of receipt of test results indicating a concentration or emission rate above the levels listed in this part.

(Basis: Regulation 2-5-302, AB-2588 Air Toxics Hot Spots Act)

Compound	Concentration (ppbv)
Acrylonitrile	12000
Benzene	4000
Carbon tetrachloride	100
Chloroform	500
1,4-Dichlorobenzene	3500
Ethylene dibromide	100
Ethylene dichloride	1000
Ethylidene dichloride	5000
Methylene chloride	28000
Perchloroethylene	7500
1,1,2,2-Tetrachloroethane	2000
Trichloroethylene	5500
Vinyl chloride	14500

14. In order to demonstrate compliance with Regulation 2-1-301 and Regulation 8-34-301.2, the owner/operator shall ensure that a District-approved source test is



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conducted annually on the A-2 Landfill Gas Flare. At a minimum, the annual source test shall determine the following:

- a. landfill gas flow rate to the flare (dry basis);
- b. concentrations (dry basis) of carbon dioxide (CO<sub>2</sub>), nitrogen (N<sub>2</sub>), oxygen (O<sub>2</sub>), methane (CH<sub>4</sub>), and total non-methane organic compounds (NMOC) in the landfill gas;
- c. stack gas flow rate from the flare (dry basis);
- d. concentrations (dry basis) of NO<sub>x</sub>, CO, CH<sub>4</sub>, NMOC, and O<sub>2</sub> in the flare stack gas;
- e. concentration (dry basis) of SO<sub>2</sub> in the flare stack gas and the pounds per hour SO<sub>2</sub> emission rate from the flare, if using subpart 12a to demonstrate compliance with part 12;
- f. CH<sub>4</sub> and NMOC destruction efficiencies achieved by the flare; and
- g. average combustion zone temperature of the A-2 Landfill Gas Flare during the test period.

Annual source tests shall be conducted no later than twelve months after the previous source test. The owner/operator shall obtain approval from the District's Source Test Section for all source testing procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least seven days in advance of each source test. Within 60 days of test completion a comprehensive report of the test results shall be submitted to the Manager of the District's Source Test Section for review and disposition. (Basis: RACT, Cumulative Increase, Regulations 2-1-301, 2-5-302, 8-34-301.3)

15. In order to demonstrate compliance with parts 10-13 above and Regulation 9-1-302, the owner/operator shall conduct a characterization of the landfill gas concurrent with the annual source test required by part 14 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in subpart 14b, the landfill gas shall be analyzed for all the organic compounds listed below. If using subpart 12b to demonstrate compliance with part 12, the landfill gas shall also be analyzed for all of the sulfur compounds listed below. All concentrations shall be reported on a dry basis. Within 60 days of test completion a comprehensive report of the test results shall be submitted to the Manager of the District's Source Test Section for review and disposition. After conducting three annual landfill gas characterization tests, the owner/operator may request removal of specific compounds from the list of compounds to be tested for if the compounds have not been detected, have no significant impact on the cancer risk determination for the site, and have no significant impact on the hazard index determination for the site. (Basis: AB-2588 Air Toxics Hot Spots Act, Cumulative Increase, Regulations 2-5-302, 9-1-302)

Organic Compounds  
Acrylonitrile

Organic Compounds  
Hexane



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Benzene  
Carbon tetrachloride  
Chlorobenzene  
Chloroethane  
Chloroform  
1,1 dichloroethane  
1,1 dichloroethene  
1,2 dichloroethane  
1,4 dichlorobenzene  
Ethyl benzene  
Ethylene dibromide

Isopropyl alcohol  
Methyl ethyl ketone  
Methylene chloride  
Perchloroethylene  
Toluene  
1,1,1 trichloroethane  
1,1,2,2 tetrachloroethane  
Trichloroethylene  
Vinyl chloride  
Xylenes

Sulfur Compounds  
Carbon disulfide  
Carbonyl sulfide  
Dimethyl sulfide  
Ethyl mercaptan  
Hydrogen sulfide  
Methyl mercaptan

16. In order to demonstrate compliance with the above conditions, the owner/operator shall maintain the following records in a District-approved logbook:
- a. Record the initial operation date for each new landfill gas well and collector.
  - b. Maintain an accurate map of the landfill, which indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to subpart 5a above. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to include any newly installed wells and collectors.
  - c. Record on a daily basis the operating times and the landfill gas flow rate to the A-2 Landfill Gas Flare. Summarize these records on a monthly basis.
  - d. Calculate and record on a monthly basis the maximum daily and total monthly heat input to the A-2 Landfill Gas Flare based on the landfill gas flow rate recorded pursuant to part 7 above, the average methane concentration in the landfill gas as determined by the most recent source test, and a high heating value for methane of 1013 BTU/ft<sup>3</sup> of landfill gas at 60 degrees F.
  - e. Maintain continuous records of the combustion zone temperature for the A-2 Landfill Gas Flare during all hours of operation.
  - f. Maintain records of all test dates and test results performed to maintain compliance with parts 13, 14, and 15 above, or to maintain compliance with any applicable rule or regulation.



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All records shall be maintained on site and shall be made readily available to District staff upon request for a period of at least five years from the date of entry. These recordkeeping requirements do not replace any recordkeeping requirements contained in any other applicable rule or regulation.

(Basis: Cumulative Increase, Regulations 2-1-301, 2-6-501, 8-34-301, 8-34-303, 8-34-304, 8-34-501, and 9-1-302)

*End of Conditions*