PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR PROGRAM

33 North Stone Avenue, Suite 730 ▪ Tucson, AZ 85701. ▪ Phone: (520) 740-3340

AIR QUALITY OPERATING PERMIT

(As required by Title 17.12, Article II, Pima County Code)

ISSUED TO

CITY OF TUCSON
ENVIRONMENTAL SERVICES
VINCENT MULLINS LANDFILL
7301 E. SPEEDWAY BLVD
TUCSON, AZ 85710

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

THIS PERMIT ISSUED SUBJECT TO THE **SPECIFIC AND ADMINISTRATIVE CONDITIONS IDENTIFIED IN THIS PERMIT.**

PERMIT NUMBER **1171** PERMIT CLASS **II**

ISSUED: **JULY 15, 2005** REVISED: **FEBRUARY 27, 2009** EXPIRES: **JULY 14, 2010**

SIGNATURE

Teresa Sobolewski Air Program Manager, PDEQ
TITLE

TABLE OF CONTENTS

INTRODUCTION

This operating permit is the revised, first renewal of the 5-year permit originally issued in 1999 to the The City Of Tucson Environmental Services to operate the Vincent Mullins Landfill (VML), formerly a solid waste disposal government facility. The source has been inactive since 1987 except for a brief period from January 2005 to April 2005 when VML accepted waste from the neighboring Speedway Landfill (SL) to bring VML to closure grades. The acceptance of this waste made the source subject to the design capacity reporting requirements of 40 CFR 60.757. The source has not accepted waste since April 25, 2005 and is currently a closed landfill.

The source operates two candle flares that are used for emissions control for two, separate, landfill gas (LFG) extraction systems. One flare controls emissions from the VML, while the other, added to the permit in March 2009, control emissions collected from the neighboring SL. The SL is privately owned and the City of Tucson is only permitted to operate the candle flare controlling the emissions of the landfill.

Decomposition of solid waste results in the generation of methane, (≈ 50%) carbon dioxide (≈ 50%) and volatile organic compounds, (VOC). These are extracted from the waste mass by the extraction systems. The extraction systems prevent migration of LFG away from the waste mass laterally and vertically to possible nearby structures and ground water. Both the VML candle flare and the SL candle flare will be located at 7301 East Speedway in Tucson, Arizona. These are the only sources of emissions that will be operated at the site.

The following Table shows the Potential to Emit of the various criteria pollutants for this source, with both candle flares operating 24 hours per day, 365 days per year at maximum capacity. The emission rates are for reference purposes only and are not intended to be enforced by direct measurement unless otherwise noted herein

Potential to Emit (tons per year)				
Nitrogen Oxides	Carbon Monoxide	Volatile Organic Compounds	Sulfur Dioxide	Particulate Matter
3.77	70.6	0.1388	5.38	1.6

This source is a Class II synthetic minor stationary source.

Specific Conditions

[References are to Title 17 of the Pima County Code unless otherwise noted]

Specific requirements for the operation of two (2) candle flares located at 7301 East Speedway Blvd in Tucson, Arizona.

I. APPLICABILITY

A. Affected Emission Source or Process:

The affected emission sources are two (2) Candle flares and their respective LFG Collection Systems.

B. Affected Emission Source Classification: **Class II Synthetic Minor Stationary Source for Carbon Monoxide.**

II. EMISSION LIMITS AND STANDARDS

A. Candle Flares & Landfill Gas Collection Systems

1. Particulate Matter Standard

The Permittee shall not discharge into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amount calculated by the following equation: [PCC 17.16.430.A.1.a]

$$E = 3.59P^{0.62}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the heat input in million Btu per hour.

2. Sulfur Dioxide Standard

The Permittee shall not cause or permit the emission of sulfur dioxide at rates greater than 600 parts per million. [PCC 17.16.430.A.2]

3. Nitrogen Oxide Standard

The Permittee shall not cause or permit the emission of nitrogen oxides (NO_2) at rates greater than 500 parts per million. [PCC 17.16.430.A.3]

4. Odor Limiting Standard

The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution. [PCC 17.16.430.D]

5. Processing of VOCs

Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

[PCC 17.16.430.F]

6. Use of Abatement Equipment

Where a stack, vent or other outlet is at such a level that fumes, gas, mist, odor, smoke, vapor or any combination thereof constituting air pollution are discharged to adjoining property, the Control Officer may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property. [PCC 17.16.430.G]

[Material Permit Condition]

7. Combustion of Waste Gases

The Permittee shall not cause, allow or permit discharge from any stationary source carbon monoxide emissions without the use of complete secondary combustion of waste gases generated by any process source. [PCC 17.16.430.I]

B. Operational Limitation [PCC 17.12.185.A.2]

[Material Permit Condition]

1. The Permittee shall maintain and operate the Land Fill Gas collection systems and candle flares in accordance with the manufacturer's specifications or good modern practices.

2. For each flare, a temperature-recording device with an accuracy of ±5 degrees Fahrenheit (^{o}F) shall be installed and maintained to measure and record the temperature in the flare shroud.

3. The process temperature of the candle flares shall be at least 650 ^{o} F

4. For each flare, a flow meter shall be installed and maintained in the gas line to measure and display the total flow rate.

C. Fuel Limitation

The Permittee shall use only methane gas to fuel the candle flares. [PCC 17.12.190.B]

[Material Permit Condition]

D. Facility-wide Standards

1. Opacity Standards [PCC 17.16.040]

a. No person shall cause, allow or permit the effluent from a single emission point, multiple emission point, or fugitive emissions source to have an average optical density equal to or greater than 40 percent opacity, subject to the following provisions:

(i) Opacities (optical densities) of an effluent shall be measured by a certified visible emissions evaluator with his natural eyes, approximately following the procedures used during his certification, or by an approved and precisely calibrated in-stack monitoring instrument.

(ii) The use of air or other gaseous diluents solely for the purpose of achieving compliance with an opacity standard is prohibited.

b. The Permittee shall not cause or permit the effluent from any fugitive emissions source to have an average optical density greater than 20%, as measured in accordance with the Arizona Testing Manual, EPA Reference Method 9. [PCC 17.16.050.B.1]

c. If more than one emission limit or emission standard is applicable to the same source, the more stringent standard or emission limit shall apply. [PCC 17.16.010.B]

2. Visibility Limiting Standard

The Permittee shall not allow the diffusion of visible emissions including fugitive dust beyond the property boundary line within which the emissions become airborne without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken. [PCC 17.16.050.D]

a. This provision shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source. [PCC 17.16.050.D.2]

b. This shall not apply to the generation of airborne particulate matter from undisturbed land. [PCC 17.16.050.D.3]

3. Vacant lots and open spaces. [PCC 17.16.080]

a. The Permittee shall not cause, suffer, allow, or permit a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, without taking reasonable precautions to limit excessive amounts of particulate matter from becoming airborne. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means.

b. No vacant lot, housing plot, building site, parking area, sales lot, playground, livestock feedlot, or other open area - other than those used solely for soil-cultivation or vegetative crop-producing and harvesting agricultural purposes - shall be used or left in such a state after construction, alteration, clearing, leveling, or excavation that naturally induced wind blowing over the area causes a violation of II.D.1.b or II.D.2 of the Specific Conditions. Dust emissions must be permanently suppressed by landscaping, covering with gravel or vegetation, paving, or applying equivalently effective controls.

c. No vacant lot, parking area, sales lot, or other open urban area shall be used by motor vehicles in such a manner that visible dust emissions induced by vehicular traffic on the area cause a violation of II.D.1.b or II.D.2 of the Specific Conditions.

4. Odor Limiting Standard

The Permittee shall not cause or permit emissions from malodorous matter to cross a property line between the source and a residential, recreational, institutional, educational, retail sales, hotel, or business premise without minimizing the emissions by applying good modern practices. [PCC 17.16.030]

III MONITORING REQUIREMENTS [PCC 17.12.185.A.3]

A. Candle Flares & Landfill Gas Collection Systems

Odor Control

The Permittee shall perform weekly odor checks of the air pollution control equipment and use good modern practices to control odors that cause air pollution.

NOTE:

No monitoring is required for opacity, NO_X, SO_2 or PM_{10} unless requested by the Control Officer or the Permittee has determined that monitoring is required to return to compliance for another matter. The exclusive use of methane gas for combustion makes it unnecessary & burdensome to perform opacity checks on the candle flares since methane burns as a clean fuel and the products of combustion of the other constituents in LFG do not present any potential opacity difficulties.

B. Facility-wide

1. Bi-weekly Opacity Checks

a. At least bi-weekly (once in each consecutive 14-day period), the Permittee shall conduct an opacity check from any sources of fugitive dust on the premises.

b. If the observer sees visible emissions from a source that on an instantaneous basis appears to exceed 20 percent, then the observer shall, if possible, take a six-minute Method 9 observation of the plume.

c. If the six-minute opacity of the plume exceeds the opacity standard, then the Permittee shall immediately take whatever action is necessary to reduce the opacity such that it falls within the standard.

2. Weekly Odor Checks

The Permittee shall perform weekly odor checks of the landfill premises and use good modern practices to control any odors that cause air pollution.

IV. RECORDKEEPING REQUIREMENTS [PCC 17.12.185.A.4]

A. Candle Flares & Landfill Gas Collection Systems

Odor Checks

The Permittee shall maintain records of all weekly odor checks. The record shall include the date, the identification of air pollution control equipment or good modern practice being checked, the name of the person making the check, and the results of the check. If nothing was detected the records shall state that nothing was detected (i.e., any indications of any operation or maintenance required or identification of emissions, and, if so, what corrective action was taken).

B. Facility-wide

1. Opacity Checks.

The Permittee shall maintain records of all bi-weekly opacity checks. The record shall include the date, identification of the fugitive dust source being observed, the name of the person making the check, and the results of the check. If nothing was observed the records shall state that nothing was observed (i.e., any indications of any operation or maintenance required or identification of emissions, and, if so, what corrective action was taken).

2. Odor Checks

The Permittee shall maintain records of all weekly odor checks. The record shall include the date, the identification of the source being checked, the name of the person making the check, and the results of the check If nothing was detected the records shall state that nothing was detected (i.e., any indications of any operation or maintenance required or identification of emissions, and, if so, what corrective action was taken).

3. All records shall be kept in accordance with the Record Keeping Requirements described in the Additional Permit Conditions of this Permit.

V. REPORTING REQUIREMENTS [PCC 17.12.185.A.5. and PCC 17.12.185.E.3.d]

A. Design Capacity Reporting **[Federally Enforceable Condition]**

For construction, reconstruction or modification that commenced after March 12 1996, the Permittee shall have submitted an initial design capacity report ninety days after construction, reconstruction or modification was commenced and shall contain the following information: [40 CFR 60.757.a.1.ii]

1. A map or 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 & 17.16.390.C.2]

2. 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 State, Tribal, local agency or Administrator 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 & 17.16.390.C.2]

B. Excess Emissions and Permit Deviation Reporting.

The Permittee shall fulfill all reporting requirements outlined in the Additional Permit Conditions of this permit.

VI. TESTING REQUIREMENTS [PCC 17.12.185.A.3.a]

For purposes of demonstrating compliance, these test methods shall be used, provided that for the purpose of establishing whether or not the facility has violated or is in violation of any provision of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable federal requirements if the appropriate performance or compliance procedures or methods had been performed.

A. Should the Permittee desire to test, or be required to test the equipment to demonstrate compliance with limits in II.A.4 of the Specific Conditions, the Permittee shall contact the Control Officer for testing requirements.

B. Opacity and Visible Emissions Testing

EPA Test Method 9 may be used to monitor compliance with the opacity standard in II.D.1.a & b of the Specific conditions.

C. Particulate Matter Testing

Mass emission testing to determine compliance with the particulate matter standard in II.A 1of the Specific Conditions is not normally necessary as standard emission factors yield emission estimates of particulate matter that are far less than the standard allowed by the referenced equation. The Control Officer may require the Permittee to quantify its particulate matter emissions if the Control Officer has reasonable cause to believe a violation of a standard has been committed.

D. Sulfur Dioxide Testing

Sulfur Dioxide testing to determine compliance with the standard in II.A 2 of the Specific Conditions is not normally necessary as standard emission factors yield concentration estimates of sulfur dioxide that are far less than the concentration allowed by the referenced standard. Use of LFG as fuel ensures compliance with this standard. The Control Officer may require the Permittee to quantify its sulfur dioxide emissions if the Control Officer has reasonable cause to believe a violation of a standard has been committed.

E. Nitrogen Oxide Testing

Nitrogen Oxide testing to determine compliance with the standard in II.A 3 of the Specific Conditions is not normally necessary as standard emission factors yield concentration estimates of nitrogen oxide that are far less than the concentration allowed by the referenced standard. Use of LFG as fuel ensures compliance with this standard. The Control Officer may require the Permittee to quantify its nitrogen oxide emissions if the Control Officer has reasonable cause to believe a violation of a standard has been committed.

ADDITIONAL PERMIT CONDITIONS

I. COMPLIANCE WITH PERMIT CONDITIONS [PCC 17.12.185.A.7.a & b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of Arizona air quality statutes and the 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. The Permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. The report shall be in 2 parts as specified below: [PCC 17.12.185.A.5 & PCC 17.12.040]

1 Notification by telephone or facsimile within 24 hours of the time the Permittee first learned of the occurrence of excess emission that includes all available information pursuant to PCC 17.12.040.B. To report excess emissions call **520-740-3340** or fax to **520-243-7340.**

2. Detailed written notification by submission of an excess emissions report within 72 hours of the notification in I.B.1 above. **Send to PDEQ 33 N. Stone Ave, Ste 730, Tucson, Arizona 85701.**

C. 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.

D. The permit does not convey any property rights of any sort, or any exclusive privilege to the permit holder.

E. The Permittee shall pay fees to the Control Officer pursuant to PCC 17.12.520.
[PCC 17.12.185.A.8 & PCC 17.12.520]

II. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE [PCC 17.12.185.A.7.c]

The permit may be revised, reopened, revoked and reissued, or terminated for cause pursuant to PCC 17.12.270. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

III. DUTY TO PROVIDE INFORMATION [PCC 17.12.165.G & PCC 17.12.185.A.7.e]

A. The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish a copy of such records to the Control Officer along with a claim of confidentiality.

B. If the Permittee has failed to submit any relevant facts or if the Permittee has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

IV. SEVERABILITY CLAUSE [PCC 17.12.185.A.6]

The provisions of this permit are severable. If any provision of this permit is held invalid, the remainder of this permit shall not be affected thereby

APPLICABLE REGULATIONS

REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE

Compliance with the terms contained in this permit shall be deemed compliance with the following federally applicable requirements in effect on the date of permit issuance:

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES
Subpart WWW—Standards of Performance for Municipal Solid Waste Landfills

40 CFR 60.757 Reporting requirements

Compliance with the terms contained in this permit shall be deemed compliance with the following non-federally applicable requirements in effect on the date of permit issuance:

Pima County Code (PCC) Title 17, Chapter 17.16:

17.12.180 Permit Contents
17.12.220 Compliance Plan; Certification
17.12.220 Permits Containing Voluntarily Accepted Emission Limitations and Standards
17.12.320 Annual Emissions Inventory Questionnaire
17.16.010 Local Rules and Standards; Applicability of more than one Standard
17.16.030 Odor Limiting Standards
17.16.050 Visibility Limiting Standard
17.16.080 Vacant Lots and Open Spaces
17.16.430 Standards of Performance for Unclassified Sources
17.20.010 Source Sampling, Monitoring, and Testing

EQUIPMENT LIST

FLARE STATION, Number 1 (Speedway Landfill) COMPONENT LIST				
COMPONENT	**MANUFACTURER**	**MODEL**	**SERIAL NUMBER**	**NOTES**
Blower	Aerovent	670	85 0878001	Fan #670-150-HPVD-3450-20
Flame Arrestor	Verec	94305	9430-10350	8”
Flow Meter	Sierra Instruments	6405-NAA-L01-E2-P3-V4-NR-5	64154	
Flow Control Valve	Demco Products	NE-C-200 PSI (AL BRZ)	None	
Flow Shut Off Valve	ASAHI/America	08I12901G	None	
Pnewumatic Valve Actuator	Valbia	125	None	
Flow Meter	Rosemount	3001S1AAE5M5	816850	79-500 SCFM

Equipment List continued on Page 14

Equipment List continued from Page 13

EQUIPMENT LIST

FLARE STATION, Number 2 (Vincent Mullins Landfill) COMPONENT LIST				
COMPONENT	**MANUFACTURER**	**MODEL**	**SERIAL NUMBER**	**NOTES**
Air Compressor	Atlas Copco	CCSRVA, REED Valve 5	DMO 13759	15 HP
Air Dyer	Gardner Denver	RNC50A1N	GD50A1150508140	
Autodailer	Raco	Verbatim- VSS		8 Channel
Chart Recorder	Yokogawa	FX106-4-2/C3/C7/M1	S5DC05823	
Flame Arrestor	Shand & Jurs	94307-13-66-71001	5382082	6 in
Flame Control Panel	Shaw LFG	Flametroll III	1986	
Flow Meter	Rosemount	3001S1AAE5M5	816850	79-500 SCFM
Gas Analyzer	Shaw LFG	Ensight	1986	CH_4, O_2
Blower & Motor Assembly #1	HSI	5103	0705241-22447	15 HP
Blower & Motor Assembly #2	HIS	5103	0705240-22447	15 HP
Pnematic Actuator	Bettis	DS0660.B2A03K.27KO	X	
UV Flame Panel	Shaw LFG	CFJ	1986	
Uninterruptible Power Supply	General Electric	GT1000T	81605A00176WB	1000 VA
Vacuum Transmitter	Yokogowa	EJA530A	27E434483U	-100” to 0” wc
Variable Frequency Drives	Cutler-Hammer	1Q1200VXS	1A775405-4	15 HP