

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CONTROL
PERMIT NUMBER 36154

Has been issued to Painted Desert Landfill

9001 N. Porter Ave.

Joseph City, AZ 86032

For operation of Municipal Solid Waste Landfill

Subject to terms and conditions therein and all applicable Arizona Revised Statutes and the Arizona Administrative Code.

Number: 36154

Issued: February 12, 2007

Expires: February 12, 2012


Nancy C. Wrona, Director, Air Quality Division



TO BE FRAMED AND DISPLAYED IN A CONSPICUOUS PLACE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Air Quality Division
1110 West Washington Street * Phoenix, AZ 85007-2935 * Phone: (602) 771-2316
AIR QUALITY CONTROL PERMIT
(As required by Title 49, Chapter 3, Article 2, Section 49-426, Arizona Revised Statutes)

This air quality control permit does not relieve applicant of responsibility for meeting all air pollution regulations

1. PERMIT TO BE ISSUED TO (Business license name of organization that is to receive permit) _____

Painted Desert Landfill

2. NAME (OR NAMES) OF OWNER OR PRINCIPALS DOING BUSINESS AS THE ABOVE ORGANIZATION _____

Pen Rob, Inc.

3. MAILING ADDRESS *PO Box 190*
NUMBER STREET

Joseph City *AZ* *86032*
CITY OR COMMUNITY STATE ZIP CODE

4. ORIGINAL EQUIPMENT LOCATION/ADDRESS *9001 N. Porter Ave.*
NUMBER STREET

Joseph City *Navajo* *AZ* *86032*
CITY OR COMMUNITY COUNTY STATE ZIP CODE

5. FACILITIES OR EQUIPMENT DESCRIPTION *Municipal Solid Waste Landfill*

6. THIS PERMIT ISSUED SUBJECT TO THE FOLLOWING *Conditions contained in Attachments "A", "B", and "C"*

7. ADEQ PERMIT NUMBER *36154* PERMIT CLASS *I* EXPIRATION DATE *February 12, 2012*

PERMIT ISSUED THIS *12th* DAY OF *February, 2007*


SIGNATURE

Nancy C. Wrona, Director, Air Quality Division
TITLE



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS I PERMIT

COMPANY: *Pen Rob, Inc.*
FACILITY: *Painted Desert Landfill*
PERMIT #: *36154*
DATE ISSUED: *February 12, 2007*
EXPIRY DATE: *February 12, 2012*

SUMMARY

This Class I operating permit is issued to Waste Management of Arizona, Inc. (WMA), the Permittee, for the operation of a municipal solid waste landfill. This is a renewal of Permit Number 1000776. The Painted Desert Landfill (PDL) is located three miles north of Highway 40 and on the east side of Porter Avenue in Joseph City, Navajo County, Arizona. The Painted Desert Landfill is located in Section 33, Township 19 North, Range 19 East, of the Gila and Salt River Meridian. The approximate latitude and longitude of the site are 34 degrees, 59 minutes, 45.79 seconds north, and 110 degrees, 20 minutes, 28.30 seconds west, respectively. The nearest community is Joseph City, Arizona located approximately 12 miles south of the facility. The PDL consists of a total of 330 acres of land, of which approximately 322 acres are dedicated to refuse disposal. The PDL has been designed to exceed a design capacity of 2.5 million cubic meters and 2.5 million megagrams.

The PDL was designed as an area fill landfill. The primary activities of PDL are the transportation and deposition of refuse along with the excavation and stockpiling of cover material and soil. A defined area of the landfill is excavated, and prepared to receive waste prior to the acceptance of refuse. Cell construction will continue as a cut-and-fill operation, and excavated materials will be used for daily, intermediate, and / or final cover. Existing site development includes paved and unpaved access roads, maintenance area, a scalehouse office, truck scale, fuel storage tanks, water well and filling station, and utilities.

The natural decomposition of the waste materials, and to some extent the evaporation of volatile organic compounds (VOCs) in the waste materials, constitute the primary sources of emissions. The landfill gas (LFG) that is emitted from the landfill is approximately 50 percent methane (CH₄) and 50 percent carbon dioxide (CO₂), with a fraction containing non-methane organic compounds (NMOCs) and hazardous air pollutants (HAPs). Particulate matter emissions due to traffic on unpaved roads, application of a cover layer of soil, soil stockpiling, cover layer distribution, and wind erosion make up a significant amount PM₁₀ pollution.

Liquids are unloaded into designated solidification basins. Heavy equipment is used to grade, mix, and add soil for the solidification of the liquids. Once solidified, the waste will be disposed of on-site.

PDL accepts non-hazardous industrial and solid wastes, construction and demolition debris, Arizona state regulated special wastes, white goods and other special wastes. Wastes that are conditionally accepted for disposal at the site include the following:

- White Goods - The PDL accepts large appliances that are void of Chlorinated fluorocarbons (CFC's) or will be evacuated prior to disposal;
- Construction and Demolition Debris - The PDL accepts construction and demolition debris (i.e., waste building materials, packaging and rubble from construction, remodeling, and repair and demolition operation of pavement, houses, buildings, and structures);

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 36154

for

Painted Desert Landfill

I. PERMIT EXPIRATION AND RENEWAL [ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

- A. This permit is valid for a period of five years from the date of issuance.
- B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS [A.A.C. R18-2-306.A.8.a and b]

- A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B. The permit shall be reopened and revised under any of the following circumstances
 - 1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless an application for renewal has been submitted pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five-year permit term.
 - 2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by

year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;
 2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period,
 3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;
 4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;
 5. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and
 6. Other facts the Director may require to determine the compliance status of the source.
- B. A copy of all compliance certifications shall also be submitted to the EPA Administrator.
- C. If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

- (1) Identity of each stack or other emission point where the excess emissions occurred;
- (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
- (3) Date, time and duration, or expected duration, of the excess emissions;
- (4) Identity of the equipment from which the excess emissions emanated;
- (5) Nature and cause of such emissions;
- (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and
- (7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit,

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions during Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The name of the company or entity that performed the analyses;
4. A description of the analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A; and
 5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.
- B.** The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVII.A and XVII.C of this Attachment.
- C.** For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change, as possible or, if advance notification is not practicable, as soon after the change as possible.
- D.** Each notification shall include:
1. When the proposed change will occur;
 2. A description of the change;
 3. Any change in emissions of regulated air pollutants; and
 4. Any permit term or condition that is no longer applicable as a result of the change.
- E.** The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate to Conditions XVII.A and XVII.B above.
- F.** Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section.
- G.** Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

- A.** The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS [A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE [A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD [A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE [40 CFR Part 82]

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. 36154

for

Painted Desert Landfill

I. FACILITY-WIDE REQUIREMENTS

- A. The Permittee shall have on staff a person that is certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3]
- B. At the time the compliance certifications required by Section VII of Attachment "A" are submitted, the Permittee shall submit reports of all monitoring and recordkeeping activities required by this Attachment during the period for which the compliance certifications are submitted. [A.A.C. R18-2-306.A.5.a]
- C. All requests, reports, applications, submittals, and other communications, to the Director pursuant to A.A.C. R18-2-901, -902, and 40 CFR Part 60, and required under Sections II through IV of this Attachment, shall be submitted in duplicate to the EPA Region 9 office at the following address:

Director, Air Division (Attn: AIR-1)
EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

[A.A.C. R18-2-901, -902, 40 CFR 60.4(a)]

II. NON-METHANE ORGANIC COMPOUNDS (NMOC)

- A. **Applicability** [40 CFR §60.752(b)]

This Section is applicable to municipal solid waste landfills having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters.

- B. The Permittee shall either install and operate a collection and control system in accordance with Section III, or calculate the NMOC mass emission rate according to the following procedures.

1. The Permittee shall calculate the NMOC mass emission rate using either the equation provided in Condition II.B.1.a or Condition II.B.1.b. The values to be used in both equations are 170 cubic meters per megagram for L_0 , and 4,000 parts per million by volume as hexane for the C_{NMOC} , and 0.02 per year for k .

- a. The following equation shall be used if the actual year-to-year solid waste acceptance rate is known.

$$M_{NMOC} = \sum 2kL_0M_i (e^{-ki})(C_{NMOC})(3.6 \times 10^{-9})$$

- c. If the calculated NMOC emission rate is equal to or greater than 50 Mg/yr, then the Permittee shall either comply with Section III.A, or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the Tier 2 procedures contained in Section II.B.3. [40 CFR §60.754(a)(2)(ii)]

3. Tier 2 Analysis

- a. The Permittee shall determine the NMOC concentration (C_{NMOC}) using the sampling procedure specified in 40 CFR §60.754.a.3. [40 CFR §60.754(a)(3)]
- b. The Permittee shall recalculate the NMOC mass emission rate using the equations provided in Condition II.B.1.a or Condition II.B.1.b and using the average NMOC concentration from the collected samples instead of the default value listed in Condition II.B.1. [40 CFR §60.754(a)(3)(i)]
- c. If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 Mg/yr, then the Permittee shall either comply with requirements specified in Section III.A, or determine the site-specific methane generation rate constant using Tier 3 procedures and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in Section II.B.4 below. [40 CFR §60.754(a)(3)(ii)]
- d. If the resulting NMOC mass emission rate is less than 50 Mg/yr, then the Permittee shall submit a periodic estimate of the emission rate report as per Condition II.D.2.a and retest the site-specific NMOC concentration every 5 years using the methods specified in Section II.B.3, above. [40 CFR §60.754(a)(3)(iii)]

4. Tier 3 Analysis

- a. The site-specific methane generation constant shall be determined using the procedure provided in Method 2E of appendix A of the 40 CFR §60. The Permittee shall estimate the NMOC mass emission rate using equations in Section II.B.1 and using the site-specific methane generation rate constant k , and the site-specific NMOC concentration as determined in Section II.B.3 instead of the default values provided in Section II.B.1. The Permittee shall compare the resulting NMOC mass emission rate to the standard of 50 Mg/yr. [40 CFR §60.754(a)(4)]
- b. If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 Mg/yr, the Permittee shall comply with requirements specified in Section III.A. [40 CFR §60.754(a)(4)(i)]

reconstruction for landfills that commenced construction, modification, or reconstruction on or after March 12, 1996. [40CFR §60.757(a)(1)(ii)]

b. The initial design capacity report shall contain the following information: [40 CFR §60.757(a)(2)]

i. A map or a plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the State, local, or tribal agency responsible for regulating the landfill. [40 CFR §60.757(a)(2)(i)]

ii. The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the State, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity shall be calculated using good engineering practices. The calculations shall be provided, along with the relevant parameters as part of the report. The EPA Administrator, State, Tribal, local agency or the ADEQ Director may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill. [40 CFR §60.757(a)(2)(ii)]

c. An amended design capacity report shall be submitted to both, the EPA Administrator and the ADEQ Director, providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams or 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in Condition II.C.2. [40 CFR §60.757(a)(3)]

2. The Permittee shall submit an NMOC emission rate report to both, the EPA Administrator and the ADEQ Director, initially and annually thereafter, except as provided in Conditions II.D.2.a.ii and III.G.1 below. The EPA Administrator/ADEQ Director may request such additional information as may be necessary to verify the reported NMOC emission rate. [40 CFR §60.757(b)]

a. The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in Conditions II.B.1 through II.B.5 and Condition III.A.5.d, as applicable. [40 CFR §60.757(b)(1)]

i. The initial NMOC emission rate report may be combined with the initial design capacity report required in Condition II.D.1 and shall be submitted no later than indicated below. Subsequent NMOC emission rate reports shall be submitted annually

- a. The collection and control system as described in the plan shall meet the design requirements of Condition III.A.2.
 - b. The collection and control system design plan shall include any alternatives to the operational standards, test methods, compliance measures, monitoring, recordkeeping or reporting provisions of this permit proposed by the Permittee.
 - c. The collection and control system design plan shall either conform with specifications for active collection systems in Section III.C or include a demonstration to the Director's satisfaction of the sufficiency of any alternative provisions to Section III.C.
 - d. The Director shall review the information submitted under Conditions III.A.1.a through III.A.1.c and either approve it, disapprove it, or request that additional information be submitted.
2. Install a collection and control system that captures the gas generated within the landfill as required in Conditions III.A.2.a or b and Condition III.A.3 within 30 months after the first annual report in which the emission rate equals or exceeds 50 Mg/yr, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 Mg/yr, as specified in Conditions III.G.2.a or b.
- [40 CFR §60.752(b)(2)(ii)]
- a. An active collection system shall: [40 CFR §60.752(b)(2)(ii)(A)]
 - i. Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
 - ii. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:
 - (1) 5 years or more if active; or
 - (2) 2 years or more if closed or at final grade;
 - iii. Collect gas at a sufficient extraction rate; and
 - iv. Be designed to minimize off-site migration of subsurface gas.
 - b. A passive collection system shall: [40 CFR §60.752(b)(2)(ii)(B)]
 - i. Comply with the provisions specified in Conditions III.A.2.a.i, ii, and iv, and
 - ii. Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under 40 CFR §258.40.

- d. The Permittee shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in Condition III.A.5 above, using the following equation: [40 CFR §60.754(b)]

$$M_{\text{NMOC}} = 1.89 \times 10^{-3} (Q_{\text{LFG}})(C_{\text{NMOC}})$$

where

M_{NMOC} = mass emission rate of NMOC, Mg/yr

Q_{LFG} = flow rate of landfill gas, cubic meters per minute

C_{NMOC} = NMOC concentration, ppmv as hexane

- i. The flow rate of the landfill gas, Q_{LFG} , shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of Section 4 of Method 2E of appendix A of 40 CFR §60.
- ii. The average NMOC concentration, C_{NMOC} , shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of 40 CFR §60. If using Method 18, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any gas moving, or condensate removal or other gas refining units. The Permittee shall divide the NMOC concentration from Method 25C by 6 to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.
- iii. The Permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Director.

B. Operational Standards and Test Methods

The Permittee with a gas collection and control system used to comply with the provisions of Condition III.A.2 shall:

1. Operate the collection system such that gas is collected from each area, cell, or group of cells in the Municipal Solid Waste landfill in which solid waste has been in place for: [40 CFR §60.753(a)]
 - a. 5 years or more if active; or
 - b. 2 years or more if closed or at final grade.
2. Operate the collection system with negative pressure at each wellhead except

may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous area may be excluded from the surface testing. [40 CFR §60.753(d)]

5. Operate the system such that all collected gases are vented to a control system designed and operated in compliance with Condition III.A.3. In the event the collection and control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour; [40 CFR §60.753(e)]
6. Operate the control or treatment system at all times when the collected gas is routed to the system. [40 CFR §60.753(f)]
7. If monitoring demonstrates that the operational requirements in Conditions III.B.2, 3, and 4 are not met, corrective action shall be taken as specified in Conditions III.D.1.c through e or Condition III.D.3. If corrective actions are taken as specified in Section III.D, the monitored exceedance is not a violation of the operational requirements in this section. [40 CFR §60.753(g)]
8. For the performance test required in Condition III.A.3.b, Method 25, 25C, or Method 18 of Appendix A of 40 CFR § 60 must be used to determine compliance with the 98-weight-percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Director as provided in Condition III.A.3.b. Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of Appendix A of 40 CFR §60, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency:

$$\text{Control Efficiency} = (\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / (\text{NMOC}_{\text{in}})$$

where

NMOC_{in} = mass of NMOC entering control device

NMOC_{out} = mass of NMOC exiting control device

[40 CFR §60.754(d)]

C. Specifications for Active Collection Systems

1. The Permittee seeking to comply with Condition III.A.1 shall site active collection wells, horizontal collectors, surface collectors or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Director as provided in Conditions III.A.1.c and d: [40 CFR §60.759(a)]

C_{NMOC} = concentration of nonmethane organic compounds, ppmv
[40 CFR §60.759(a)(3)(ii)]

- iii. The values for k and C_{NMOC} determined in field testing shall be used, if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_o , and C_{NMOC} are provided in Condition II.B.1, or the alternative values from Condition II.B.5. The mass of the nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in Condition III.C.1.c.i. [40 CFR §60.759(a)(3)(iii)]

2. The Permittee seeking to comply with Condition III.A.1.a shall construct the gas collection devices using the following equipment or procedures:[40 CFR §60.759(b)]

- a. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. [40 CFR §60.759(b)(1)]
- b. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations. [40 CFR §60.759(b)(2)]
- c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

after closure, t is the age of the landfill at installation, years
 c = time since closure, years (for an active landfill c=0, and $e^{-kc} = 1$)
 [40 CFR §60.755(a)(1)(i)]

ii. For sites with known year-to-year solid waste acceptance rate:

$$Q_m = 32k L_o M_i (e^{-kt_i})$$

Q_m = maximum expected gas generation flow rate, cubic meters per year

k = methane generation constant, years⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the ith section, years

t_i = age of the ith section, years

[40 CFR §60.755(a)(1)(ii)]

iii. If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in Conditions III.D.1.a.i and ii. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in Conditions III.D.1.a.i and ii, or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.
 [40 CFR §60.755(a)(1)(iii)]

b. For the purposes of determining sufficient density of gas collectors for compliance with Condition III.A.2.a.ii, the Permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Director, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.
 [40 CFR §60.755(a)(2)]

c. For the purposes of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Condition III.A.2.a.iii, the Permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under Condition III.B.2. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative time line for correcting the

- b. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR §60.755(c)(2)]
- c. Surface emission monitoring shall be performed in accordance with Section 4.3.1 of Method 21 of appendix A of the 40 CFR §60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. [40 CFR §60.755(c)(3)]
- d. Any reading of 500 ppm or more above background at any location shall be recorded as a monitored exceedance and the actions specified in Condition III.D.3.d.i through v of this Section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of Condition III.B.4. [40 CFR §60.755(c)(4)]
- i. The location of each monitored exceedance shall be marked and the location recorded. [40 CFR §60.755(c)(4)(i)]
- ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance. [40 CFR §60.755(c)(4)(ii)]
- iii. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in Condition III.D.3.d.v shall be taken, and no further monitoring of that location is required until the action specified in Condition III.D.3.d.v has been taken. [40 CFR §60.755(c)(4)(iii)]
- iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10 day re-monitoring specified in Conditions III.D.3.d.ii and iii shall be re-monitored 1 month from the initial exceedance. If the 1 month re-monitoring shows a concentration less than 500 parts per million (ppm) above background, then no further monitoring of that location is required until the next quarterly monitoring period. If the 1 month re-monitoring shows an exceedance, then the actions specified in Conditions III.D.3.d.iii or v shall be taken. [40 CFR §60.755(c)(4)(iv)]
- v. For any location where the monitored methane concentration equals or exceeds 500 ppm above backgrounds three times

basis as provided in Condition III.D.1.c; and [40 CFR §60.756(a)(1)]

- b. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in Condition III.D.1.e; and [40 CFR §60.756(a)(2)]
- c. Monitor temperature of the landfill gas on a monthly basis as provided in Condition III.D.1.e. [40 CFR §60.756(a)(3)]

2. Enclosed Combustors

The Permittee seeking to comply with Condition III.A.3 using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specification, the following equipment: [40 CFR §60.756(b)]

- a. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 °C, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts. [40 CFR §60.756(b)(1)]
- b. A device that records flow to or bypass of the control device. The Permittee shall either: [40 CFR §60.756(b)(2)]
 - i. Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device every 15 minutes; or [40 CFR §60.756(b)(2)(i)]
 - ii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line. [40 CFR §60.756(b)(2)(ii)]

3. Open Flares

The Permittee seeking to comply with Condition III.A.3 using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment: [40 CFR §60.756(c)]

- a. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame. [40 CFR §60.756(c)(1)]
- b. A device that records flow to or bypass of the flare. The Permittee shall either: [40 CFR §60.756(c)(2)]

Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR §60.758(b)]

- a. The Permittee seeking to demonstrate compliance with Condition III.A.2 shall have: [40 CFR §60.758(b)(1)]
 - i. The maximum expected gas generation flow rate as calculated in Condition III.D.1.a of this attachment. The Permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Director. [40 CFR §60.758(b)(1)(i)]
 - ii. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Condition III.C.1.a. [40 CFR §60.758(b)(1)(ii)]
- b. The Permittee seeking to demonstrate compliance with Condition III.A.3 through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts shall have: [40 CFR §60.758(b)(2)]
 - i. The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test. [40 CFR §60.758(b)(2)(i)]
 - ii. The percent reduction of NMOC determined as specified in Condition III.A.3.b achieved by the control device. [40 CFR §60.758(b)(2)(ii)]
- c. The Permittee seeking to demonstrate compliance with Condition III.A.3.b.i, through use of a boiler or process heater of any size: expected to have a description of the location at which the gas collection vent stream is introduced into the boiler or process heater over the same time period of the performance testing. [40 CFR §60.758(b)(3)]
- d. The Permittee seeking to demonstrate compliance with Condition III.A.3.a through use of an open flare, the flare type (i.e. steam assisted, air assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR §60.18, is expected to have continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent. [40 CFR §60.758(b)(4)]

2. Equipment Operating Parameters

Except as provided in Condition III.A.1.b, the Permittee of a controlled landfill

- b. The Permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in Condition III.C.1.c.i, as well as any nonproductive areas excluded from collection as provided in Condition III.C.1.c.ii. [40 CFR §60.758(d)(2)]
4. Except as provided in Condition III.A.1.b, the Permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standard in Conditions III.B.1 through 7, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR §60.758(e)]

G. Reporting Requirements

1. The Permittee is exempted from the requirements of Conditions II.D.2.a and b, after the installation of a collection and control system in compliance with Section III.A during such time that the collection and control system is in operation and in compliance with Sections III.B and III.D. [40 CFR §60.757(b)(3)]
2. The Permittee shall submit a collection and control system design plan to both, the EPA Administrator and the ADEQ Director, within 1 year of the first report required under Condition II.D.2, in which the emission rate exceeds 50 Mg/yr, except as follows: [40 CFR §60.757(c)]
 - a. If the Permittee elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in Condition II.B.3 and the resulting rate is less than 50 Mg/yr, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 Mg/yr or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 Mg/yr. [40 CFR §60.757(c)(1)]
 - b. If the Permittee elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in Condition II.B.4, and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emission rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of Condition II.B.4, and the resulting site-specific methane generation rate constant (k) shall be submitted to both, the EPA Administrator and the ADEQ Director, within 1 year of the first calculated emission rate exceeding 50 Mg/yr. [40 CFR §60.757(c)(2)]
3. The Permittee using an active collection system shall submit to both, the EPA Administrator and the ADEQ Director, reports of the recorded information in Conditions III.G.3.a through f every 6 months. The initial report shall be submitted within 180 days of installation and start-up of the collection and

- e. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; [40 CFR §60.757(g)(5)]
 - f. The provisions for controlling off-site migration. [40 CFR §60.757(g)(6)]
5. The Permittee shall submit an equipment removal report to both, the EPA Administrator and the ADEQ Director, 30 days prior to removal or cessation of operation of the control equipment. [40 CFR §60.757(e)]
- a. The equipment removal report shall contain all of the following items: [40 CFR §60.757(e)(1)]
 - i. A copy of the closure report submitted in accordance with Condition III.G.6. [40 CFR §60.757(e)(1)(i)]
 - ii. A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and [40 CFR §60.757(e)(1)(ii)]
 - iii. Dated copies of three successive NMOC emissions rate reports demonstrating that the landfill is no longer producing 50 Mg/yr or greater of NMOC per year. [40 CFR §60.757(e)(1)(iii)]
 - b. The EPA Administrator/ADEQ Director may request such additional information as may be necessary to verify that all of the conditions for removal in Condition III.A.5 have been met. [40 CFR §60.757(e)(2)]
6. The Permittee of a controlled landfill shall submit a closure report to both, the EPA Administrator and the ADEQ Director, within 30 days of waste acceptance cessation. The EPA Administrator/ADEQ Director may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR §258.60. If a closure report has been submitted to the EPA Administrator/ADEQ Director, no additional wastes may be placed into the landfill without filing a notification of modification as described in 40 CFR §60.7(a)(4). [40 CFR §60.757(d)]

H. Operation and Maintenance Requirements

- 1. Startup, Shutdown and Malfunction
 - a. At all times, including periods of startup, shutdown, and malfunction (SSM), the Permittee must operate and maintain the source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of SSM, this general duty to minimize emissions requires that the Permittee reduce emissions from

occurrence and duration of each startup, shutdown or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the Permittee shall confirm that actions taken during the relevant reporting period during SSM periods were consistent with the source's SSM plan in the semiannual SSM report required in Condition III.H.4.

[40 CFR §63.1980(b) & 40 CFR §63.6(e)(3)(iii)]

- d. If an action taken by the Permittee during an SSM (including an action taken to correct a malfunction) is not consistent with the procedures specified in the source's SSM plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the Permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with Condition III.H.4 (unless the Permittee makes alternative reporting arrangements, in advance, with the Director).

[40 CFR §63.1980(b) & 40 CFR §63.6(e)(3)(iv)]

- e. The Permittee must maintain at the source a current SSM plan and must make the plan available upon request for inspection and copying by the Director. In addition, if the SSM plan is subsequently revised as provided in Condition III.H.2.h, the Permittee must maintain at the source each previous (i.e. superseded) version of the SSM plan, and must make each such previous version available for inspection and copying by the Director for a period of 5 years after the revision of the plan. If at any time after adoption of an SSM plan the source ceases operation or is otherwise no longer subject to the provisions of Section III.H, the Permittee must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to Section III.H and must make the plan available upon request for inspection or copying by the Director. The Director may at any time request in writing that the Permittee submit a copy of any SSM plan (or a portion thereof) which is maintained at the source or in the possession of the Permittee. Upon receipt of such a request, the Permittee must promptly submit a copy of the requested plan (or a portion thereof) to the Director. The Director must request that the Permittee submit a particular SSM plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. The Permittee may elect to submit the required copy of any SSM plan to the Director in electronic format. If the Permittee claims that any portion of such an SSM plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR §2.301, the material which is claimed as confidential must be clearly designated in the submission.

[40 CFR §63.1980(b) & 40 CFR §63.6(e)(3)(v)]

- f. To satisfy the requirements of this section to develop an SSM plan, the Permittee may use the source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA)

[40 CFR §63.1980(b) & 40 CFR §63.10(b)(2)(i)]

- b. The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment,
[40 CFR §63.1980(b) & 40 CFR §63.10(b)(2)(ii)]
- c. All required maintenance performed on the air pollution control and monitoring equipment, [40 CFR §63.1980(b) & 40 CFR §63.10(b)(2)(iii)]
- d. Actions taken during SSM (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSM plan,
[40 CFR §63.1980(b) & 40 CFR §63.10(b)(2)(iv)]
- e. All information necessary to demonstrate conformance with the SSM plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the SSM plan may be recorded using a checklist, or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events)
[40 CFR §63.1980(b) & 40 CFR §63.10(b)(2)(v)]

4. Periodic SSM Reports

- a. If actions taken by the Permittee during SSM of the source (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSM plan, the Permittee shall state such information in an SSM report. Such a report shall identify any instance where any action taken by the Permittee during SSM (including actions taken to correct a malfunction) is not consistent with the SSM plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The SSM report shall consist of a letter, containing the name, title and signature of the Permittee or other responsible official who is certifying its accuracy, which shall be submitted to both, the EPA Administrator and the ADEQ Director semiannually. The SSM report shall be delivered or postmarked by the 30th day following the end of each calendar half.
[40 CFR §63.1980(b) & 40 CFR §63.10(d)(5)(i)]
- b. Any time an action taken by the Permittee during an SSM is not consistent with the procedures specified in the SSM plan, and the source exceeds any applicable emission limitation in the relevant emission

- (iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

- b. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public. [40 CFR §61.154(b)(2)]
- c. Upon request and supply of appropriate information, the Director will determine whether a fence or a natural barrier adequately deters access by the general public. [40 CFR §61.154(b)(3)]
3. Rather than meet the no visible emission requirements of Condition IV.A.1 at the end of each operating day, or at least once every 24-hour day period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall: [40 CFR §61.154(c)]
- a. Be covered with at least 15 cm (6 in) of compacted nonasbestos-containing material, or [40 CFR §61.154(c)(1)]
- b. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Director. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent. [40 CFR §61.154(c)(2)]
4. Rather than meet the no visible emission requirements of Condition IV.A.1, use an alternative emissions control method that has received prior written approval by the Director according to the procedures described in the 40 CFR §61.149(c)(2). [40 CFR §61.154(d)]

least 2 years.

[40 CFR §61.154(e)(4)]

2. Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. [40 CFR §61.154(f)]
3. Upon closure of any active waste disposal site that receives deposits of asbestos-containing waste material shall comply with all the provisions of 40 CFR §61.151. [40 CFR §61.154(g)]
4. Submit to both, the EPA Administrator and the ADEQ Director, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities. [40 CFR §61.154(h)]
 - a. Furnish upon request, and make available during normal business hours for inspection by the Director, all records required under this section. [40 CFR §61.154(i)]
 - b. Notify both, the EPA Administrator and the ADEQ Director, in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to both, the EPA Administrator and the ADEQ Director, at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice: [40 CFR §61.154(j)]
 - (i) Scheduled starting and completion dates. [40 CFR §61.154(j)(1)]
 - (ii) Reason for disturbing the waste. [40 CFR §61.154(j)(2)]
 - (iii) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Director may require changes in the emission control procedures to be used. [40 CFR §61.154(j)(3)]
 - (iv) Location of any temporary storage site and the final disposal site. [40 CFR §61.154(j)(4)]

C. Reporting Requirements

Receipt, handling and disposal of asbestos containing waste received from sources covered by 40 CFR §61.149 (asbestos mills), 40 CFR §61.150 (demolition, renovation, fabricating and manufacturing), or 40 CFR §61.155 (asbestos conversion operations) must meet the following standards: [40 CFR §61.154]

1. If Permittee discovers improperly enclosed or uncovered asbestos-containing

- suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means; [A.A.C. R18-2-604.B]
- c. Keep dust and other particulate to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed; [A.A.C. R18-2-605.A]
 - d. Keep dust and other particulate to a minimum by employing reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets; [A.A.C. R18-2-605.B]
 - e. Keep dust and other particulate to a minimum by employing reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when handling, transporting, or conveying materials or other operations likely to give rise to airborne dust; [A.A.C. R18-2-606]
 - f. The Permittee shall not cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne. [A.A.C. R18-2-607.A]
 - g. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne. [A.A.C. R18-2-607.B]
 - h. Such as the use of dust suppressants before the cleaning of site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means. [A.A.C. R18-2-804]
 - i. Any other method as proposed by the Permittee and approved by the Director. [A.A.C. R18-2-306.A.2]

B. Air Pollution Control Requirements

Haul Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from haul roads and storage piles. [A.A.C. R-18-2-306.A.2 and -331.A.3.d]

[Material Permit Condition is indicated by underline and italics]

C. Monitoring and Recordkeeping

1. The Permittee shall maintain records of the locations and dates on which any of the activities in Section V.A are performed and control measures employed. [A.A.C. R18-2-306.A.4]

not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.84. [A.A.C.R18-2-801.A]

A. Particulate Matter and Opacity Standards

1. No mobile source shall emit smoke or dust, the opacity of which exceeds 40 percent as determined by EPA Reference Method 9. [A.A.C. R18-2-801.B]
2. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers, locomotives and other construction and mining machinery not normally driven on a completed public roadway. [A.A.C.R18-2-802]
3. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any roadway or site cleaning machinery either smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C.R18-2-804.A]
4. The Permittee shall not cause, allow or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means. [A.A.C.R18-2-804.B]

B. Permit Shield

Compliance with Section VI shall be deemed compliance with the following applicable requirements as of the issuance date of this permit: A.A.C. R18-2-801, A.A.C. R18-2-802 and A.A.C. R18-2-804. [A.A.C. R18-2-325]

VII. STRATOSPHERIC OZONE

If the Permittee is subject to 40 CFR §82, then the Permittee shall comply with the provisions specified in the 40 CFR §82 and keep all records required by the applicable requirements of 40 CFR §82 - Subpart F in a file. [40 CFR §82]

VIII. OTHER PERIODIC ACTIVITY REQUIREMENTS

A. Abrasive Blasting

Particulate Matter and Opacity

1. Emission Limitations/Standards [A.A.C. R18-2-726]

- (a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
- (b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C.R18-2-727.B]

iii. For the purposes of Conditions VIII.B.1.a.ii and VIII.B.1.a.v, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions VIII.B.1.a.iii(a) through VIII.B.1.a.iii(c) below, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

- (a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.
- (b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.
- (c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C.R18-2-727.C]

iv. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described in Conditions VIII.B.1.a.iii(a) through VIII.B.1.a.iii(c) above, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

v. The Permittee shall not dispose of by evaporation more than 1.5 gallons of photochemically reactive solvent in any one day.

[SIP Provision R9-3-527.C]

b. **Monitoring and Recordkeeping Requirements**

i. Each time a spray painting project is conducted, the Permittee shall log in ink, or in an electronic format, a record of the following:

- (a) The date the project was conducted;

IX. LIQUID WASTE SOLIDIFICATION PROCESS

A. Applicability

This Section applies to following unclassified source:

Liquid Waste Solidification Process

B. Particulate Matter

1. Emissions Limitations and Standards [A.A.C. R18-2-730.A.1]

The Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from the sources identified in Condition IX.A. above in total quantities in excess of the amounts calculated by the following equation:

$$E = 4.10 P^{0.67}$$

Where

E = the maximum allowable particulate emission rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

2. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.A.1 [A.A.C. R18-2-325]

C. Opacity

1. Emission Limitations and Standards

The opacity of any plume or effluent from the sources identified in Condition IX.A above shall not be greater than 20 percent. [A.A.C. R18-2-702.B.3]

2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

A certified EPA Reference Method 9 observer shall conduct a bi-weekly survey of visible emissions emanating from sources identified in Condition IX.A above. The Permittee shall keep records of the type of observation performed, emission unit, name of observer, date, time of observation, location and the results of the observation. If the opacity of the emissions observed appears to exceed the opacity standard, the observer shall conduct a certified EPA reference method 9 observation. Upon completion of the survey or observation the Permittee shall record any corrective action taken. These records shall be made available to ADEQ upon request. For all instances of an exceedance of the opacity standard,

ATTACHMENT "C": REPORTING FORMAT FOR WASTE DISPOSAL SITE
Air Quality Control Permit No. 36154
for
Painted Desert Landfill

A. SOURCE INFORMATION

1. **Identification/Location** - Indicate the name and address of source:

Source Name: _____

Street Address (Location): _____

City Name/State/Zip Code: _____

State Registration Number: _____ SIC _____

2. **Contact** - Indicate the name and telephone number of the owner or operator or other responsible official whom EPA may contact concerning this report.

Name: _____

Telephone Number: _____

3. **Source Description** - Briefly state the nature of the source (e.g., Waste Disposal Site)

Description: _____

4. **Alternative Mailing Address** - Indicate an alternative mailing address if correspondence is to be directed to a location different than that specified above.

Street or Box Number: _____

City/State/Zip Code: _____

5. **Compliance Status** - The emissions from this source ___ can ___ cannot meet the emission limitations contained in the National Emission Standards on or prior to 90 days after the effective date of any standards or amendments which require the submission of such information.

Signature of Owner, Operator or Other Responsible Official

Date

Note: If the emissions from the source will exceed those limits set by the National Emission Standards for Hazardous Air Pollutants, the source will be in violation and subject to Federal enforcement actions unless granted a waiver of compliance by the Administrator of U.S. EPA.

