Title V Operating Permit

APPLICATION FOR PERMIT RENEWAL

Valencia Regional Landfill and Recycling Facility
Los Lunas, New Mexico

Submitted To:

Program Manager
Permitting Section
New Mexico Environment Department
Air Quality Bureau
525 Camino De Los Marquez
Santa Fe, New Mexico 87505
505.476.4300

Prepared For:

Waste Management of New Mexico, Inc.
P.O. Box 15700
Rio Rancho, New Mexico 87174
505.892.2055

WASTE MANAGEMENT

Prepared By:

Gordon Environmental/PSC
333 Rio Rancho Blvd., Suite 400
Rio Rancho, New Mexico 87124
505.867.6990

November 15, 2018

Gordon/PSC Project #: 01025418

GORDON ENVIRONMENTAL PSC

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333 Rio Rancho Blvd. NE, Suite 400
Rio Rancho, New Mexico 87124
505.867.6990

November 15, 2018

Ms. Melinda Owens
Title V Permit Section Manager
New Mexico Environment Department
Air Quality Bureau
525 Camino De Los Marquez
Santa Fe, New Mexico 87505

Re: Valencia Regional Landfill and Recycling Facility: Application for Title V Operating Permit Renewal Permit Application No. P247L-R1 [0254.18]

Dear Ms. Owens,

On behalf of our client, Waste Management of New Mexico, Inc. (WMNM), Gordon Environmental/PSC is pleased to provide the New Mexico Environment Department (NMED) Air Quality Bureau (AQB) with the enclosed Title V Application for Permit Renewal for the Valencia Regional Landfill and Recycling Facility (VRLRF). Consistent with the requirements of 20.2.70.300.B.2 NMAC, this Application is being submitted 12 months prior to the date of the current permit expiration (Operating Permit No. P247L-R1). In the attached Application, the emissions estimates demonstrate compliance with applicable regulations, specifically 40 CFR 50 (National Ambient Air Quality Standards); 40 CFR 52 (Prevention of Significant Deterioration); and 20.2.3 NMAC (New Mexico Ambient Air Quality Standards).

Where appropriate, data provided in the twenty-two sections has been cross-referenced to information in the relevant Section of the Operating Permit Application Form (**Section 1**). Consistent with the requirements of 20.2.70.300.D, two electronic versions of the Application are being provided to AQB, along with two full hard-copy versions.

We appreciate the Bureau's review of the enclosed information. Please contact us with your questions and comments.

Sincerely,

GORDON ENVIRONMENTAL/PSC

By Michael J. Crepeau

Michael J. Crepeau, P.E.
Senior Project Manager

Enclosures

cc: Mr. Jack Kolopanis, Area Environmental Protection Manager, WMNM (w/enclosures)
Mr. Stephen Miceli, District Landfill Manager, WMNM (w/enclosures)

MJC/lc
X:\2018\0254.18\03_DSGN\Z_TO\02_AGENCY\nmed_cvrltr_VRLRF.docx

Mail Application To:

New Mexico Environment Department
Air Quality Bureau
Permits Section
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505

Phone: (505) 476-4300
Fax: (505) 476-4375
www.env.nm.gov/aqb

For Department use only:

AIRS No.:

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. For NOI applications, submit the entire UA1, UA2, and UA3 applications on a single CD (no copies are needed). For NOIs, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required.

This application is submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
Construction Status: ☐ Not Constructed ☑ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC ☐ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ☐ Title V (new) ☑ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:
☑I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
☐ $500 NSR application Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
☐ Check No.: in the amount of
☑ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.
☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.
☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html).

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.70.300.B.2 NMAC**
(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1st 3 to 5 #s of permit IDEA ID No.): **21664**	Updating Permit/NOI #: **P-247L-R1**
1	Facility Name: **Valencia Regional Landfill and Recycling Facility**	Plant primary SIC Code (4 digits): **4953**	
		Plant NAIC code (6 digits): **562212**	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): **Mystic Mountain Road, 6 miles south of NM Hwy 6 in Valencia County, New Mexico, 87206**		
2	Plant Operator Company Name: **Waste Management of New Mexico, Inc.**	Phone/Fax: **505-892-2055/505-892-2057**	
a	Plant Operator Address: **P.O. Box 15700, Rio Rancho, NM 87174**		

b	Plant Operator's New Mexico Corporate ID or Tax ID: **01-799015007**	
3	Plant Owner(s) name(s): **Waste Management of New Mexico, Inc.**	Phone/Fax: **505-892-2055/505-892-2057**
a	Plant Owner(s) Mailing Address(s): **P.O. Box 15700, Rio Rancho, NM 87174**	
4	Bill To (Company): **Waste Management of New Mexico, Inc.**	Phone/Fax: **505-892-2055/505-892-2057**
a	Mailing Address: **P.O. Box 15700, Rio Rancho, NM 87174**	E-mail: **smiceli@wm.com**
5	☐ Preparer: ☑Consultant: **Gordon Environmental/PSC, Inc.**	Phone/Fax: **505-867-6990/505-867-6991**
a	Mailing Address: **333 Rio Rancho Blvd. NE, Suite 400, Rio Rancho, NM 87124**	E-mail: **MCrepeau@team-psc.com**
6	Plant Operator Contact: **Steve Miceli, Landfill District Manager**	Phone/Fax: **505-433-6053/505-892-2057**
a	Address: **40 Landfill Road, Los Lunas, NM 87031**	E-mail: **smiceli@wm.com**
7	Air Permit Contact: **John W. Kolopanis**	Title: **AZ/NM Area Environmental Protection Manager**
a	E-mail: **jkolopan@wm.com**	Phone/Fax: **480-457-4706/602-763-9225**
b	Mailing Address: **222 S. Mill Ave., Suite 333 Tempe, AZ 85281**	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☑ Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☑ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☑ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☐ Yes ☑ No
3	Is the facility currently shut down? ☐ Yes ☑ No	If yes, give month and year of shut down (MM/YY): **N/A**
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☑ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐No ☑ N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☑ Yes ☐ No	If yes, the permit No. is: **P-247L-R1**
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☑ No	If yes, the NPR No. is: **N/A**
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☑ No	If yes, the NOI No. is: **N/A**
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☑ No	If yes, the permit No. is: **N/A**
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☑ No	If yes, the register No. is: **N/A**

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
b	Proposed	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
b	Proposed	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**

Section 1-D: Facility Location Information

<table>
<tr><td>1</td><td>Section: 27</td><td>Range: 2W</td><td>Township: 6N</td><td>County: Valencia</td><td>Elevation (ft): 5466</td></tr>
<tr><td>2</td><td colspan="3">UTM Zone: ☐ 12 or ☑ 13</td><td colspan="2">Datum: ☐ NAD 27 ☐ NAD 83 ☑ WGS 84</td></tr>
<tr><td>a</td><td colspan="3">UTM E (in meters, to nearest 10 meters): 312,820</td><td colspan="2">UTM N (in meters, to nearest 10 meters): 3,844,214</td></tr>
<tr><td>b</td><td colspan="3">AND Latitude (deg., min., sec.): 34˚ 43' 29" N</td><td colspan="2">Longitude (deg., min., sec.): 107˚ 20' 39" W</td></tr>
<tr><td>3</td><td colspan="5">Name and zip code of nearest New Mexico town: Los Lunas, NM 87031</td></tr>
<tr><td>4</td><td colspan="5">Detailed Driving Instructions from nearest NM town (attach a road map if necessary From the intersection of Interstate 25 and NM Hwy 6 (Exit 203) drive 14.6 miles west on NM Hwy 6 to Mystic Mountain Road, turn south and travel 0.4-miles to the Scalehouse, then proceed approximately 5.8-miles to the site entrance.</td></tr>
<tr><td>5</td><td colspan="5">The facility is 16 miles west of Los Lunas, NM.</td></tr>
<tr><td>6</td><td colspan="5">Status of land at facility (check one): ☑ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)</td></tr>
<tr><td>7</td><td colspan="5">List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated:
<u>Municipalities:</u>
No municipalities are located within 10 miles of the facility
<u>Indian tribes:</u>
Isleta: 7 miles
<u>Counties:</u>
Valencia County: 0.0 miles
Socorro County: 9.0 miles
Cibola County: 9.3 miles
Bernalillo County: 10.0 miles</td></tr>
<tr><td>8</td><td colspan="5">20.2.72 NMAC applications only: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/class1areas.html)? ☐ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: N/A</td></tr>
<tr><td>9</td><td colspan="5">Name nearest Class I area: Bosque del Apache National Wildlife Refuge</td></tr>
<tr><td>10</td><td colspan="5">Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 97.10 km</td></tr>
<tr><td>11</td><td colspan="5">Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 4,020 meters southwest</td></tr>
<tr><td>12</td><td colspan="5">Method(s) used to delineate the Restricted Area: The active areas of the landfill are enclosed by a (minimum) 6-foot chain-link fence topped with 3-strand barbed-wire and equipped with locking gates.

"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.</td></tr>
<tr><td>13</td><td colspan="5">Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC?
☐ Yes ☑ No
A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.</td></tr>
<tr><td>14</td><td colspan="5">Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes
If yes, what is the name and permit number (if known) of the other facility?</td></tr>
</table>

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$): **N/A**	($\frac{\text{days}}{\text{week}}$):**N/A**	($\frac{\text{weeks}}{\text{year}}$):**N/A**	($\frac{\text{hours}}{\text{year}}$):**N/A**
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: **N/A** AM PM	End: **N/A** ☐AM ☐PM		
3	Month and year of anticipated start of construction: **N/A**			
4	Month and year of anticipated construction completion: **N/A**			
5	Month and year of anticipated startup of new or modified facility: **N/A**			
6	Will this facility operate at this site for more than one year? ☐ Yes ☐ No **N/A**			

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☑ No If yes, specify:		
a	If yes, NOV date or description of issue: **N/A**	NOV Tracking No: **N/A**	
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☑ No If Yes, provide the 1c & 1d info below:		
c	Document Title: **N/A**	Date: **N/A**	Requirement # (or page # and paragraph #): **N/A**
d	Provide the required text to be inserted in this permit: **N/A**		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☑ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☑ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☑ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☑ **Minor** (☑ <10 tpy of any single HAP **AND** ☑ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☑ Yes ☐ No		
a	If yes, include the name of company providing commercial electric power to the facility: **Public Service Company of New Mexico (PNM)** Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

Section 1-G: Streamline Application (This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications."	☑ N/A (This is not a Streamline application.)

Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (20.2.70.300.D.2 NMAC): **Damon De Frates**	Phone: **(480) 457-4835**
a	R.O. Title: **Director of Post Collections**	R.O. e-mail: **ddefrates@wm.com**
b	R. O. Address: **222 S. Mill Avenue, Suite 333, Tempe, AZ 85281**	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): **John W. Kolopanis**	Phone: **(480) 457-4706**
a	A. R.O. Title: **Environmental Protection Manager**	A. R.O. e-mail: **jkolopan@wm.com**

b	A. R. O. Address: **222 S. Mill Avenue, Suite 333, Tempe, AZ 85281**
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): **Waste Management of New Mexico, Inc.** **San Juan County Regional Landfill** **Permit No. P-246L-R1** **Waste Management of New Mexico, Inc.** **Rio Rancho Landfill** **Permit No. P-208L-R2**
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): **Waste Management Holdings, Inc.**
a	Address of Parent Company: **1001 Fannin, Suite 400, Houston, TX 77002**
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): **N/A**
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: **Mr. Steve Miceli, District Manager** (505) 433-6053 (office) (505) 974-1947 (cell) **Mr. Douglas Shimic, Operations Manager** (505) 433-6053 (office) (505) 206-0667 (cell)
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: **Yes, the Valencia Regional Landfill and Recycling Facility is located fewer than 80 km (50 miles) from local air pollution control programs and Indian tribes or pueblos.** **Other States:** None **Local Pollution Control Programs:** Bernalillo County: 16.3 km (10.0 miles) **Indian tribes and Pueblos:** Alamo: 45km (28 miles) Acoma Pueblo: 52 km (32 miles) To'hajilee (Cañoncito) Pueblo: 40 km (25 miles) Sandia Pueblo: 72.4 km (45 miles) Santa Ana Pueblo: 78.9 km (49 miles) Zia Pueblo: 77.2 km (48 miles) Laguna Pueblo: 25.8 km (16 miles) Isleta Pueblo: 11.3 km (7 miles)

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (**NOI**), a 20.2.70 NMAC (**Title V**), a 20.2.72 NMAC (**NSR** minor source), or 20.2.74 NMAC (**PSD**) application package shall consist of the following:

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package** **printed double sided** **'head-to-toe'** **2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. Please include a copy of the check on a separate page.

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy does not need to be 2-hole punched, but **must be double sided**. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically on compact disk(s) (CD). For permit application submittals, two CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal.

4) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** **OR** one additional electronic copy of the air dispersion modeling including the input and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau. The complete dispersion modeling study, including all input/output files, should be submitted electronically as part of the electronic submittal.

5) If subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
   a. one additional CD copy for US EPA,
   b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

1) All required electronic documents shall be submitted in duplicate (2 separate CDs). A single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format with the number of additional hard copies corresponding to the number of CD copies required. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 3 electronic files (2 MSWord docs: Universal Application section 1 and Universal Application section 3-19) and 1 Excel file of the tables (Universal Application section 2) on the CD(s). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

4) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

Table of Contents

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] Date of Construction/ Reconstruction[2]	Controlled by Unit # Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
1	Landfill Roads	N/A	N/A	N/A	N/A	N/A	N/A N/A	2 N/A	5010-0401	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
2	General Landfill Operations	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	5010-0402	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
3	Landfill Gas Generation	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	5010-0406	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
4	PCS Landfarm	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	26200-30000	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
5	Engines	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	2030-0101; 2030-0301	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
										☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
[2] Specify dates required to determine regulatory applicability.
[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.
[4] "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction[2]	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction[2]	
2a	Diesel Fuel Storage Tank	NA	N/A	8,000	20.2.72.202.B.2	2007	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	gallons	IA List Item #8	2007	
2b	Vehicle Maintenance Fluids	Castrol	N/A	<0.2	20.2.72.202.B.2	N/A	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	psi	IA List Item #5	N/A	
5a	Scalehouse Generator (Diesel)	Cummins	DGCB	90	20.2.72.202.B.3	08/2006	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			K06098811	hp	IA List Item #6	08/2006	
5b	Water Well Generator (Diesel)	Cummins	DGCB	90	Non-exempt	08/2006	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			K06098812	hp	IA List Item #6	08/2006	
5c	Portable Power Washer (Gas)	ALKOTA	53553B	20	20.2.72.202.A.2	N/A	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			254478	hp	IA List Item #6	N/A	
5d	Portable Air Compressor (Diesel)	Ingersoll Rand	P185WIR	69	20.2.72.202.A.2	N/A	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			303393UGJ219	hp	IA List Item #6	N/A	
5e	Portable Diesel Fuel Storage Tank Generator (Gas)	Generac	GP7500E	13	N/A	04/2015	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			9638235A	hp	IA List Item #6	12/14/2017	
5f	Portable Light Tower (Diesel)	SiteLite	Kubota D950-BG1	29	N/A	12/2004	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	hp	IA List Item #6	2/20/2017	
5g	Portable Trash Pump (3" Water Pump) (Gas)	Yamaha	MZ300 7VB8-020	10	N/A	2017	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			1000172	hp	IA List Item #6	11/13/2017	
5h	Portable Generator (Gas)	GENERAC XG10000E	0J2537	18	N/A	02/2015	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			E9180986.15047	hp	IA List Item #6	4/17/2015	
5i	Portable Tarping Machine (Diesel)	Tarpomatic	CAT C1.1	24	N/A	03/2015	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			G8N17832	hp	IA List Item #6	8/30/2015	
5j	Portable Small Generator (Gas)	Generac	Generac 5982-1	7	N/A	08/2014	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			9029590B	hp	IA List Item #6	11/14/2016	
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

[2] Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
1	Peterbilt Water Wagon (5,000 gallons), Cold Millings	N/A	TSP, PM10, PM2.5	1, 2	60%, 80%	Bureau Recommendation

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	--	--	--	--	--	--	--	--	54.23	64.22	14.64	17.34	1.46	1.73	--	--	--	--
2	--	--	--	--	--	--	--	--	163.40	14.93	45.39	4.39	4.50	0.45	--	--	--	--
3	--	--	--	--	0.70	3.06	--	--	--	--	--	--	--	--	--	--	--	--
4	--	--	--	--	4.89	21.44	--	--	--	--	--	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Totals	0.00	0.00	0.00	0.00	5.59	24.50	0.00	0.00	217.64	79.15	60.03	21.73	5.96	2.18	0.00	0.00	0.00	0.00

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Table 2-D-1: Generator Emissions Estimates

***For NSR Applicability**

Emission Factors based on *Exhaust Emission Data Sheet, 60DGCB, 60 Hz Diesel Generator (Cummins Power Generation, 11-04-14)*

Brake Horsepower: Prime Power Rating utilized for both generators based on *Power Rating Sheet (Cummins Power Generation, 11-04-14)*

Water Well Generator (Non-Emergency) - Unit 5b								
Parameter	Emission Factor (g/hp-hour)	Rated Power Class	Brake Horsepower: Prime Power Rating	g/lb	hrs/yr	lb/ton	Emissions (lbs/hr)	Emissions (tons/yr)
Hydrocarbons (VOCs)	0.4	37 ≤ kW < 75	90	453.6	8,760	2,000	0.08	0.35
NOx	7.97						1.6	6.9
CO	0.75						0.15	0.65
PM (TSP, PM_{10}, and $PM_{2.5}$)	0.13						0.03	0.11
SO_2	0.60						0.12	0.52

Notes:

g = grams

hp = horsepower

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E $^{-4}$).

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	--	--	--	--	--	--	--	--	14.20	16.57	3.83	4.47	0.38	0.45	--	--	--	--
2	--	--	--	--	--	--	--	--	67.91	8.82	19.15	2.61	1.91	0.27	--	--	--	--
3	--	--	--	--	0.70	3.06	--	--	--	--	--	--	--	--	--	--	--	--
4	--	--	--	--	4.89	21.44	--	--	--	--	--	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Totals	0.00	0.00	0.00	0.00	5.59	24.50	0.00	0.00	82.12	25.38	22.98	7.08	2.29	0.72	0.00	0.00	0.00	0.00

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

[x] This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scehduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals																		

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[2] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

[x] I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Benzene ☑ HAP or ☐ TAP		Toluene ☑ HAP or ☐ TAP		Ethylbenzene ☑ HAP or ☐ TAP		Xylenes ☑ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
N/A	3	0.47	2.05	0.007	0.03	0.16	0.69	0.02	0.09	0.06	0.25								
N/A	4	5.13	22.45	1.28	5.61	1.28	5.61	1.28	5.61	1.28	5.61								
Totals:		5.59	24.50	1.29	5.64	1.44	6.31	1.30	5.71	1.34	5.86								

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, …)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type		Roof, Shell Color	Paint Condition
FX: Fixed Roof	**Mechanical Shoe Seal**	**Liquid-mounted resilient seal**	**Vapor-mounted resilient seal**	**Seal Type**	**WH**: White	Good
IF: Internal Floating Roof	**A**: Primary only	**A**: Primary only	**A**: Primary only	**A**: Mechanical shoe, primary only	**AS**: Aluminum (specular)	Poor
EF: External Floating Roof	**B**: Shoe-mounted secondary	**B**: Weather shield	**B**: Weather shield	**B**: Shoe-mounted secondary	**AD**: Aluminum (diffuse)	
P: Pressure	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**LG**: Light Gray	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2-P: Greenhouse Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
3	**mass GHG**	3848.58	0	418.38	0	0									4266.96	
	CO_2e	3848.58	0	10459.54	0	0										14308.13
4	**mass GHG**															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
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	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
Total	**mass GHG**	3848.58		418.38											4266.96	
	CO_2e	3848.58		10459.544												14308.127

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[3] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[4] Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

[5] **CO_2e** means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

On March 27, 2009, the Valencia Regional Landfill and Recycling Facility (VRLRF) was issued Title V Permit Number P247L after NMED Air Quality Bureau (AQB) approval of the November 16, 2007 Title V Operating Permit Application. On December 3, 2009, VRLRF was issued Title V Permit Number P247L-M1, a Minor Permit Modification to HAP emissions from the site's permitted petroleum contaminated soils (PCS) landfarm. On November 20, 2014, the NMED Air Quality Bureau approved the Title V Application for Operating Permit Renewal, issuing permit Number P247L-R1. VRLRF currently operates under Title V Permit Number P247L-R1, which is scheduled to expire November 20, 2019. This Application for Permit Renewal is being submitted at least 12 months prior to that expiration date, as required by 20.2.70.300.B(2) NMAC.

The portable engines identified as unit numbers 5.e through 5.j in **Table 2-B** are units that are not subject to 20.2.72 NMAC and are insignificant activities under 20.2.70 NMAC. Accordingly, they are not included in emission calculation totals for the facility, or in air dispersion modeling. These units are not identified as stationary sources subject to construction permitting under 20.2.72 NMAC because they are not "stationary sources" or "portable stationary sources" as defined therein. Although the engines are portable sources, they are not "portable stationary" sources because they instead meet the definition of non-road engine under federal regulations. As set forth in 40 C.F.R. 89.2 (in pertinent part), a portable non-road engine is one that is neither regulated by a federal New Source Performance Standard ("NSPS"), nor remains at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A "location" is defined as any single site at a building, structure, facility or installation; EPA has confirmed that an engine that is frequently moved to various locations within a facility would be correctly characterized as a non-road, rather than stationary, source. *See e.g.* EPA Applicability Determination Control Number M090038.

The categorization of these engines is not altered by either NMED's regulatory definitions or its Permitting Guidance dated April 2, 2014 re: *The regulation of non-road engines under 20.2.70, 20.2.72, and 20.2.73 NMAC*. While NMED's definition of "portable stationary source" does include certain portable units, it is most appropriately applicable to large portable units associated with asphalt plants and crusher plants, which may be subject to federal NSPS and typically remain at a single location for more than 12 consecutive months or a shorter period of time in the case of seasonal sources. NMED's definition cites asphalt plants as an example of a portable stationary source, as does the Permitting Guidance. The Permitting Guidance further explains NMED's interest in regulating portable engines that are utilized in operations that are dependent on their use, such as in the aggregate industry, oil and gas industry, and mining industry. In each of these examples, portable engines are used to power a production process, are integral to the operation of those sources, and are likely for that reason to remain on site in a single location for time periods that would render the units stationary under the federal definition and thereby fall within the applicability of an NSPS standard. As stated in the Permitting Guidance: *The operation of the aggregate processing equipment is dependent upon the use of non-road engines, as absent any available line power the aggregate processing equipment could not operate without a source of electric power. As such, the portable generators are integral to the operation of the aggregate processing equipment.*

By contrast, the portable engines used at the Valencia Regional Landfill and Recycling Facility are small power generators used only on an as–needed basis to provide lighting at the working face of the landfill, to provide temporary power for tarping machines or to assist in leachate or water pumping. They are not subject to any NSPS standard and do not remain at a single location for 12 months – in fact, they may be moved on a daily basis. Unlike asphalt and aggregate plants, landfill operations are not entirely dependent on the portable generators. These units do not appear to fall within the purview of the NMED's Permitting Guidance, and to our knowledge have not been historically subject to NMED construction permitting requirements. For these reasons, the units are not identified as "portable stationary" sources within the relevant NMED definitions and guidance and are instead identified as both exempt from construction permit requirements established pursuant to 20.2.72 NMAC and Title V permit requirements established pursuant to 20.2.70 NMAC.

Units 5a and 5b are stationary engines. Unit 5a is an emergency back-up generator operated no greater than 500 hours per year and is considered exempt and insignificant. Unit 5b is a generator utilized to pump water for site dust control and general construction. Unit 5b is considered non-exempt, but insignificant. Consistent with prevailing Bureau policy, emissions calculations for Unit 5a are not provided in this Application, and emission rates are not listed in **Tables 2-D** and **2-E**. In addition, emissions calculations for Unit 5b are provided as **Table 2-D-1** in **Section 2**, but emission rates are not listed in **Tables 2-D** and **2-E**.

VRLRF is a municipal solid waste (MSW) landfill operating pursuant to NMED Solid Waste Facility Permit Nos. SWM-013229 and SWM-013230 (SP). The facility is currently authorized to dispose of municipal solid waste (MSW) and the following approved special wastes:

- Chemical Spill Residue
- Petroleum Contaminated Soils (PCS)
- Sludge
- Packing House & Killing Plant Offal
- Industrial Solid Waste
- Oil Conservation Division Waste
- Treated Formerly Characteristic Hazardous Waste

Following is a description of measures taken to mitigate potential source emissions during startups, shutdowns, and emergencies for landfill operations that have the potential to emit pollutants of concern (e.g., particulates, NMOCs, HAPs, VOCs). Landfill operations associated with the emission of particulate matter (e.g., TSP, PM_{10}, and $PM_{2.5}$) consist of vehicle travel on landfill roads, and general landfill operations (e.g., heavy equipment operations, wind erosion). The measures taken to mitigate potential fugitive particulate emissions during startups, shutdowns, and emergencies include a Peterbilt 348 water wagon (5,000 gallon capacity), which is used on a daily basis when the landfill is operational. A CAT 613C water wagon (5,000-gallon capacity) is available as backup.

The landfill also utilizes recycled asphalt (cold millings) as a road covering to control fugitive dust emissions potentially originating from vehicle travel on unpaved surfaces. Fugitive dust emissions are also minimized by controlling the speed of waste delivery vehicles and landfill equipment. Signs are posted within the Landfill Operations Area and along the Disposal Route and landfill access roads limiting vehicle speed to 15 mph.

On September 4, 2009, VRLRF modified their permit to address minor modifications to hazardous air pollutant (HAP) emissions from the facility’s PCS landfarm, and to discuss the applicability of 40 CFR 63 Subparts HHHHHH (6H) and XXXXXX (6X) to the facility’s surface coating operation. It was determined that these Subparts are not applicable to the facility. Additionally, surface coating operations are no longer conducted at the facility.

Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

Four process flow sheets are included in this Section. These flow sheets correspond to the following Emission Units:

- **Emission Unit No. 1: Landfill Roads – Disposal Route and Access Roads**

Emission Unit 1 is comprised of potential particulate emissions from vehicle travel on landfill roads. **Figure 4.1** presents a process flow diagram for potential emissions from these operations.

- **Emission Unit No. 2: General Landfill Operations**

General landfill operations include activities associated with waste disposal and soil cover, as well as potential fugitive emissions from wind erosion on actively disturbed areas. **Figure 4.2** presents a process flow diagram for potential emissions from landfill operations.

- **Emission Unit No. 3: Landfill Gas Generation**

Uncontrolled emissions of methane and non-methane organic compounds (NMOCs) can be generated as a result of anaerobic decomposition of municipal solid waste (MSW). **Figure 4.3** presents a process flow diagram for potential emissions of NMOCs.

- **Emission Unit No. 4: PCS Landfarm Treatment**

Petroleum contaminated soils (PCS) are treated to NMED standards by landfarming (a combination of biodegradation and volatilization). During landfarm treatment, hazardous air pollutants (HAPs) may be emitted. **Figure 4.4** presents a process flow diagram for potential HAP emissions from PCS landfarm treatment.

- **Emission Unit No. 5: Stationary and Portable Engines**

Emission Unit No. 5 is comprised of two stationary and multiple portable engines used for facility or equipment maintenance and support to landfill operations. **Figure 4.5** presents a process flow diagram for potential emissions from the stationary and portable engines. **Figure 4.5** presents a process flow diagram for potential emissions from stationary engines. The site's portable engines are considered exempt, as well as "insignificant activities."

Figure 4.1
Landfill Roads Process Flow Diagram
(Emission Unit 1)

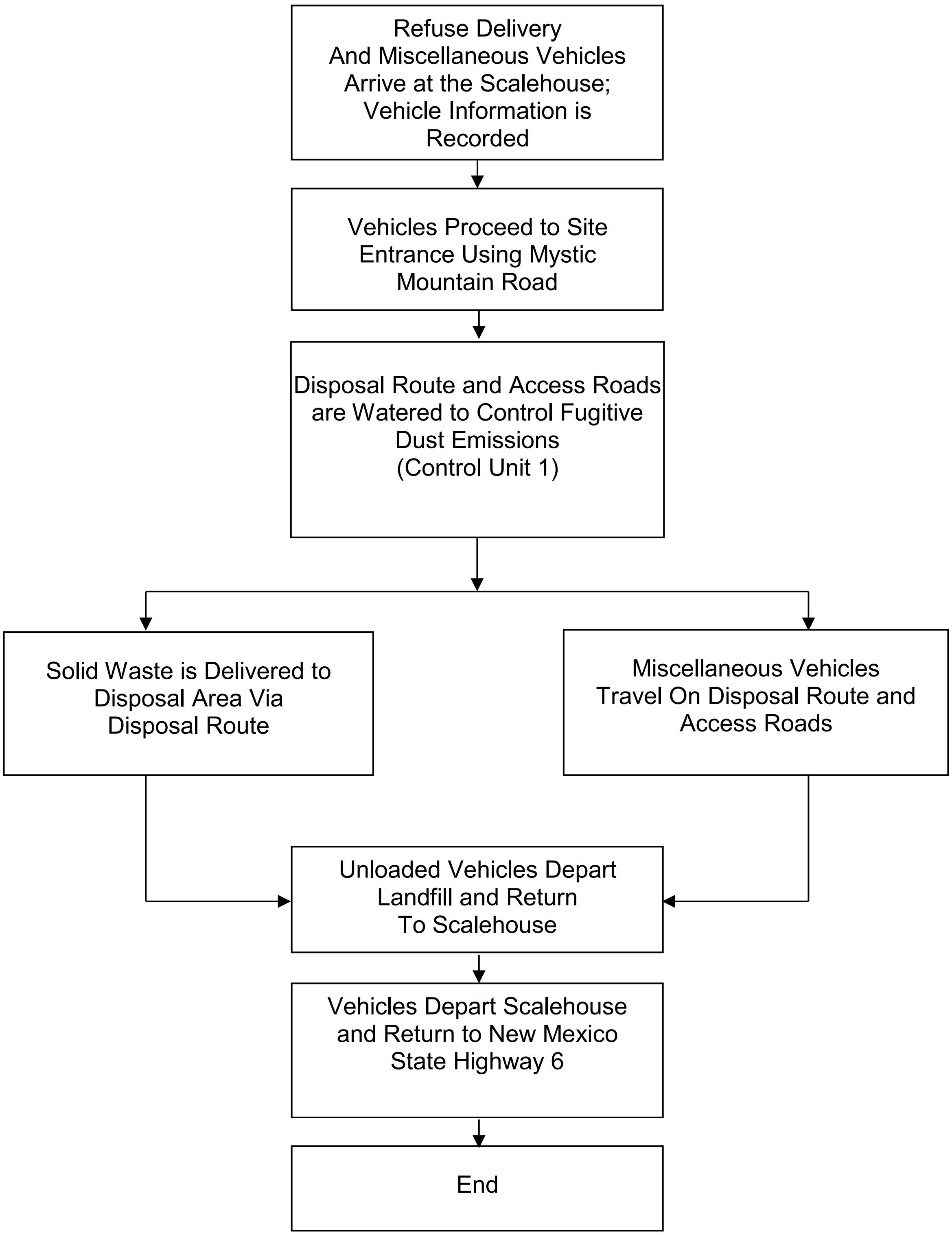


Figure 4.2
General Landfill Operations Process Flow Diagram
(Emission Unit 2)

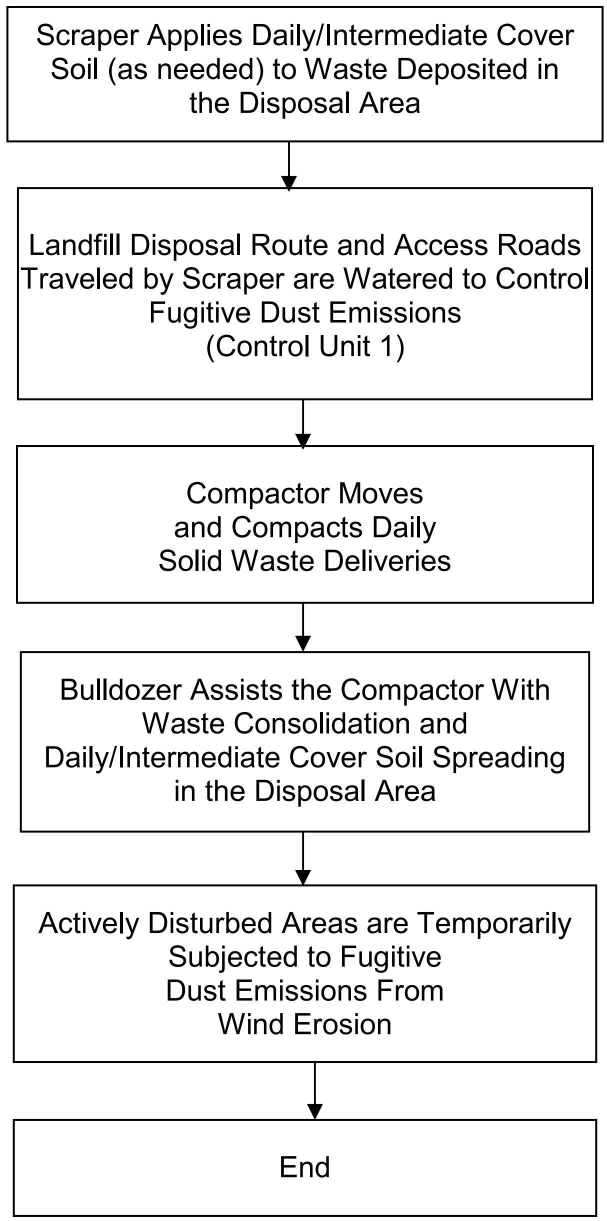


Figure 4.3
Landfill Gas Generation Process Flow Diagram
(Emission Unit 3)

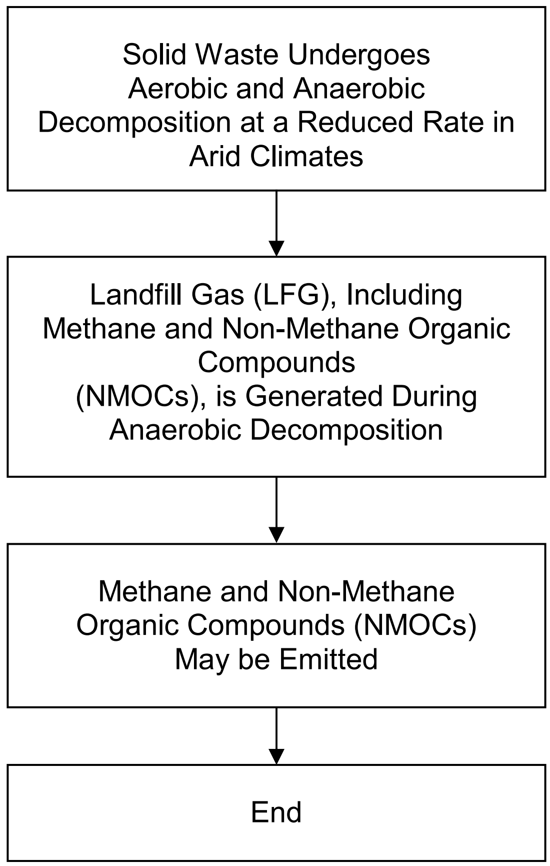


Figure 4.4
PCS Landfarm Treatment Process Flow Diagram
(Emission Unit 4)

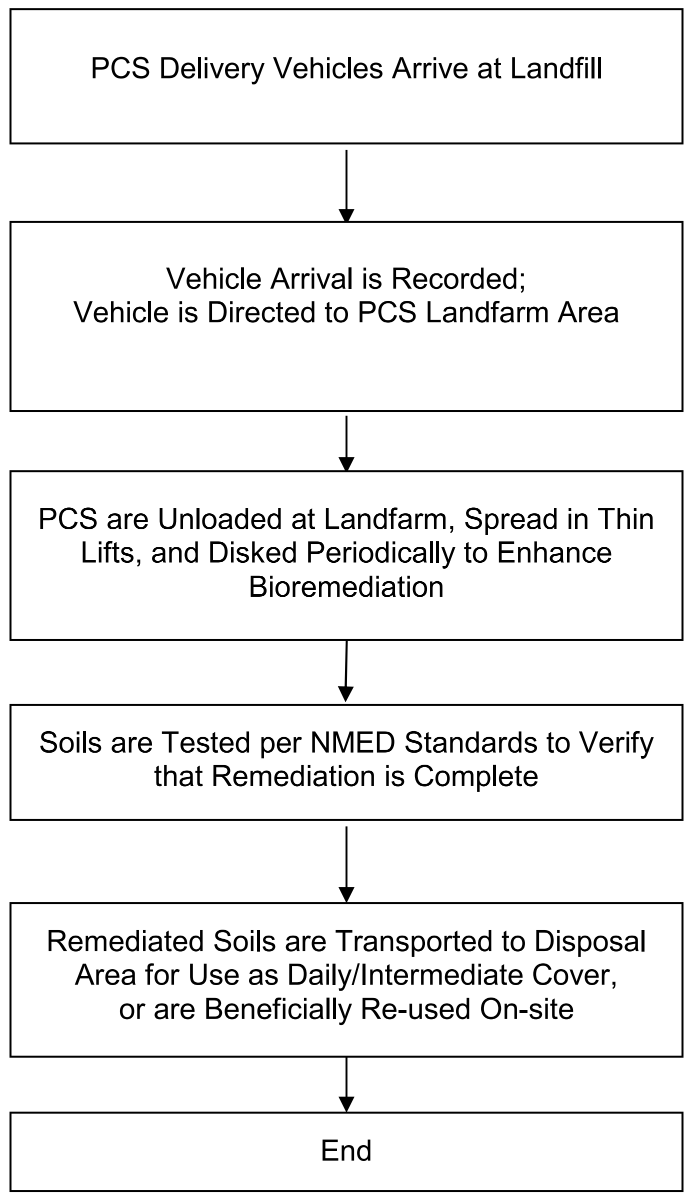
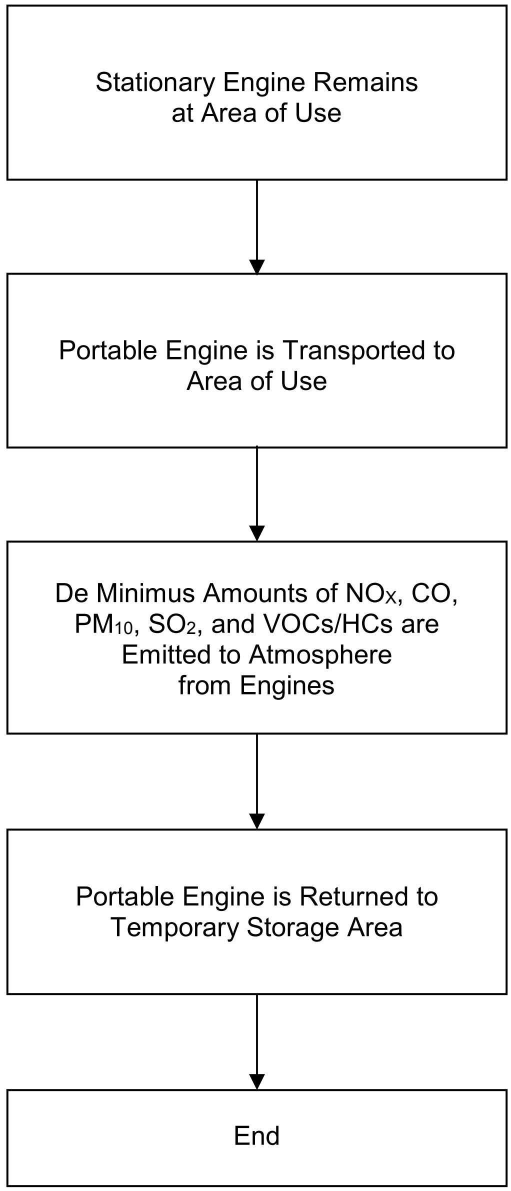


Figure 4.5
Engine Process Flow Diagram
(Emission Unit 5)

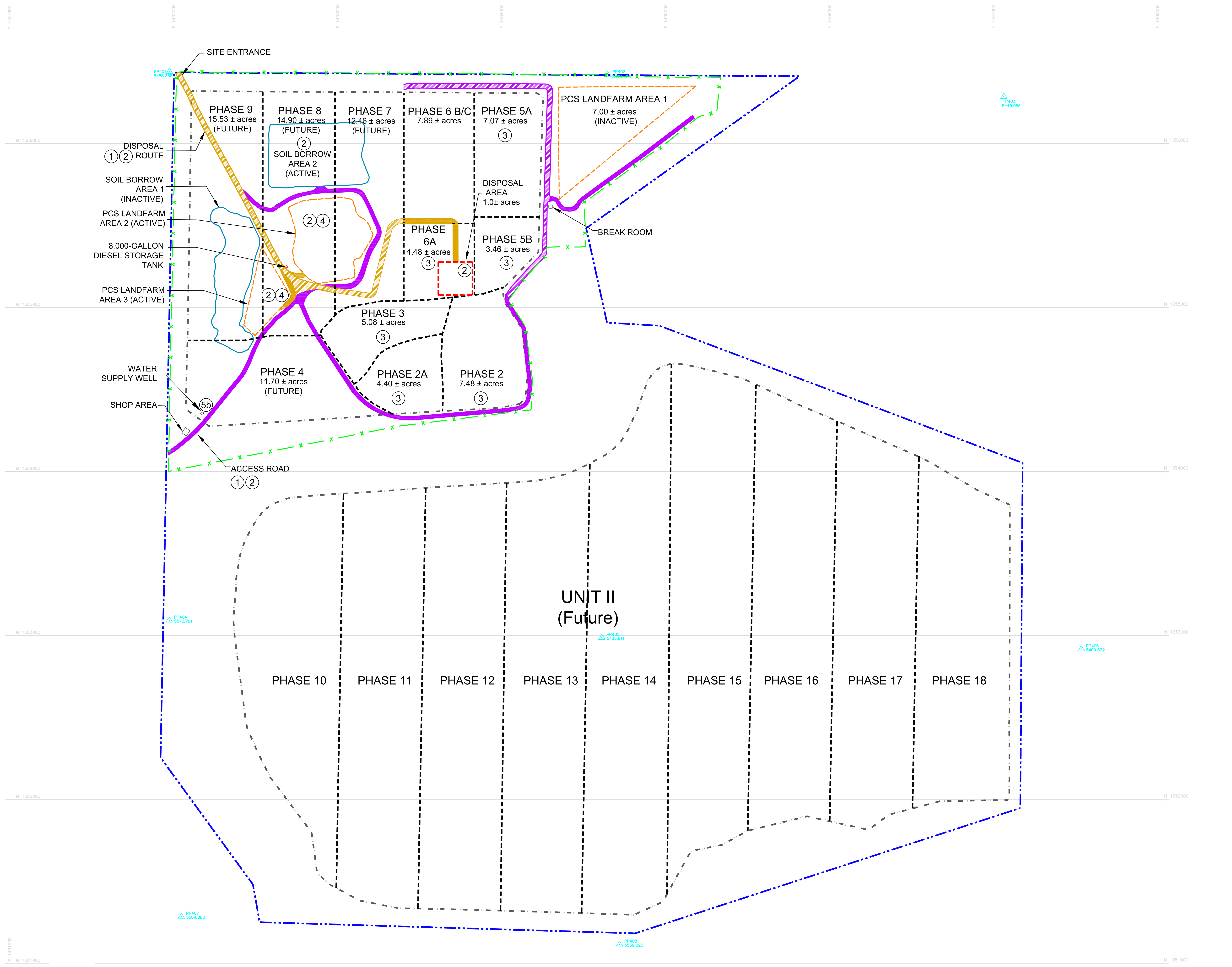


Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

A scaled map (Plot Plan) of VRLRF showing emission points, structures, tanks, and fences is included in this Section. Designated as **Figure 5.1**, the Plot Plan denotes the items listed above.



LEGEND

- SOLID WASTE FACILITY BOUNDARY
- PERMITTED LIMIT OF WASTE
- PHASE SEPARATION BOUNDARY
- PETROLEUM CONTAMINATED SOILS REMEDIATION AREA BOUNDARY
- DISPOSAL AREA
- LANDFILL FENCE
- DISPOSAL ROUTE (COLD MILLINGS)
- DISPOSAL ROUTE (UNPAVED)
- ACCESS ROAD (COLD MILLINGS)
- ACCESS ROAD (UNPAVED)
- SOIL BORROW AREA
- 1 EMISSION UNIT
- PP401 5485.386 CONTROL POINT AND ELEVATION
- N 1355000 E 1403000 SITE GRID NM STATE PLANE NAD83 FT

EMISSION UNITS

1. DISPOSAL ROUTE AND ACCESS ROAD TRAVEL
2. GENERAL LANDFILL OPERATIONS
3. LANDFILL GAS GENERATION
4. PETROLEUM CONTAMINATED SOILS LANDFARM
5. ENGINES

NOTES

1. EXISTING MAP INFORMATION PROVIDED BY WMNM, AND COMPILED FROM AERIAL PHOTOGRAPHY DATED NOVEMBER, 2017 BY MILLER CREEK ASSOCIATES, INC.

NORTH

0 300' 600'

PLOT PLAN

VALENCIA REGIONAL LANDFILL AND RECYCLING FACILITY
VALENCIA COUNTY, NEW MEXICO

GORDON ENVIRONMENTAL PSC

333 Rio Rancho Blvd. NE
Rio Rancho, New Mexico
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 11/05/2018	CAD: Plot_Plan_TV.dwg	PROJECT #: 010254.18
DRAWN BY: LC	REVIEWED BY: MJC	FIGURE 5.1
APPROVED BY: MJC	www.team-psc.com	

Drawing:X:\2018\0254.18\03_DSGN\01_DWG\050_CIVIL\01_MODEL\WRKG_FLDR\PLOT-PLAN-TV-0254-18.dwg
Date/Time:Nov. 07, 2018-14:21:40 ; LAYOUT: D (LS)

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:
1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:
A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.
B. At least 5 significant figures shall be retained in all intermediate calculations.
C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:
- **(1)** If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
- **(2)** If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
- **(3)** If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
- **(4)** The final result of the calculation shall be expressed in the units of the standard.

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

TABLE OF CONTENTS

List of Tables

List of Attachments

6.0 Introduction

This Section describes the methods used to estimate potential fugitive emissions of particulate matter (TSP, PM_{10}, and $PM_{2.5}$); non-methane organic compounds (NMOCs); hazardous air pollutants (HAPs); and volatile organic compounds (VOCs) from the following area and point sources (i.e., Emission Units):

- Emission Unit 1 – Landfill Roads
- Emission Unit 2 – General Landfill Operations
- Emission Unit 3 – Landfill Gas Generation
- Emission Unit 4 – Petroleum Contaminated Soils Landfarm

Emission rate estimates from these units are summarized in **Tables 2-D** and **2-E**. **Sections 6.1** and **6.2** provide discussion of the landfill activities associated with potential fugitive dust emissions. Landfill processes related to potential NMOC and VOC emissions are discussed in **Sections 6.3** and **6.4**. Engines are discussed in **Section 6.5**. HAP emissions estimates are discussed in **Section 6.6. Section 6.7** addresses the requirements for start-up, shutdown, and maintenance (SSM); and discussion of green house gas (GHG) is provided in **Section 6.a**.

6.1 Landfill Roads – Emission Unit 1

Landfill roads consist of the Disposal Route and landfill access roads constructed of unpaved surfaces; as well as temporary graded roadways. Vehicles traveling on the unpaved portions of the Disposal Route and access roads (**Figure 5.1, Section 5**) have the potential to generate fugitive dust emissions. Cumulatively, potential fugitive dust emissions from vehicular traffic at VRLRF have been designated Emission Unit 1. Unpaved road surfaces are currently watered on a routine basis, or treated with cold millings (recycled asphalt) and watered for dust control. For the purposes of this Application for Permit Renewal, approximately 2,455 feet of the total length of the Disposal Route is characterized as being treated with cold millings, and unpaved portions of the Disposal Route and access roads are characterized as being treated with water only. This Section provides emission rate estimates for the following vehicle categories:

1. Municipal Solid Waste (MSW) and Petroleum Contaminated Soils (PCS) Delivery Vehicles - Delivery of MSW and PCS along the Disposal Route (site entrance to Disposal Area) and PCS Disposal Route (site entrance to PCS Landfarm) typically occurs in one of six vehicle types:
    - Small Disposal Trucks
    - Large Disposal Trucks
    - Front/Side Loaders and Packer Trucks
    - Dump Trucks
    - Roll-off Trucks
    - Transfer Trucks and Tractor Trailers

2. Miscellaneous Vehicles - Employee vehicles (trucks, personal vehicles) and water wagon, which travel on the Disposal Route and access roads until one of four destinations is reached:
   - The Shop Area
   - Locations near the Disposal Area
   - The water supply well
   - The Break Room

Detailed emissions calculations for Emission Unit 1 activities are provided in **Attachment 6.1**. To account for anticipated increases in waste receipts, a conservative escalator of 5% per year was applied to the total vehicle miles traveled (VMT) for the MSW and PCS delivery vehicles. It is assumed that the VMT for miscellaneous vehicles remains constant for the Permit period.

6.1.1 Emissions from MSW and PCS Delivery Vehicles

Potential fugitive dust emissions from MSW and PCS delivery vehicles can occur along the Disposal Route (**Figure 5.1, Section 5**). MSW and PCS delivery vehicles that travel on the Disposal Route include the six classes of refuse delivery vehicles.

Two separate equations, published in AP-42, Section 13.2.2, “Unpaved Roads” (November, 2006), were used for estimating long-term emissions (tons/yr) and short-term emissions (lbs/hr) for vehicle travel on landfill roads. The mathematical equations for both emissions estimates are similar; however, the equation used for estimating long-term emissions includes precipitation as a factor when estimating the annual emission rate. Input variables for both equations include:

- AP-42 default empirical constants.
- AP-42 default average surface material silt content.
- Average vehicle weight.
- The number of days with at least 0.01 inches of precipitation per year (long-term emissions equation only).

According to the guidance presented in AP-42, Section 13.2.2, the equations are not intended to be used to calculate separate emission factors for multiple vehicle types simultaneously. Therefore, an “average” refuse delivery vehicle was determined based on the different types of refuse delivery vehicles and their frequency of travel. The information below presents data that were provided by VRLRF, as well as conservative assumptions that were made in order to perform representative calculations:

- The number of days per year with at least 0.01 inches of precipitation is 60 for the area encompassing VRLRF (AP-42, Figure 13.2.2-1).
- The distance traveled by MSW delivery vehicles is approximately 1.22 miles (round-trip).
- The distance traveled by PCS delivery vehicles is approximately 0.79 miles (round-trip).
- The Disposal Route is comprised of approximately 2,455 feet (0.46 miles one-way) of cold millings treated roadway, and 819 feet (0.16 miles) of unpaved roadway.
- The Disposal Route traveled by PCS vehicles is comprised of approximately 725 feet (0.14 miles) of unpaved roadway.
- There is an average of 42 round-trips/day for MSW delivery vehicles.

- There is an average of 1 trips/day for PCS delivery vehicles.
- The average operating year consists of 313 days/yr (6 days/week, 52 weeks/yr).
- The average refuse delivery vehicle weighs 24.9 tons (**Table 6.1**).

TABLE 6.1
Daily Refuse Delivery Vehicle Trips
Valencia Regional Landfill and Recycling Facility

Vehicle Specification	Small Disposal Trucks	Large Disposal Trucks	Front/ Side Loaders	Dump Trucks	Roll-off Trucks	Tractor-Trailers	Average
Trips/day	2	3	12	3	20	4	44*
Average Weight (tons)	1.65	2.45	23.35	24.5	27.85	39.35	24.9**

* Cumulative number of trips per day for combined MSW and PCS delivery vehicles, includes 5% escalator.
** Weighted average.

6.1.2 Emissions From Miscellaneous Vehicles

Additional vehicles that travel on the Disposal Route and landfill access roads include miscellaneous vehicles such as company trucks and the facility water truck (5,000-gallon-capacity). The water truck currently applies approximately 7.8 million gallons of water annually to the Disposal Route and landfill access roads. The equations used for estimating potential fugitive dust emissions from these vehicles are the same equations used for refuse delivery vehicles. As with refuse delivery vehicles, an “average” miscellaneous vehicle was determined based on the different types of miscellaneous vehicles that travel on landfill access roads and their frequency of travel. The information below presents data that has been provided by VRLRF, as well as conservative assumptions that were made in order to perform representative calculations:

- The number of days per year with at least 0.01 inches of precipitation is 60 for the areas around VRLRF (AP-42, Figure 13.2.2-1).
- The weighted average daily round-trip for the “average” miscellaneous vehicle is 0.74 miles.
- Miscellaneous vehicles travel a weighted average distance of approximately 0.59 miles per round-trip on the cold millings portion of the Disposal Route and 0.89 miles per round-trip on the unpaved portion of the Disposal Route and landfill access roads.
- There is an average of 4.5 round-trips/day.
- The average operating year consists of 313 days.
- The average miscellaneous vehicle weight (including the water truck) is 17.75 tons (**Table 6.2**).

TABLE 6.2
Daily Miscellaneous Vehicle Trips
Valencia Regional Landfill and Recycling Facility

Vehicle Specification	Company Trucks	Water Truck	Average
Trips/day	2**	2.5**	4.5*
Weight (tons)	2	43.4	17.75**

* Cumulative number of trips per day
** Weighted average (cold millings and unpaved)

6.1.3 Fugitive Dust Control Measures

Dust control measures are regularly employed during routine landfill operations in order to reduce potential fugitive dust emissions produced by landfill activities. VRLRF typically applies approximately 7.8 million gallons of water per year to the Disposal Route and access roads. A Peterbilt 348 water wagon (5,000-gallon capacity) makes an average of 2.5 trips per day along the Disposal Route and landfill access roads. Consistent with existing New Mexico Environment Department (NMED) Air Quality Bureau (AQB) policy, an overall water control efficiency of 60% was applied to unpaved portions of the Disposal Route and access roads which receive only water as a dust control measure; and an overall control efficiency of 80% was applied to that portion of the Disposal Route treated with both cold millings and water. Detailed calculations for fugitive dust control efficiencies for the Disposal Route and access roads are provided in **Attachment 6.3**.

6.2 General Landfill Operations – Emission Unit 2

General landfill operations include solid waste disposal at the Disposal Area, daily/intermediate cover soil application, and wind erosion on actively disturbed areas; and have been designated Emission Unit 2. Detailed emissions calculations for general landfill operations are provided in **Attachments 6.2** and **6.4**.

6.2.1 Disposal Area Operations

Fugitive dust emissions from Disposal Area operations result primarily from the daily operations of heavy equipment such as scraper unloading, road graders, bulldozers, and compactors. The scraper is used to transport daily/intermediate cover soil from Soil Borrow Area 2 to the Disposal Area. Road graders maintain the Disposal Route and access roads. Compactors consolidate waste at the Disposal Area, and bulldozers assist the compactors at the Disposal Area by positioning waste so it can be easily consolidated.

Potential fugitive dust emissions from the heavy equipment associated with Disposal Area operations were calculated using data from VRLRF equipment operating logs for each piece of equipment at the Landfill. Where applicable, running time hours (operating hours plus idle time) were converted to actual operating hours (hours that the vehicle has the potential to create fugitive emissions) by applying an operating efficiency to the running time of each piece of equipment. Emission factors were calculated using the most recent edition of AP-42 (USEPA, 1995, updated 1998, 2006, and 2008). Average equipment weights, capacities, and typical operating speeds for heavy equipment were applied from the Caterpillar® Performance Handbook, Edition 42 (Caterpillar® 2012).

A. Scraper Operations

Scraper operations involve scraper travel (on the Disposal Route and access roads) to and from the loading location (Soil Borrow Area 2) and unloading location (Disposal Area), as well as the loading and unloading processes themselves. Each of these three processes is a potential source of fugitive dust emissions. Guidance for estimating emission rates for these processes was obtained from AP-42, Section 13.2.2, Section 11.9, and Section 13.2.4.

A.1 Scraper Travel

The scraper travels primarily between Soil Borrow Area 2 and the Disposal Area (see **Figure 5.1, Section 5**) and makes approximately 20 round trips per week. Emissions from scraper travel were estimated using the same equations and control efficiencies for vehicle travel on the Disposal Route and access roads (**Section 6.1.1**) and utilized the following information:

- The number of days per year with at least 0.01 inches of precipitation is 60 for the area around VRLRF (AP-42, Figure 13.2.2-1).
- The average scraper round trip is 1.21 miles on the Disposal Route and Access Roads traveling between Soil Borrow Area 2 and the Disposal Area.
- There is an average of 20 round trips/week.
- The average operating year consists of 313 days/yr.
- The average scraper weight (loaded and unloaded) is 56.4 tons.

A.2 Scraper Loading

Emissions from scraper loading at Soil Borrow Area 2 were estimated using guidance provided in AP-42, Section 11.9 “Western Surface Coal Mining (October 1998)”. The emission factor for TSP emissions is listed in Table 11.9-4 as 0.058 lbs/ton. To calculate the PM_{10} and $PM_{2.5}$ emission factor for scraper loading, a ratio of the values of the empirical constant (k) for $PM_{2.5}$, PM_{10} and TSP (AP-42, Section 13.2.2) was applied to the TSP emission factor (E_{TSP}) of 0.058 lbs/ton as follows:

- PM_{10} Emission Factor (E_{PM10}) = (k_{PM10}/k_{TSP}) x (E_{TSP}) = (1.5/4.9) x (0.058 lbs/ton)
- PM_{10} Emission Factor (E_{PM10}) = (0.31) x (0.058 lbs/ton) = 0.018 lbs/ton
- $PM_{2.5}$ Emission Factor ($E_{PM2.5}$) = ($k_{PM2.5}/k_{TSP}$) x (E_{TSP}) = (0.15/4.9) x (0.058 lbs/ton)
- $PM_{2.5}$ Emission Factor ($E_{PM2.5}$) = (0.031) x (0.058 lbs/ton) = 0.0018 lbs/ton

The TSP, PM_{10}, and $PM_{2.5}$ emission factors were then applied to the total calculated mass of soil moved per year. These calculations were performed using information provided by VRLRF, including an estimate of 20 scraper trips/week (i.e., loads/week), a scraper capacity of 22 yd^3, and an operating year of 313 days. The total mass of soil loaded per year is estimated to be 54,912 tons.

A.3. Scraper Unloading

Emissions from scraper unloading at the disposal areas were estimated using guidance provided by AP-42, Section 13.2.4, Aggregate Handling and Storage Piles (November, 2006). These calculations were performed using the same information provided by VRLRF for scraper loading and an operating year of 313 days. The total mass of soil unloaded per year is equivalent to the mass of soil loaded (54,912 tons). Detailed emissions calculations for scraper loading and unloading, as well as the cumulative uncontrolled emissions from all scraper operations, are provided in **Attachment 6.2**.

B. Grader Operations

Grader operations involve routine Disposal Route and access road maintenance. The potential fugitive dust emissions from grader operations were calculated using equations provided in AP-42, Section 11.9, Table 11.9-1. Calculated emission factors were then applied to the total vehicle miles traveled per year by the grader. Average yearly miles were calculated using the following information:

- 1 CAT® 140G road grader in service.
- An average grader speed of 3 mph.
- The average operating year consists of 313 days.
- The average operating time is 12 hours/week (624 hours/year), based on a 100% operating efficiency.

C. Compactor and Bulldozer Operations

Compactor and Bulldozer operations primarily involve consolidation of in-place waste and application of daily/intermediate cover soil at the Disposal Area. From guidance provided in AP-42, Section 13.2.3, Heavy Construction Operations (January 1995), Table 13.2.3-1, potential fugitive dust emissions from compactor and bulldozer operations were calculated by using the bulldozer emission equation in AP-42, Table 11.9-1. Calculated emission factors were then applied to the total annual operating hours for the compactor and bulldozer. It was conservatively assumed that the compactor and bulldozer make contact with all of the waste at the Disposal Area. Calculations were performed using the following information:

- The average operating year consists of 313 days.
- The average operating day for the compactor is 7 hours/day, based on an 85% operating efficiency.

6.2.2 Fugitive Dust Control Measures

Fugitive dust control measures are employed during the operating day in order to reduce potential fugitive dust emissions during normal operations. A control efficiency of 60% was applied to the scraper and grader travel on unpaved landfill roads treated with watered (i.e., unpaved Disposal Route and access roads), and a control efficiency of 80% was applied to the scraper and grader travel on the portions of the Disposal Route treated with cold millings. The bulldozer and compactor operate nearly 100% of the time within the Disposal Area, which is not watered. Therefore, no control efficiency was applied to bulldozer and compactor operations.

6.2.3 Dust Emissions from Wind Erosion on Disturbed Areas

Based on guidance provided in AP-42, Section 13.2.5, Industrial Wind Erosion (November, 2006), only those areas of the landfill actively disturbed by facility operations were included in the acreage for which potential fugitive dust emissions attributable to wind erosion were calculated:

- Disposal Route and Access Roads
- Disposal Area operations
- Soil Borrow Area 2 operations
- PCS Remediation Area operations

Using the AP-42 guidance, wind erosion emissions estimates from approximately 18.9± acres of actively disturbed areas were estimated. A control efficiency of 60% for fugitive dust emissions due to wind erosion was applied to landfill access roads and unpaved portions of the Disposal Route. A control efficiency of 80% is applied for wind erosion over areas of the Disposal Route treated with cold millings. For the purposes of wind erosion estimates, disposal area operations, and the soil borrow area were conservatively assumed to have a control efficiency of zero. Detailed calculations for fugitive dust emissions due to wind erosion are provided in **Attachment 6.4**.

Wind erosion emissions were estimated by use of emission factors provided in AP-42, Section 11.9. The emission factor for TSP emissions is listed in Table 11.9-4 as 0.38 tons/acre/yr. To calculate the PM_{10} and $PM_{2.5}$ emission factors for wind erosion, a ratio of the values of the empirical constant (k) for PM_{10}, $PM_{2.5}$ and TSP (AP-42, Section 13.2.2) was applied to the TSP emission factor (E_{TSP}) of 0.38 tons/acre/yr as follows:

- PM_{10} Emission Factor (E_{PM10}) = (k_{PM10}/k_{TSP}) x (E_{TSP}) = (1.5/4.9) x (0.38 tons/acre/yr)
- PM_{10} Emission Factor (E_{PM10}) = (0.31) x (0.38 tons/acre/yr) = 0.12 tons/acre/yr
- $PM_{2.5}$ Emission Factor ($E_{PM2.5}$) = ($k_{PM2.5}/k_{TSP}$) x (E_{TSP}) = (0.15/4.9) x (0.38 tons/acre/yr)
- $PM_{2.5}$ Emission Factor ($E_{PM2.5}$) = (0.031) x (0.38 tons/acre/yr) = 0.012 tons/acre/yr

6.3 Landfill Gas Generation – Emission Unit 3

Solid waste is subject to aerobic and anaerobic decomposition that results in the potential generation of landfill gas (LFG). The rate of LFG generation is a function of the composition, moisture content, age, temperature, pH, alkalinity of the refuse, nutrient supply, etc. Methane (CH_4) and carbon dioxide (CO_2) are the primary constituents of LFG, generated in approximately equal proportions. In addition, LFG also contains a very small proportion (<0.04%) of non-methane organic compounds (NMOCs), of which Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) are subsets. The uncontrolled emissions of NMOCs from the landfill are designated Emission Unit 3.

The EPA model LandGEM (Landfill Gas Emissions Model), Version 3.02 (USEPA, May 2005) was deployed to calculate total potential LFG and NMOC emission rates for the landfill. The Model estimates emissions resulting from the biodegradation of refuse in landfills and is recommended by EPA for use in developing estimates for state inventories. The Model uses a first-order decay rate equation and estimates annual emissions over a time period specified by the user. This model is proven to over-estimate LFG production and emission rates for arid landfills. The time period specified for VRLRF was 1988 (the first year of waste acceptance) through 2025. The following values were input into LandGEM to estimate total LFG generation rates from VRLRF:

- A Clean Air Act (CAA) default value for the potential methane generation capacity of refuse, L_o = 170 m^3/Mg refuse.
- A methane generation rate constant, $k = 0.02\ yr^{-1}$ (CAA default for arid regions).
- A site-specific NMOC concentration (C_{NMOC}) value of 345 ppm_v as hexane.
- The landfill type selected was no co-disposal (i.e., no landfilling of hazardous waste along with municipal solid waste).
- The site is treated as active (i.e., accepting waste) for the years 1988 – 2025.
- The composition of LFG is modeled as 50.0% methane (CAA default for arid regions)

VRLRF began accepting waste in 1988 under the name Tri-Sect Landfill. From 1988 through 1999, materials deposited at the site included residential, commercial, and yard/landscape wastes, as well as construction and demolition (C&D) debris, petroleum contaminated soils (PCS), and tires. From March 1999 through March 2007, only PCS (processed on-site for remediation) were accepted. In April 2007, the site resumed acceptance of the historical MSW waste stream, as well as other recently permitted special wastes.

In June 2006, an aerial survey of VRLRF was performed to determine the amount of in-place waste. The survey results showed that approximately 193,595 Mg of waste (degradable and non-degradable) had been deposited at the site since 1988. Waste acceptance rates/types were not well documented from 1988 through 1993. Waste types identified in the 1994 – 1999 Annual Reports submitted to NMED Solid Waste Bureau include residential waste; yard or landscape waste; non-degradable wastes (e.g., construction/demolition debris); commercial waste; special waste (which may include sludge, petroleum contaminated soil, industrial solid waste, etc); and other (i.e., tires, etc). Based on information provided by VRLRF, the waste types included in the incoming waste stream from 1994 – 1999 are indicative of waste accepted for disposal during years of historical waste acceptance rates (1988 – 1993).

Table 6.3 provides a summary of the documented waste types and quantities accepted at the site from 1994 – 2017 that were input into LandGEM. Conservatively, construction & demolition (C&D) debris was the only non-degradable waste accepted at the landfill which was excluded from the LandGEM calculations for 1994-1999. An average annual non-degradable waste mass of 16.1% was calculated for 1994 – 1999, and conservatively applied (as 16%) to calculate annual non-degradable waste receipts accepted from 1988 – 1993.

A total of 159,446 tons (144,618 Mg) of waste receipts was recorded at the Landfill from 1994 – 1999. This total of known waste was subtracted from the surveyed estimate of 193,595 Mg for a total waste mass of 48,977 Mg accepted during the period of unrecorded waste acceptance rate from 1988-1993. Because the waste profiles for the known period are similar to that projected for the unrecorded period of waste acceptance, 16% of the 1988-1993 total waste mass was subtracted to account for C&D debris. This resulting estimate of degradable waste (41,141 Mg) accepted during the first six years of the VRLRF operations was then divided by six for an annual waste acceptance rate estimate of 6,857 Mg/yr.

The estimated annual acceptance rate of 6,857 Mg/yr was input into LandGEM to estimate NMOC generation rates for each year of unrecorded waste acceptance (i.e., 1988 through 1993). Actual waste acceptance values (less C&D debris) reported in Annual Reports were used for 1994 – 1999. Waste receipts of 0 Mg/yr were input into LandGEM for 2000 – 2006, as the site temporarily ceased accepting municipal solid waste (MSW) in 1999. For waste receipts from 2007 to 2012, non-degradable wastes were removed from the total waste receipts to retain consistency with WMNM gate receipt records and waste receipt tonnage utilized by SCS Engineers for annual emissions inventories reporting activities (SCS Engineers, 2011 Emissions Inventory; and Waste Management of New Mexico, Inc. (WMNM) communication for 2012 and historical waste receipts). For waste receipts from 2013 to 2017, total waste receipts data were obtained from WMNM. LFG emissions for the years 2018 through 2024 for VRLRF were estimated by applying a conservative escalator of 5% per year to waste receipts in LandGEM; and a constant waste receipt rate of 136,364 Mg/yr (150,000 tons/year) was applied commencing in 2025.

TABLE 6.3
Annual Waste Acceptance Rates
Valencia Regional Landfill and Recycling Facility

Summary of Annual Waste Acceptance (1988 – 2017)				
Year	**Total Annual Waste Receipts (tons/year)**	**Non-Degradable Waste Receipts (tons/year)**	**Degradable Waste Receipts (tons/year)**	**Degradable Waste Disposal Rate (Mg/year)****
1988	7,543	0	7,543	6,857
1989	7,543	0	7,543	6,857
1990	7,543	0	7,543	6,857
1991	7,543	0	7,543	6,857
1992	7,543	0	7,543	6,857
1993	7,543	0	7,543	6,857
1994	2,694	0	2,694	2,449
1995	19,165	0	19,165	17,423
1996	26,780	0	26,780	24,345
1997	50,943	0	50,943	46,312
1998	47,150	0	47,150	42,864
1999	12,714	0	12,714	11,558
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
2003	0	0	0	0
2004	0	0	0	0
2005	0	0	0	0
2006	0	0	0	0
2007*	35,546	13,969	21,557	19,615
2008*	56,531	20,483	36,048	32,771
2009*	63,323	26,384	36,393	33,581
2010*	73,384	25,142	48,242	43,856
2011*	85,832	30,275	55,557	50,506
2012*	93,427	32,990	60,437	54,942
2013*	66,738	15,274	51,464	46,785
2014*	66,380	17,218	49,162	44,692
2015*	83,342	40,905	42,437	38,579
2016*	44,163	12,131	32,032	29,120
2017*	48,234	22,471	25,763	23,421

NOTES:
*Waste Receipt Data obtained from VRLRF
Waste Receipt Value entered into LandGEM (Attachment 6.5**)

6.3.1 Estimated NMOC and VOC Emissions

LandGEM calculated an NMOC emission rate of approximately 5.74 tons/year (5.20 Mg/yr) in 2025 for wastes disposed of in the landfill through 2024 (**Attachment 6.5**). **Table 6.4** provides a summary of the LandGEM estimates for total LFG and NMOC emissions from VRLRF from 2017 through 2025.

Volatile organic compounds (VOCs) are a subset of NMOCs, and comprise approximately 39% (by weight) of NMOCs (AP-42, Table 2.4-2, Draft, October 2008). **Table 6.5** provides a summary of VOC emissions contained in LFG, estimated in 2025 from waste deposited in VRLRF through 2024, as calculated by LandGEM.

TABLE 6.4
Projected Annual Landfill Gas and NMOC Generation Rates
Emission Unit 3
Valencia Regional Landfill and Recycling Facility

Year	Estimated Total LFG Emissions (scfm)	Estimated NMOC Emissions (Mg/yr)	Estimated NMOC Emissions (tons/yr)	Estimated NMOC Emissions (lbs/hr)*
2017	220.34	4.06	4.47	1.02
2018	226.59	4.17	4.60	1.05
2019	233.23	4.29	4.73	1.08
2020	240.31	4.42	4.88	1.11
2021	247.83	4.56	5.03	1.15
2022	255.81	4.71	5.19	1.18
2023	264.28	4.86	5.36	1.22
2024	273.26	5.03	5.54	1.27
2025	282.77	5.20	5.74	1.31

* Value Obtained by multiplying $^{tons}/_{year}$ by $2000^{lb}/_{ton}$ and dividing by (365_{days}*24_{hrs})

TABLE 6.5
Estimated Landfill Gas VOC Emissions for 2025
Emission Unit 3
Valencia Regional Landfill and Recycling Facility

HAP/VOC	Uncontrolled Emissions (tons/yr) (LandGEM Output)*
1,1,2,2-Tetrachloroethane - HAP/VOC	3.56E-02
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	4.57E-02
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	3.73E-03
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	7.81E-03
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	3.92E-03
2-Propanol (isopropyl alcohol) – VOC	5.79E-01
Acrylonitrile - HAP/VOC	6.44E-02
Benzene - No or Unknown Co-disposal - HAP/VOC	2.86E-02
Bromodichloromethane - VOC	9.78E-02
Butane – VOC	5.60E-02
Carbon disulfide - HAP/VOC	8.50E-03
Carbon tetrachloride - HAP/VOC	1.18E-04
Carbonyl sulfide - HAP/VOC	5.67E-03
Chlorobenzene - HAP/VOC	5.42E-03
Chloroethane (ethyl chloride) - HAP/VOC	1.62E-02
Chloroform - HAP/VOC	6.90E-04
Chloromethane – VOC	1.17E-02
Dichlorobenzene - (HAP for para isomer/VOC)	5.94E-03
Dichlorofluoromethane - VOC	5.15E-02
Dimethyl sulfide (methyl sulfide) - VOC	9.33E-02
Ethanol – VOC	2.40E-01
Ethyl mercaptan (ethanethiol) - VOC	2.75E-02
Ethylbenzene - HAP/VOC	9.40E-02
Ethylene dibromide - HAP/VOC	3.62E-05
Fluorotrichloromethane - VOC	2.01E-02
Hexane - HAP/VOC	1.10E-01
Methyl ethyl ketone - HAP/VOC	9.86E-02
Methyl isobutyl ketone - HAP/VOC	3.66E-02
Methyl mercaptan - VOC	2.32E-02
Pentane – VOC	4.58E-02
Propane – VOC	9.34E-02
t-1,2-Dichloroethene - VOC	5.23E-02
Toluene - No or Unknown Co-disposal - HAP/VOC	6.92E-01
Trichloroethylene (trichloroethene) - HAP/VOC	7.08E-02
Vinyl chloride - HAP/VOC	8.79E-02
Xylenes - HAP/VOC	2.45E-01
Total Potential VOC Emissions	**3.06 tons/yr****

Notes:
* Adapted from LandGEM output provided in **Attachment 6.7**
** Value provided in **Table 2-D** and **2-E**
VOC emissions are likely overestimates for New Mexico (arid) landfills

Total potential cumulative VOC emissions from VRLRF are:

• Landfill Gas (Unit 3)	**3.06**	tons/year (See **Table 6.5**)
• Remediation of PCS (Unit 4)	up to **21.44**	tons/year (See **Section 6.4**)
• **Total target VOC emissions estimate**	**24.5**	**tons/year**

These VOC emissions estimates are also included in **Tables 2-D** and **2-E**

6.4 Petroleum Contaminated Soils Landfarm – Emission Unit 4

VRLRF is permitted by NMED Solid Waste Bureau (SWB) to accept petroleum contaminated soils (PCS) for remediation via landfarming; for beneficial use as daily/intermediate cover soil; or for direct disposal. The PCS landfarm area (**Figure 5.1, Section 5**) has been designated Emission Unit 4, and remediation of PCS is performed over lined or future lined areas of the landfill. Consistent with the New Mexico Solid Waste Rules (August 2007), PCS are considered remediated for the purpose of beneficial use when soil sample analyses meet the following conditions:

1. the sum of benzene, toluene, ethylbenzene, and xylene isomer concentrations (i.e., BTEX) is less than 500 mg/Kg, with benzene individually less than 10 mg/Kg; and
2. the total petroleum hydrocarbon (TPH) concentration is less than 1,000 mg/Kg

Prior to acceptance by VRLRF, incoming shipments of PCS are required to be analyzed for total petroleum hydrocarbon (TPH) concentration using EPA Method 8015B and BTEX via EPA Method 8260B (or approved equivalents); and must be approved by WMNM and issued an approved profile number prior to arrival at the landfill. PCS shipments are recorded on a "non-hazardous waste manifest form" with the approved profile number identifying the project.

VRLRF periodically collects samples from the in-situ PCS within the landfarm, and the samples are analyzed for TPH and BTEX in order to track the remediation process, and to verify its success. **Attachment 6.6** is a copy of the most recent laboratory report from analysis of twenty grab samples collected on March 29, 2018. These results show maximum TPH concentrations of 850 mg/kg. No detectable benzene, toluene, ethylbenzene, or xylenes were reported above the method reporting limit in either sample. Therefore, the tested soils are considered remediated consistent with the criteria set forth in the Solid Waste Rules. The following discussion outlines the methods that are implemented by VRLRF to track VOC/HAP emissions from the PCS landfarm.

Benzene, toluene, ethylbenzene, and xylene (BTEX) are the main constituents of concern in PCS that have the potential to volatilize, and are considered volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). The existing permit condition for calculation of the HAP emissions (A504) specifies individual HAP values be calculated using the highest single concentration of an individual HAP from all of the generator analytical data. This permit condition creates an artificially exaggerated emission result by excluding all the other data points. Therefore, WMNM proposes the following methodology:

A more accurate method of determining the individual HAP emissions would be to use an Upper Confidence Limit (UCL) using an 80% confidence interval which includes the entire analytical data set as specified in SW-846, Chapter 9. When determining an UCL using an 80% confidence interval, one is actually determining a concentration with 90% confidence.

The emissions of each HAP from PCS will be calculated every 12 months using the following equation:

$$MHAPs = [(UCL)(MPCS)(VLF)]x[1x10^6]$$

Where:

MHAPS=mass of HAPs emitted per year from PCS landfarm (tons per year)

UCL= estimated concentration of HAPs in PCS accepted for landfarm treatment (ppm or mg/kg) using the Upper Confidence Limit at the 80% confidence interval (SW-846, Chapter 9)

MPCS=mass of PCS accepted for treatment (tons)

VLF=100% of HAPs volatilized by landfarm treatment = 1

Calculation for individual HAP emissions shall be based upon the UCL at the 80% confidence interval of the individual HAPs as determined from the analytical test results associated with each PCS profile.

VRLRF electronically tracks the BTEX analytical results from each remediation project and volume/mass of each inbound PCS shipment using the above methodologies. This approach provides a very conservative indicator of HAP emissions; and WMNM will track the accumulated daily volume of PCS accepted, by approved profile number, by using a spreadsheet similar to the one provided as **Table 6.6**. VRLRF tracks total HAP emissions from PCS such that, on an annual basis, total site emissions do not exceed 10 tons/year for individual HAP or 25 tons/year of aggregate HAPs on a site-wide basis. This includes HAPs emitted as part of fugitive LFG emissions. Total site-wide HAP emissions are discussed in detail **Section 6.6**.

TABLE 6.6

Valencia Regional Landfill and Recycling Facility

PCS HAPs Emissions Calculation Sheet

Annual
Reporting Period To

Date	Profile #	Description	TPH ppm	Benzene (ppm)	Toluene (ppm)	Ethyl benzene (ppm)	Xylene (ppm)	Total BTEX (ppm)	Soil Tons	Emissions: Total Benzene (tons)	Emissions: Total Toluene (tons)	Emissions: Total Ethyl benzene (tons)	Emissions: Total Xylene (tons)	Emissions: Total BTEX Emissions (tons)
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
								0.000000		0.000000	0.000000	0.000000	0.000000	0.000000
	Totals								0.00	0.000000	0.0000000	0.0000000	0.000000	0.000000

TOTAL HAP EMISSIONS

Total HAP Emissions from LFG = constant = Table 6.7 =	**2.05**	tons
Total HAP Emissions from PCS =	**0.0E+00**	tons
Total Site-Wide HAP Emissions =	**2.05**	tons
Target Total =	**24.5**	tons/yr

INDIVIDUAL HAP EMISSIONS

Benzene from LFG = constant = Table 6.7 =	**0.029**	tons
Benzene from PCS =	**0.0E+00**	tons
Total Benzene =	**0.029**	tons
Toluene from LFG = constant = Table 6.7 =	**0.69**	tons
Toluene from PCS =	**0.0E+00**	tons
Total Toluene =	**0.69**	tons
Ethylbenzene from LFG = constant = Table 6.7 =	**0.09**	tons
Ethylbenzene from PCS =	**0.0E+00**	tons
Total Ethylbenzene =	**0.09**	tons
Xylene from LFG = constant = Table 6.7 =	**0.25**	tons
Xylene from PCS =	**0.0E+00**	tons
Total Xylene =	**0.25**	tons
Target Total Per HAP =	**9.5**	tons/yr

6.5 Engines – Emission Unit 5

See discussions in Section 3.0 Application Summary, and Section 7.4 Insignificant Activities and Equipment.

6.6 Hazardous Air Pollutant (HAP) Sources

The purpose of the information provided in this Section is to demonstrate that the VRLRF is not a major source for hazardous air pollutants (HAPs) subject to Section 112(r) of the Clean Air Act (CAA).

6.6.1 Regulatory Applicability

On January 16, 2003, the EPA published a maximum achievable control technology (MACT) standard for municipal solid waste landfills that applies to both major HAP sources and area sources. Section 112(a) of the CAA defines a major source as "*any stationary source or group of stationary sources that emits or has the potential to emit, considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants*." Section 112(a) of the CAA also defines an area source as "*any stationary source of hazardous air pollutants that is not a major source*."

The MACT standard for landfills is published in 40 CFR 63 Subpart AAAA, [National Emission Standards for Hazardous Air Pollutants (NESHAP): Municipal Solid Waste Landfills]. NESHAP applies to area source landfills if they:

1. have a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3)
2. have accepted waste since November 8, 1987 (or have additional capacity for waste deposition), and have estimated uncontrolled emissions of 50 Mg/yr NMOC or more
3. are operated as a bioreactor

Because the design capacity of VRLRF is greater than 2.5 million megagrams and VRLRF has accepted waste since November 8, 1987, the Landfill is subject to the NSPS provisions of 40 CFR 60, Subpart WWW. However, since the Site has estimated uncontrolled NMOC emissions less than 50 Mg per year, the Site is not yet subject to MACT 40 CFR 63 Subpart AAAA.

6.6.2 Potential HAP Emissions from Landfill Gas

The LandGEM Model estimates emissions of 27 HAPs, which are a subset of NMOCs, and are potentially present in landfill gas. The user-defined data input into the Model generates a concentration output for individual HAPs (**Attachment 6.7**). **Table 6.7** presents a summary of the projected uncontrolled emissions of HAPs in year 2025 from LFG as calculated by LandGEM. As shown in **Table 6.7**, total (cumulative) uncontrolled HAP emissions of 2.05 tons/year from landfill gas are significantly less than the MACT standard of 25 tons/year for combined HAPs; and there are no HAPs that exceed their *de minimus* emission rate established by 112(g) of the CAA. Total potential cumulative HAP emissions from VRLRF are summarized as follows:

TABLE 6.7
Estimated Landfill Gas HAP Emissions From Landfill Gas for 2025
Emission Unit 3
Valencia Regional Landfill and Recycling Facility

HAP	Uncontrolled Emissions (tons/yr) (LandGEM Output)*
1,1,1-Trichloroethane (methyl chloroform) – HAP	1.23E-02
1,1,2,2-Tetrachloroethane – HAP/VOC	3.56E-02
1,1-Dichloroethane (ethylidene dichloride) – HAP/VOC	4.57E-02
1,1-Dichloroethene (vinylidene chloride) – HAP/VOC	3.73E-03
1,2-Dichloroethane (ethylene dichloride) – HAP/VOC	7.81E-03
1,2-Dichloropropane (propylene dichloride) – HAP/VOC	3.92E-03
Acrylonitrile – HAP/VOC	6.44E-02
Benzene – No or Unknown Co-disposal – HAP/VOC	**2.86E-02****
Carbon disulfide – HAP/VOC	8.50E-03
Carbon tetrachloride – HAP/VOC	1.18E-04
Carbonyl sulfide – HAP/VOC	5.67E-03
Chlorobenzene – HAP/VOC	5.42E-03
Chloroethane (ethyl chloride) – HAP/VOC	1.62E-02
Chloroform – HAP/VOC	6.90E-04
Dichlorobenzene – (HAP for para isomer/VOC)	5.94E-03
Dichloromethane (methylene chloride) – HAP	2.29E-01
Ethylbenzene – HAP/VOC	**9.40E-02****
Ethylene dibromide – HAP/VOC	3.62E-05
Hexane – HAP/VOC	2.01E-02
Mercury (total) – HAP	1.10E-01
Methyl ethyl ketone – HAP/VOC	9.86E-02
Methyl isobutyl ketone – HAP/VOC	3.66E-02
Perchloroethylene (tetrachloroethylene) – HAP	1.18E-01
Toluene – No or Unknown Co-disposal – HAP/VOC	**6.92E-01****
Trichloroethylene (trichloroethene) – HAP/VOC	7.08E-02
Vinyl chloride – HAP/VOC	8.79E-02
Xylenes – HAP/VOC	**2.45E-01****
Total Potential HAP Emissions	**2.05 tons/year****

Notes:
* Adapted from LandGEM output provided in **Attachment 6.7**
** Values provided in **Table 6.6** and **Table 2-I**
HAP emissions are likely substantial overestimates for New Mexico (arid) landfills

- Landfill Gas (Unit 3) **2.05** tons/year (See **Table 6.7**)
- Remediation of PCS (Unit 4) up to **22.45** tons/year (See **Section 6.4**)
- **Total target HAP emissions estimate 24.5 tons/year**

Based on the data provided in **Table 6.7,** and the above discussion, VRLRF is not a major source for HAP (either individually or in the aggregate), as defined in Section 112(r) of the Clean Air Act.

6.7 Additional Emissions During Startup, Shutdown, and Routine Maintenance

Table 2-F, **Section 2**, which is reserved for requesting additional allowances for potential emissions during startup, shutdown, and routine maintenance (SSM), has intentionally been left blank for this Application for Permit Renewal. Additional emissions allowances for SSM emissions are not being requested for this facility, as none of the processes which take place at VRLRF produces an excess amount of emissions during SSM. Following is a description of measures to be taken to mitigate source emissions during SSM for landfill operations that have the potential to emit pollutants of concern (e.g., particulates, NMOCs, HAPs, VOCs).

6.7.1 Particulates

Landfill operations associated with the potential emission of particulate matter (e.g., TSP, PM_{10}, and $PM_{2.5}$) consist of vehicle travel on treated and unpaved landfill roads, and general landfill operations (e.g., heavy equipment operations, wind erosion). The measures taken to mitigate against potential excessive fugitive particulate emissions during startups, shutdowns, and emergencies consist of a Peterbilt 348 water wagon (5,000-gallon capacity) which serves as the site's primary dust suppression mode, and is used on a daily basis when the landfill is operational. The source of the water for the wagons is the VRLRF water well located at the western boundary of the facility (**Figure 5.1**). In addition, the site's Disposal Route is treated with recycled basecourse (cold millings) from the facility entrance to the disposal area turnoff**.** Control efficiencies relating to water application and types of road material (e.g., cold millings, unpaved) are presented in **Sections 6.1** and **6.2**. Additional equipment can be leased from local suppliers, or another WMNM facility in the region (i.e., Rio Rancho Landfill). VRLRF may also utilize processed green waste as a soil amendment to promote vegetative growth and minimize soil erosion on areas requiring intermediate/final cover.

In addition to the above procedures, VRLRF currently implements dust control measures outlined in the Plan of Operations (Volume II, Section 7.2 of the Solid Waste Permit), which is maintained as part of the Landfill's NMED-approved April 2004 (Updated August 2005) Application for Permit at the Scalehouse.

6.7.2 NMOCs

Municipal solid waste (MSW) decomposition produces landfill gas (LFG), which typically contains a small amount (i.e. <0.04%) of non-methane organic compounds (NMOCs). At this time, there is no provision to mitigate NMOC emissions during startup, shutdown, or emergencies. NMOC generation from MSW decomposition is a continual process that is not subject to "malfunction", and is not "started up" or "shut down" at will.

6.7.3 VOC/HAP Emissions

Emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) could potentially occur from the landfarming of petroleum contaminated soils (PCS) or the decomposition of municipal solid waste (MSW). At this time, there is no provision to mitigate VOC/HAP emissions from PCS remediation during startup, shutdown, or emergencies, as remediation is a continual process that is not subject to "malfunction", and is not "started up" or "shut down" at will.

6.8 References

AP-42: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition, Office of Air Quality Planning and Standards/Office of Air and Radiation, US Environmental Protection Agency, Research Triangle Park, NC 27711, October 2008 (Draft), November 2006; September, October, and November 1998; January 1995; and September 1991.

Caterpillar® Performance Handbook, Edition 42, Caterpillar®, Inc., Peoria, Illinois, 2012.

LandGEM (Landfill Gas Emissions Model), Version 3.02, Control Technology Center, US Environmental Protection Agency, Research Triangle Park, NC, 27711, and Office of Research and Development, Washington, DC 20460, May 2005.

ATTACHMENT 6.1

UNCONTROLLED EMISSIONS

EMISSION UNIT 1

- **Refuse & PCS Delivery Vehicles**
- **Miscellaneous Vehicles**

LANDFILL OPERATING HOURS

The Valencia Regional Landfill and Recycling Facility is open Monday through Saturday.

Operational Hours

From Monday through Friday, the Landfill operates:

A	13	hrs/day
B	5	days/week
C	52	weeks/yr

On Saturday, the Landfill operates:

D	10.5	hrs/day
E	1	days/week
F	52	weeks/yr

The Landfill is closed on Sunday:

G	1	days/week
H	52	weeks/yr

I Number of working days per year = (365 days/yr) - **(G)(H)** =	**313**	days/yr (Monday through Saturday)
J Operating hours (Monday through Friday) = **(A)(B)(C)** =	**3,380**	hrs/yr
K Operating hours (Saturday) = **(D)(E)(F)** =	**546**	hrs/yr

Total Landfill Operating Hours

L Landfill Operating Hours = (**J** + **K**) =	**3,926**	hrs/yr

SUMMARY OF EMISSIONS FROM SIGNIFICANT SOURCES

Valencia Regional Landfill

	Description	Source Type	Pollutant	Maximum/Uncontrolled Air Pollutant Emission Rate		Actual/Controlled Air Pollutant Emission Rate	
				(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)
1	**Landfill Vehicle Travel: Disposal Route and Access Roads**						
	Refuse Delivery Vehicles (Cold Millings)	Area	TSP	41.63	32.37	8.33	6.47
	Miscellaneous Vehicles (Cold Millings)			3.98	5.07	0.80	1.01
	Refuse Delivery Vehicles (Unpaved)			13.94	10.84	5.58	4.34
	Miscellaneous Vehicles (Unpaved)			4.67	5.95	1.87	2.38
			Unit Total	**64.22**	**54.23**	**16.57**	**14.20**
	Refuse Delivery Vehicles (Cold Millings)	Area	PM_{10}	11.24	8.74	2.25	1.75
	Miscellaneous Vehicles (Cold Millings)			1.07	1.37	0.21	0.27
	Refuse Delivery Vehicles (Unpaved)			3.76	2.93	1.51	1.17
	Miscellaneous Vehicles (Unpaved)			1.26	1.61	0.50	0.64
			Unit Total	**17.34**	**14.64**	**4.47**	**3.83**
	Refuse Delivery Vehicles (Cold Millings)	Area	$PM_{2.5}$	1.12	0.87	0.22	0.17
	Miscellaneous Vehicles (Cold Millings)			0.11	0.14	0.02	0.03
	Refuse Delivery Vehicles (Unpaved)			0.38	0.29	0.15	0.12
	Miscellaneous Vehicles (Unpaved)			0.13	0.16	0.05	0.06
			Unit Total	**1.73**	**1.46**	**0.45**	**0.38**
2	**General Landfill Operations**						
	Compactor/Bulldozer	Area	TSP	0.16	0.073	0.16	0.07
	Motor Grader (Cold Millings)			0.29	1.9	0.058	0.37
	Motor Grader (Unpaved)			0.29	1.9	0.12	0.75
	Scraper			7.00	157.95	2.98	65.46
	Wind Erosion			7.19	1.64	5.51	1.26
			Unit Total	**14.93**	**163.40**	**8.82**	**67.91**
	Compactor/Bulldozer	Area	PM_{10}	0.013	0.0060	0.013	0.0060
	Motor Grader (Cold Millings)			0.129	0.83	0.026	0.17
	Motor Grader (Unpaved)			0.129	0.83	0.052	0.33
	Scraper			1.92	43.23	0.83	18.26
	Wind Erosion			2.20	0.50	1.69	0.38
			Unit Total	**4.39**	**45.39**	**2.61**	**19.15**
	Compactor/Bulldozer	Area	$PM_{2.5}$	0.017	0.0077	0.017	0.0077
	Motor Grader (Cold Millings)			0.0090	0.058	0.00181	0.012
	Motor Grader (Unpaved)			0.0090	0.058	0.0036	0.023
	Scraper			0.19	4.33	0.08	1.83
	Wind Erosion			0.22	0.05	0.17	0.04
			Unit Total	**0.45**	**4.50**	**0.27**	**1.91**
3	**Landfill Gas**						
	Landfill Gas (Year 2025)	Point	NMOCs	**5.74**	**1.31**	**5.74**	**1.31**
4	**PCS Landfarm**						
	PCS Landfarm	Point	HAPs	**22.45**	**5.13**	**22.45**	**5.13**

Notes:

- Fugitive dust emissions from Emission Units 1 and 2 are controlled by application of water (60% control) and cold millings recycled asphalt (80% control)
- Scraper emissions include travel, loading, and unloading
- NMOC emissions are for year 2025

REFUSE DELIVERY VEHICLE OPERATIONS (Cold Millings)
(Uncontrolled Long-Term Emissions)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from MSW and PCS Delivery Vehicle travel on the portion of the Disposal Route treated with cold millings base course.

Methodology: According to guidance presented in EPA AP-42, Section 13.2.2, Unpaved Roads (November 2006).

Long-Term Emissions Equation:

E_{ext} = $(k)(s/12)^a(W/3)^b$ [(365-p)/365] (AP-42,13.2.2.2, equation (2))

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation (lbs/VMT)

k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons); see calculation below
p = number of days per year with at least 0.01 inches of precipitation (AP-42, Figure 13.2.1-2)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	24.9	W =	24.9	W =	24.9
p =	60	p =	60	p =	60

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ [(365-p)/365] = **6.83** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **1.84** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **0.18** lbs/VMT

Total Vehicle Miles Traveled (VMT):

A Baseline vehicle count of MSW Delivery Vehicles per year =	**9,270**	vehicles/yr (based on landfill data)
B Annual escalator =	**5%**	per year
C Number of years for which escalator is applied = N =	**7**	years
D Total number of MSW Delivery Vehicles per year = (Baseline Vehicle Count)[1+ (escalator %)]N		
E Total number of MSW Delivery Vehicles per year =	**13,044**	vehicles/yr
F Round-trip distance from Landfill Entrance to Disposal Area =	**0.93**	mi/vehicle
G Total MSW Delivery Vehicle VMT = (**E**)(**F**)=	**12,129**	mi/yr
H Baseline vehicle count of PCS Delivery Vehicles per year =	**90**	vehicles/yr (based on landfill data)
I Annual escalator =	**5%**	**per year**
J Number of years for which escalator is applied = N =	**7**	**years**
K Total number of PCS Delivery Vehicles per year = (Baseline Vehicle Count)[1+ (escalator %)]N		
L Total number of PCS Delivery Vehicles per year =	**127**	**vehicles/yr**
M Round-trip distance from Landfill Entrance to Disposal Area =	**0.51**	mi/vehicle
N Total PCS Delivery Vehicle VMT = (**L**)(**M**) =	**65**	mi/yr
O Total VMT = (**G**+**N**)=	**12,194**	mi/yr

Weighted Average Mean Vehicle Weight (W):

A Average weight of Transfer and Tractor Trailers =	**39.35**	tons (based on Landfill estimates)
B Percentage of Transfer and Tractor Trailers =	**9.0%**	(based on Landfill estimates)
C Average empty weight of Roll-off Trucks =	**27.85**	tons (based on Landfill estimates)
D Percentage of Roll-off Trucks =	**47.0%**	(based on Landfill estimates)
E Average empty weight of Dump Trucks =	**24.50**	tons (based on Landfill estimates)
F Percentage of Dump Trucks =	**6.0%**	(based on Landfill estimates)
G Average empty weight of Front/Side Loader & Packer Trucks =	**23.35**	tons (based on Landfill estimates)
H Percentage of Front/Side Loader & Packer Trucks =	**28.0%**	(based on Landfill estimates)
I Average empty weight of small disposal trucks (i.e., self-haul vehicles) =	**1.65**	tons (based on Landfill estimates)
J Percentage of small disposal trucks =	**4.0%**	(based on Landfill estimates)
K Average empty weight of large disposal trucks (i.e., MSW and PCS trucks) =	**2.45**	tons (based on Landfill estimates)
L Percentage of large disposal trucks =	**6.0%**	(based on Landfill estimates)
N Weighted average mean vehicle weight **(W) = [(A)(B) + (C)(D) + (E)(F) + (G)(H) + (I)(J) + (K)(L)]**		
O Weighted average mean vehicle weight (W) =	**24.9**	tons

TSP, PM_{10} and $PM_{2.5}$ Long-Term Emissions

A TSP =	(E_{TSP})(Total VMT) =	**83,262**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**41.63**	**tons/yr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMT) =	**22,477**	lbs/yr
D PM_{10} =	(**C**)/(2,000 lbs/ton) =	**11.24**	**tons/yr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**2,248**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(2,000 lbs/ton) =	**1.12**	**tons/yr uncontrolled**

REFUSE DELIVERY VEHICLE OPERATIONS (Cold Millings)
(Uncontrolled Short-Term Emissions)

Short-Term Emissions Equation:

E = $(k)(s/12)^a(W/3)^b$ (AP-42,13.2.2.2, equation (1))

E = size-specific emission factor (lbs/VMT)
k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	24.9	W =	24.9	W =	24.9

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ = **8.17** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ = **2.21** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ = **0.22** lbs/VMT

Operating Hours:

Operating efficiency = **100%** (based on Landfill estimates)

Based on Landfill estimates, from Monday through Saturday, the "average" refuse delivery vehicle operates:

A	10 hrs/day	Monday through Friday (Scalehouse open 7 am - 5 pm)
B	9 hrs/day	Saturday (Scalehouse open 7 am - 4 pm)
C	261 weekdays/yr	
D	52 Saturdays/yr	

Operating hours = [(**A**)(**B**)(**C**)] [Operating Efficiency] = **3,078** hrs/yr

Total Vehicle Miles Traveled (VMT):

Total VMT = **12,194** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Short-Term Emissions:

A TSP =	(E_{TSP})(Total VMT) =	**99,641**	lbs/yr
B TSP =	(**A**)/(Operating Hours) =	**32.37**	**lbs/hr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMT) =	**26,899**	lbs/yr
D PM_{10} =	(**C**)/(Operating Hours) =	**8.74**	**lbs/hr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**2,690**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(Operating Hours) =	**0.87**	**lbs/hr uncontrolled**

REFUSE DELIVERY VEHICLE OPERATIONS (Unpaved)

(Uncontrolled Long-Term Emissions)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from MSW Delivery Vehicles that travel on the unpaved Disposal Route extending into the Disposal Area, as well as emissions from PCS Delivery Vehicles on the unpaved PCS Disposal Route.

Methodology: According to guidance presented in EPA AP-42, Section 13.2.2, Unpaved Roads (November 2006).

Long-Term Emissions Equation:

E_{ext} = $(k)(s/12)^a(W/3)^b$ [(365-p)/365] (AP-42,13.2.2.2, equation (2))

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation (lbs/VMT)

k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons); see calculation below
p = number of days per year with at least 0.01 inches of precipitation
(AP-42, Figure 13.2.1-2)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	24.9	W =	24.9	W =	24.9
p =	60	p =	60	p =	60

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ [(365-p)/365] = **6.83** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **1.84** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **0.18** lbs/VMT

Total Vehicle Miles Traveled (VMT):

A Baseline vehicle count of MSW Delivery Vehicles per year =	**9,270**	vehicles/yr (based on landfill data)
B Annual escalator =	**5%**	per year
C Number of years for which escalator is applied = N =	**7**	years
D Total number of MSW Delivery Vehicles per year = (Baseline Vehicle Count)[1+ (escalator %)]N		
E Total number of MSW Delivery Vehicles per year =	**13,044**	vehicles/yr
F Round-trip distance from Landfill Entrance to Disposal Area =	**0.31**	mi/vehicle
G Total MSW Delivery Vehicle VMT = (**E**)(**F**)=	**4,048**	mi/yr
H Baseline vehicle count of PCS Delivery Vehicles per year =	**90**	vehicles/yr (based on landfill data)
I Annual escalator =	**5%**	per year
J Number of years for which escalator is applied = N =	**7**	years
K Total number of PCS Delivery Vehicles per year = (Baseline Vehicle Count)[1+ (escalator %)]N		
L Total number of PCS Delivery Vehicles per year =	**127**	vehicles/yr
M Round-trip distance from Landfill Entrance to Disposal Area =	**0.27**	mi/vehicle
N Total PCS Delivery Vehicle VMT = (**L**)(**M**) =	**35**	mi/yr
O Total VMT = (**G**+**N**)=	**4,083**	mi/yr

Weighted Average Mean Vehicle Weight (W):

A Average weight of Transfer and Tractor Trailers =	**39.35**	tons (based on Landfill estimates)
B Percentage of Transfer and Tractor Trailers =	**9.0%**	(based on Landfill estimates)
C Average empty weight of Roll-off Trucks =	**27.85**	tons (based on Landfill estimates)
D Percentage of Roll-off Trucks =	**47.0%**	(based on Landfill estimates)
E Average empty weight of Dump Trucks =	**24.50**	tons (based on Landfill estimates)
F Percentage of Dump Trucks =	**6.0%**	(based on Landfill estimates)
G Average empty weight of Front/Side Loader & Packer Trucks =	**23.35**	tons (based on Landfill estimates)
H Percentage of Front/Side Loader & Packer Trucks =	**28.0%**	(based on Landfill estimates)
I Average empty weight of small disposal trucks (i.e., self-haul vehicles) =	**1.65**	tons (based on Landfill estimates)
J Percentage of small disposal trucks =	**4.0%**	(based on Landfill estimates)
K Average empty weight of large disposal trucks (i.e., MSW and PCS trucks) =	**2.45**	tons (based on Landfill estimates)
L Percentage of large disposal trucks =	**6.0%**	(based on Landfill estimates)
N Weighted average mean vehicle weight **(W) = [(A)(B) + (C)(D) + (E)(F) + (G)(H) + (I)(J) + (K)(L)]**		
O Weighted average mean vehicle weight (W) =	**24.9**	tons

TSP, PM_{10} and $PM_{2.5}$ Long-Term Emissions

A TSP =	(E_{TSP})(Total VMT) =	**27,878**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**13.94**	**tons/yr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMT) =	**7,526**	lbs/yr
D PM_{10} =	(**C**)/(2,000 lbs/ton) =	**3.76**	**tons/yr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**753**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(2,000 lbs/ton) =	**0.38**	**tons/yr uncontrolled**

REFUSE DELIVERY VEHICLE OPERATIONS (Unpaved)
(Uncontrolled Short-Term Emissions)

Short-Term Emissions Equation:

E = $(k)(s/12)^a(W/3)^b$ (AP-42,13.2.2.2, equation (1))

E = size-specific emission factor (lbs/VMT)
k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	24.9	W =	24.9	W =	24.9

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ = **8.17** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ = **2.21** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ = **0.22** lbs/VMT

Operating Hours:

Operating efficiency = **100%** (based on Landfill estimates)

Based on Landfill estimates, from Monday through Saturday, the "average" refuse delivery vehicle operates:

A	10	hrs/day	Monday through Friday (Scalehouse open 7 am - 5 pm)
B	9	hrs/day	Saturday (Scalehouse open 7 am - 4 pm)
C	261	weekdays/yr	
D	52	Saturdays/yr	

Operating hours = [**(A)(C)+((B)(D)**] [Operating Efficiency] = **3,078** hrs/yr

Total Vehicle Miles Traveled (VMT):

Total VMT = **4,083** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Short-Term Emissions:

A	TSP =	(E_{TSP})(Total VMT) =	**33,362**	lbs/yr
B	TSP =	(**A**)/(Operating Hours) =	**10.84**	**lbs/hr uncontrolled**
C	PM_{10} =	(E_{PM10})(Total VMT) =	**9,006**	lbs/yr
D	PM_{10} =	(**C**)/(Operating Hours) =	**2.93**	**lbs/hr uncontrolled**
E	$PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**901**	lbs/yr
F	$PM_{2.5}$ =	(**E**)/(Operating Hours) =	**0.29**	**lbs/hr uncontrolled**

MISCELLANEOUS VEHICLE OPERATIONS (Cold Millings)
(Uncontrolled Long-Term Emissions)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from Miscellaneous Vehicle travel on the portion of the Disposal Route treated with cold millings base course.

Methodology: According to guidance presented in EPA AP-42, Section 13.2.2, Unpaved Roads (November 2006).

Long-Term Emissions Equation:

E_{ext} = $(k)(s/12)^a(W/3)^b$ [(365-p)/365] (AP-42,13.2.2.2, equation (2))

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation (lbs/VMT)

k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)
p = number of days per year with at least 0.01 inches of precipitation
(AP-42, Figure 13.2.1-2)

	TSP	PM_{10}	$PM_{2.5}$
k =	4.9	1.5	0.15
s =	6.4	6.4	6.4
a =	0.7	0.9	0.9
b =	0.45	0.45	0.45
W =	19.7	19.7	19.7
p =	60	60	60

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ [(365-p)/365] = **6.15** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **1.66** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **0.17** lbs/VMT

Weighted Average Mean Vehicle Weight (W):

Company Pick-up Trucks		
A Number of vehicles	2	
B Round-trips/day (1)	2	
C Miles/round-trip (1)	0.41	
D Operating days/year (1)	313	
E Mean vehicle weight (tons)	2	(based on Landfill estimates)
Water Truck		
F Number of vehicles	1	
G Round-trips/day (1)	3	
H Miles/round-trip (1)	0.83	
I Operating days/year (1)	313	
J Empty vehicle weight (tons)	33	(based upon landfill estimates)
K Water Capacity (gallons)	5,000	(based upon landfill estimates)
L Mean vehicle weight(2) (tons)	43.4	

Notes:

(1) Data based on landfill estimates.
(2) Average water wagon (Peterbilt 348) weight = empty weight of vehicle + 1/2 weight of water (density = 8.3 lbs/gal).
Average water wagon weight = **J** + (0.5)(**K**)(8.3 lbs/gallon)(1 ton/2,000 lbs) = **43.4** tons

Weighted average mean vehicle weight = (**AB**/(**AB**+**FG**))(**E**) + (**FG**/(**AB**+**FG**))(**L**) = **19.7** tons

Total Vehicle Miles Traveled (VMT):

VMT = (number of vehicles)(round trips/day)(mi/round trip)(operating days/yr)

M VMT (Company Pick-up Trucks) = (**A**)(**B**)(**C**)(**D**) =	**513**	mi/yr
N VMT (Water Truck) = (**F**)(**G**)(**H**)(**I**) =	**779**	mi/yr
O Total VMT = **M** + **N** =	**1,293**	mi/yr

TSP, PM_{10} and $PM_{2.5}$ Long-Term Emissions:

A TSP =	(E_{TSP})(Total VMT) =	**7,956**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**3.98**	**tons/yr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMT) =	**2,148**	lbs/yr
D PM_{10} =	(**C**)/(2,000 lbs/ton) =	**1.07**	**tons/yr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**215**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(2,000 lbs/ton) =	**0.11**	**tons/yr uncontrolled**

MISCELLANEOUS VEHICLE OPERATIONS (Cold Millings)
(Uncontrolled Short-Term Emissions)

Short-Term Emissions Equation:

$E = (k)(s/12)^a(W/3)^b$ (AP-42,13.2.2.2, equation (1))

E = size-specific emission factor (lbs/VMT)
k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	19.7	W =	19.7	W =	19.7

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

$E_{TSP} = (4.9)(6.4/12)^{0.7}(W/3)^{0.45} =$ **7.37** lbs/VMT

$E_{PM10} = (1.5)(6.4/12)^{0.9}(W/3)^{0.45} =$ **1.99** lbs/VMT

$E_{PM2.5} = (0.15)(6.4/12)^{0.9}(W/3)^{0.45} =$ **0.20** lbs/VMT

Operating Hours:

Operating efficiency = **100%** (based on Landfill estimates)

Based on Landfill estimates, from Monday through Saturday, the "average" miscellaneous vehicle operates:

A 6 hrs/day
B 313 days/yr

Operating hours = [(**A**)(**B**)] [Operating Efficiency] = **1,878** hrs/yr

Total Vehicle Miles Traveled (VMT):

Total VMT = **1,293** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Short-Term Emissions:

A TSP =	(E_{TSP})(Total VMT) =	**9,522**	lbs/yr
B TSP =	(**A**)/(Operating Hours) =	**5.07**	**lbs/hr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMT) =	**2,570**	lbs/yr
D PM_{10} =	(**C**)/(Operating Hours) =	**1.37**	**lbs/hr uncontrolled**
E $PM_{2.5}$ =	$(E_{PM2.5})$(Total VMT) =	**257**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(Operating Hours) =	**0.14**	**lbs/hr uncontrolled**

MISCELLANEOUS VEHICLE OPERATIONS (Unpaved)
(Uncontrolled Long-Term Emissions)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from Miscellaneous Vehicle travel on unpaved portions of the Disposal Route and Access Roads.

Methodology: According to guidance presented in EPA AP-42, Section 13.2.2, Unpaved Roads (November 2006).

Long-Term Emissions Equation:

E_{ext} = $(k)(s/12)^a(W/3)^b$ [(365-p)/365] (AP-42,13.2.2.2, equation (2))

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation (lbs/VMT)

k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)
p = number of days per year with at least 0.01 inches of precipitation
(AP-42, Figure 13.2.1-2)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	15.8	W =	15.8	W =	15.8
p =	60	p =	60	p =	60

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ [(365-p)/365] = **5.57** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **1.50** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **0.15** lbs/VMT

Weighted Average Mean Vehicle Weight (W):

Company Pick-up Trucks

A Number of vehicles	2	
B Round-trips/day (1)	2	
C Miles/round-trip (1)	0.70	
D Operating days/year (1)	313	
E Mean vehicle weight (tons)	2	(based on Landfill estimates)
Water Truck		
F Number of vehicles	1	
G Round-trips/day (1)	2	
H Miles/round-trip (1)	1.28	
I Operating days/year (1)	313	
J Empty vehicle weight (tons)	33	(based upon landfill estimates)
K Water Capacity (gallons)	5,000	(based upon landfill estimates)
L Mean vehicle weight(2) (tons)	43.4	

Notes:
(1) Data based on landfill estimates.
(2) Average water wagon (Peterbilt 348) weight = empty weight of vehicle + 1/2 weight of water (density = 8.3 lbs/gal).
Average water wagon weight = **J** + (0.5)(**K**)(8.3 lbs/gallon)(1 ton/2,000 lbs) = **43.4** tons

Weighted average mean vehicle weight = (**AB**/(**AB**+**FG**))(**E**) + (**FG**/(**AB**+**FG**))(**L**) = **15.8** tons

Total Vehicle Miles Traveled (VMT):

VMT = (number of vehicles)(round trips/day)(mi/round trip)(operating days/yr)

M VMT (Company Pick-up Trucks) = (**A**)(**B**)(**C**)(**D**) = **876** mi/yr
N VMT (Water Truck) = (**F**)(**G**)(**H**)(**I**) = **801** mi/yr
O Total VMT = **M** +**N** = **1,678** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Long-Term Emissions:

A TSP =	(E_{TSP})(Total VMT) =	**9,341**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**4.67**	**tons/yr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMT) =	**2,522**	lbs/yr
D PM_{10} =	(**C**)/(2,000 lbs/ton) =	**1.26**	**tons/yr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**252**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(2,000 lbs/ton) =	**0.13**	**tons/yr uncontrolled**

MISCELLANEOUS VEHICLE OPERATIONS (Unpaved)
(Uncontrolled Short-Term Emissions)

Short-Term Emissions Equation:

E = $(k)(s/12)^a(W/3)^b$ (AP-42,13.2.2.2, equation (1))

E = size-specific emission factor (lbs/VMT)
k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)

TSP	
k =	4.9
s =	6.4
a =	0.7
b =	0.45
W =	15.8

PM_{10}	
k =	1.5
s =	6.4
a =	0.9
b =	0.45
W =	15.8

$PM_{2.5}$	
k =	0.15
s =	6.4
a =	0.9
b =	0.45
W =	15.8

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ = **6.66** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ = **1.80** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ = **0.18** lbs/VMT

Operating Hours:
Operating efficiency = **100%** (based on Landfill estimates)
Based on Landfill estimates, from Monday through Friday, the "average" miscellaneous vehicle operates:
A 6 hrs/day
B 313 days/yr
Operating hours = [(**A**)(**B**) [Operating Efficiency] = **1,878** hrs/yr

Total Vehicle Miles Traveled (VMT):
Total VMT = **1,678** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Short-Term Emissions:

A	TSP =	(E_{TSP})(Total VMT) =	**11,179** lbs/yr
B	TSP =	(**A**)/(Operating Hours) =	**5.95 lbs/hr uncontrolled**
C	PM_{10} =	(E_{PM10})(Total VMT) =	**3,018** lbs/yr
D	PM_{10} =	(**C**)/(Operating Hours) =	**1.61 lbs/hr uncontrolled**
E	$PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**302** lbs/yr
F	$PM_{2.5}$ =	(**E**)/(Operating Hours) =	**0.16 lbs/hr uncontrolled**

ATTACHMENT 6.2

UNCONTROLLED EMISSIONS

EMISSION UNIT 2

- **Scraper**
- **Motor Grader**
- **Compactor/Bulldozer**

SCRAPER OPERATIONS

(Uncontrolled Long-Term Emissions - Scraper Travel to the Working Face Over Unpaved Acces Road)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from three different scraper processes:

Scraper Travel along the unpaved Access Road portion and unpaved Disposal Route portion between Soil Borrow Area 2 and the Disposal Area.

Methodology: Emissions estimates for each process involve the application of guidance from three (3) separate sections of EPA AP-42:

Scraper Travel -- Section 13.2.2 (Unpaved Roads, November 2006)

Scraper Loading -- Section 11.9 (Western Surface Coal Mining, October 1998)

Scraper Unloading -- Section 13.2.4 (Aggregate Handling and Storage Piles, November 2006)

Long-Term Emissions Equation:

E_{ext} = $(k)(s/12)^a(W/3)^b$ [(365-p)/365] (AP-42,13.2.2.2, equation (2))

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation (lbs/VMT)

k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)
p = number of days per year with at least 0.01 inches of precipitation (AP-42, Figure 13.2.2-1)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	56.4	W =	56.4	W =	56.4
p =	60	p =	60	p =	60

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ [(365-p)/365] = **9.87** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **2.67** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ [(365-p)/365] = **0.27** lbs/VMT

Total Vehicle Miles Traveled (VMT):

A Number of Intermediate Cover round trips per week =	**20**	round trips/week	(based on Landfill estimates)
B Round-trip distance from Soil Borrow Area 2 to Disposal Area =	**0.91**	mi/round-trip	
C Total VMT = ((**A**)(**B**))(52 weeks/year) =	**946**	mi/yr	

Mean Vehicle Weight (W):

Mean vehicle weight = (vehicle empty weight) + (1/2 soil weight)

A Vehicle empty weight (CAT 627G) =	**43.2**	tons (Caterpillar Handbook, 2012)
B Scraper capacity =	**22**	yd^3/load (based on Landfill estimates)
C Soil density (tons/yd^3) =	**1.2**	tons/yd^3 (Caterpillar Handbook, 2012)
D Soil weight = (**B**)(**C**) =	**26.4**	tons
E Assume Scraper is empty for 1/2 of its round-trip =	**0.5**	
F 1/2 soil weight = (**D**)(**E**) =	**13.2**	tons
G Mean vehicle weight (W) = (**A**) + (**F**) =	**56.4**	tons

TSP, PM_{10} and $PM_{2.5}$ Long-Term Emissions

A TSP =	(E_{TSP})(Total VMT) =	**9,336**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**4.67**	**tons/yr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMTl) =	**2,520**	lbs/yr
D PM_{10} =	(**C**)/(2,000 lbs/ton) =	**1.26**	**tons/yr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**252**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(2,000 lbs/ton) =	**0.13**	**tons/yr uncontrolled**

SCRAPER OPERATIONS

(Uncontrolled Short-Term Emissions - Scraper Travel to the Working Face Over Unpaved Access Road

Short-Term Emissions Equation:

E = $(k)(s/12)^a(W/3)^b$ (AP-42,13.2.2.2, equation (1a))

E = size-specific emission factor (lbs/VMT)
k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	56.4	W =	56.4	W =	56.4

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ = **11.82** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ = **3.19** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ = **0.32** lbs/VMT

Total Vehicle Miles Traveled (VMT):
Total VMT = **946** mi/yr

Mean Vehicle Weight (W):
Mean vehicle weight (W) = **56.4** tons

Operating Hours:
Operating efficiency = **100%** based on Landfill estimates
From Monday through Friday, the scraper operates:

A	1	hrs/day
B	1	days/week
C	52	weeks/yr

On Saturday, the scraper operates:

D	1	hrs/day
E	1	days/week
F	52	weeks/yr

Operating hours = [(**A**)(**B**)(**C**) + (**D**)(**E**)(**F**)] [Operating Efficiency] = **104** hrs/yr

TSP, PM_{10} and $PM_{2.5}$ Short-Term Emissions:

A TSP =	(E_{TSP})(Total VMT) =	**11,173**	lbs/yr
B TSP =	(**A**)/(Operating Hours) =	**107.43**	**lbs/hr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMTl) =	**3,016**	lbs/yr
D PM_{10} =	(**C**)/(Operating Hours) =	**29.00**	**lbs/hr uncontrolled**
E $PM_{2.5}$ =	$(E_{PM2.5})$(Total VMT) =	**302**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(Operating Hours) =	**2.90**	**lbs/hr uncontrolled**

SCRAPER OPERATIONS

(Uncontrolled Long-Term Emissions - Scraper Travel to the Working Face Over Cold Millings Disposal Route)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from three different scraper processes:

Scraper Travel along the Cold Millings Disposal Route portion between Soil Borrow Area 2 and the Disposal Area.

Scraper Loading at Soil Borrow Area 2
Scraper Unloading at the Disposal Area/Working Face

Methodology: Emissions estimates for each process involve the application of guidance from three (3) separate sections of EPA AP-42:
Scraper Travel -- Section 13.2.2 (Unpaved Roads, November 2006)
Scraper Loading -- Section 11.9 (Western Surface Coal Mining, October 1998)
Scraper Unloading -- Section 13.2.4 (Aggregate Handling and Storage Piles, November 2006)

Long-Term Emissions Equation:

$E_{ext} = (k)(s/12)^a(W/3)^b \quad [(365-p)/365]$ (AP-42,13.2.2.2, equation (2))

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation (lbs/VMT)

k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)
p = number of days per year with at least 0.01 inches of precipitation (AP-42, Figure 13.2.2-1)

	TSP		PM_{10}		$PM_{2.5}$
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	56.4	W =	56.4	W =	56.4
p =	60	p =	60	p =	60

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

$E_{TSP} = (4.9)(6.4/12)^{0.7}(W/3)^{0.45} \quad [(365-p)/365] =$ **9.87** lbs/VMT

$E_{PM10} = (1.5)(6.4/12)^{0.9}(W/3)^{0.45} \quad [(365-p)/365] =$ **2.67** lbs/VMT

$E_{PM2.5} = (0.15)(6.4/12)^{0.9}(W/3)^{0.45} \quad [(365-p)/365] =$ **0.27** lbs/VMT

Total Vehicle Miles Traveled (VMT):

A	Number of Intermediate Cover round trips per week =	**20**	round trips/week	(based on Landfill estimates)
B	Round-trip distance from Soil Borrow Area 2 to Disposal Area =	**0.30**	mi/round-trip	
C	Total VMT = ((**A**)(**B**))(52 weeks/year) =	**308**	mi/yr	

Mean Vehicle Weight (W):
Mean vehicle weight = (vehicle empty weight) + (1/2 soil weight)

A	Vehicle empty weight (CAT 627G) =	**43.2**	tons (Caterpillar Handbook, 2012)
B	Scraper capacity =	**22**	yd^3/load (based on Landfill estimates)
C	Soil density (tons/yd^3) =	**1.2**	tons/yd^3 (Caterpillar Handbook, 2012)
D	Soil weight = (**B**)(**C**) =	**26.4**	tons
E	Assume Scraper is empty for 1/2 of its round-trip =	**0.5**	
F	1/2 soil weight = (**D**)(**E**) =	**13.2**	tons
G	Mean vehicle weight (W) = (**A**) + (**F**) =	**56.4**	tons

TSP, PM_{10} and $PM_{2.5}$ Long-Term Emissions

A	TSP =	(E_{TSP})(Total VMT) =	**3,045**	lbs/yr
B	TSP =	(**A**)/(2,000 lbs/ton) =	**1.52**	**tons/yr uncontrolled**
C	PM_{10} =	(E_{PM10})(Total VMTI) =	**822**	lbs/yr
D	PM_{10} =	(**C**)/(2,000 lbs/ton) =	**0.41**	**tons/yr uncontrolled**
E	$PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**82**	lbs/yr
F	$PM_{2.5}$ =	(**E**)/(2,000 lbs/ton) =	**0.04**	**tons/yr uncontrolled**

SCRAPER OPERATIONS

(Uncontrolled Short-Term Emissions - Scraper Travel to the Working Face Over Cold Millings Disposal Route

Short-Term Emissions Equation:

E = $(k)(s/12)^{a}(W/3)^{b}$ (AP-42,13.2.2.2, equation (1a))

E = size-specific emission factor (lbs/VMT)
k = particle size multiplier (dimensionless)
s = surface material silt content (%) AP-42, Table 13.2.2-1
a = empirical constant (dimensionless)
b = empirical constant (dimensionless)
W = mean vehicle weight (tons)

TSP		PM_{10}		$PM_{2.5}$	
k =	4.9	k =	1.5	k =	0.15
s =	6.4	s =	6.4	s =	6.4
a =	0.7	a =	0.9	a =	0.9
b =	0.45	b =	0.45	b =	0.45
W =	56.4	W =	56.4	W =	56.4

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} = $(4.9)(6.4/12)^{0.7}(W/3)^{0.45}$ = **11.82** lbs/VMT

E_{PM10} = $(1.5)(6.4/12)^{0.9}(W/3)^{0.45}$ = **3.19** lbs/VMT

$E_{PM2.5}$ = $(0.15)(6.4/12)^{0.9}(W/3)^{0.45}$ = **0.32** lbs/VMT

Total Vehicle Miles Traveled (VMT):
Total VMT = **308** mi/yr

Mean Vehicle Weight (W):
Mean vehicle weight (W) = **56.4** tons

Operating Hours:
Operating efficiency = **100%** based on Landfill estimates
From Monday through Friday, the scraper operates:

A	1	hrs/day
B	1	days/week
C	52	weeks/yr

On Saturday, the scraper operates:

D	1	hrs/day
E	1	days/week
F	52	weeks/yr

Operating hours = [(**A**)(**B**)(**C**) + (**D**)(**E**)(**F**)] [Operating Efficiency] = **104** hrs/yr

TSP, PM_{10} and $PM_{2.5}$ Short-Term Emissions:

A TSP =	(E_{TSP})(Total VMT) =	**3,644**	lbs/yr
B TSP =	(**A**)/(Operating Hours) =	**35.04**	**lbs/hr uncontrolled**
C PM_{10} =	(E_{PM10})(Total VMTl) =	**984**	lbs/yr
D PM_{10} =	(**C**)/(Operating Hours) =	**9.46**	**lbs/hr uncontrolled**
E $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**98**	lbs/yr
F $PM_{2.5}$ =	(**E**)/(Operating Hours) =	**0.95**	**lbs/hr uncontrolled**

SCRAPER OPERATIONS
(Uncontrolled Emissions - Scraper Loading)

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

TSP, $PM_{10,}$ and $PM_{2.5}$ uncontrolled emissions for scraper loading are estimated through application of emission factors presented in AP-42, Section 11.9, Table 11.9-4 and Section 13.2.2.2.

A E_{TSP} =		**0.058**	lbs/ton of material loaded (Table 11.9-4)

The emission factors for PM_{10} and $PM_{2.5}$ are calculated by applying the ratio of the PM_{10}, $PM_{2.5}$, and TSP particle size multiplier (k) values, obtained from AP-42, Section 13.2.2.2, to the TSP emission factor of 0.058 lbs/ton of material loaded.

B E_{PM10} =	(1.5/4.9)(E_{TSP}) = (0.31)(**A**) =	**0.02**	lbs/ton of material loaded
C $E_{PM2.5}$ =	(0.15/4.9)(E_{TSP}) = (.031)(**A**) =	**0.002**	lbs/ton of material loaded

Mass of Soil Loaded Per Year:

A Number of scraper loads per day=	**10**	loads/day (based on Landfill estimates)
B Scraper capacity=	**22**	yd^3/load (based on Landfill estimates)
C Soil density=	**1.2**	tons/yd^3 (Caterpillar© Handbook, 2012
D Mass of soil loaded per day = (**A**)(**B**)(**C**) =	**264**	tons/day
E Operating days per year =	**104**	days/yr
F Mass of soil loaded per year = (**D**)(**E**) =	**27,456**	tons/yr

Operating Hours:

Operating hours =	**104**	hrs/yr

TSP, PM_{10} and $PM_{2.5}$ Emissions:

A TSP =	(E_{TSP})(Mass of soil loaded per year) =	**1,592**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**0.80**	**tons/yr uncontrolled**
C TSP =	(**A**)/(Operating Hours) =	**15.31**	**lbs/hr uncontrolled**
D PM_{10} =	(E_{PM10})(Mass of soil loaded per year) =	**487**	lbs/yr
E PM_{10} =	(**D**)/(2,000 lbs/ton) =	**0.24**	**tons/yr uncontrolled**
F PM_{10} =	(**D**)/(Operating Hours) =	**4.69**	**lbs/hr uncontrolled**
G $PM_{2.5}$ =	($E_{PM2.5}$)(Mass of soil loaded per year) =	**49**	lbs/yr
H $PM_{2.5}$ =	(**G**)/(2,000 lbs/ton) =	**0.02**	**tons/yr uncontrolled**
I $PM_{2.5}$ =	(**G**)/(Operating Hours) =	**0.47**	**lbs/hr uncontrolled**

SCRAPER OPERATIONS
(Uncontrolled Emissions - Scraper Unloading)

Emissions Equation:

$$E = \frac{(k)(0.0032)(U/5)^{1.3}}{(M/2)^{1.4}}$$ (AP-42,13.2.4, equation (1))

E = size-specific emission factor (lbs/ton of material unloaded)

k = particle size multiplier (dimensionless) =	**0.74**	k_{TSP}	(AP-42, 13.2.4)
	0.35	k_{PM10}	(AP-42, 13.2.4)
	0.053	$k_{PM2.5}$	(AP-42, 13.2.4)
U* = mean wind speed (mph) =	**12.5**		
* Meteorological data obtained online from NREL USDOE			
M = soil moisture content (%) =	**12**	(AP-42, Table 13.2.4-1)	

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

$$E_{TSP} = \frac{(0.74)(0.0032)(U/5)^{1.3}}{(M/2)^{1.4}} =$$ **0.00063** lbs/ton of material unloaded

$$E_{PM10} = \frac{(0.35)(0.0032)(U/5)^{1.3}}{(M/2)^{1.4}} =$$ **0.00030** lbs/ton of material unloaded

$$E_{PM2.5} = \frac{(0.053)(0.0032)(U/5)^{1.3}}{(M/2)^{1.4}} =$$ **0.00005** lbs/ton of material unloaded

Mass of Soil Unloaded Per Year:

Mass of soil unloaded per year = Mass of soil loaded per year = **27,456** tons/yr

Operating Hours:

Operating hours = **104** hrs/yr

TSP, PM_{10} and $PM_{2.5}$ Emissions:

A TSP =	(E_{TSP})(Mass of soil unloaded per year) =	**17**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**0.009**	**tons/yr uncontrolled**
C TSP =	(**A**)/(Operating Hours) =	**0.17**	**lbs/hr uncontrolled**
D PM_{10} =	(E_{PM10})(Mass of soil unloaded per year) =	**8**	lbs/yr
E PM_{10} =	(**D**)/(2,000 lbs/ton) =	**0.004**	**tons/yr uncontrolled**
F PM_{10} =	(**D**)/(Operating Hours) =	**0.08**	**lbs/hr uncontrolled**
G $PM_{2.5}$ =	($E_{PM2.5}$)(Mass of soil unloaded per year) =	**1**	lbs/yr
H $PM_{2.5}$ =	(**G**)/(2,000 lbs/ton) =	**0.001**	**tons/yr uncontrolled**
I $PM_{2.5}$ =	(**G**)/(Operating Hours) =	**0.01**	**lbs/hr uncontrolled**

SCRAPER OPERATIONS - SUMMARY OF EMISSIONS
(Total Uncontrolled TSP, PM_{10}, and $PM_{2.5}$ Emissions)

Scraper Travel + Loading + Unloading

TSP Long-Term Emissions	**7.0**	**tons/yr uncontrolled**
TSP Short-Term Emissions	**157.9**	**lbs/hr uncontrolled**
PM_{10} Long-Term Emissions	**1.9**	**tons/yr uncontrolled**
PM_{10} Short-Term Emissions	**43.2**	**lbs/hr uncontrolled**
$PM_{2.5}$ Long-Term Emissions	**0.19**	**tons/yr uncontrolled**
$PM_{2.5}$ Short-Term Emissions	**4.33**	**lbs/hr uncontrolled**

MOTOR GRADER OPERATIONS (Cold Millings)
(Uncontrolled Emissions)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from Motor Grader operations on the portion of the Disposal Route treated with cold millings base course.

Methodology: Emissions for TSP, PM_{10}, and $PM_{2.5}$ have been estimated by use of the emission factor equations provided in AP-42, Section 11.9, Western Surface Coal Mining (October 1998), Table 11.9-1:

Emissions Equations:

E_{TSP} =	$(0.040)(S)^{2.5}$	(AP-42, Table 11.9-1)
E_{PM15} =	$(0.051)(S)^{2.0}$	(AP-42, Table 11.9-1)
E_{PM10} =	$(0.60)(E_{PM15})$	(AP-42, Table 11.9-1)
E_{PM10} =	$(0.60)(0.051)(S)^{2.0}$	
$E_{PM2.5}$ =	$(0.031)(E_{TSP})$	(AP-42, Table 11.9-1)
$E_{PM2.5}$ =	$(0.031)(0.040)(S)^{2.5}$	

E = size-specific emission factor (lbs/VMT)

S = mean vehicle speed (mph) = **3** mph (based on Landfill estimates)

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} =	$(0.040)(S)^{2.5}$ =	**0.62**	lbs/VMT
E_{PM10} =	$(0.60)(0.051)(S)^{2.0}$ =	**0.28**	lbs/VMT
$E_{PM2.5}$ =	$(0.031)(0.040)(S)^{2.5}$ =	**0.02**	lbs/VMT

Operating Hours:

Operating efficiency = **100%** (based on Landfill estimates)

Based on Landfill estimates, one motor grader (CAT 140G) operates:

A	6	hr/week on roads covered with cold millings (based on Landfill estimates)
B	52	weeks/yr (based on Landfill estimates)

Operating hours = (**A**)(**B**)(Operating Efficiency) = **312** hrs/yr

Total Vehicle Miles Traveled (VMT):

Total VMT = (Operating Hours)(S) = **936** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Emissions

A TSP =	(E_{TSP})(Total VMT) =	**584**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**0.29**	**tons/yr uncontrolled**
C TSP =	(**A**)/(Operating Hours) =	**1.87**	**lbs/hr uncontrolled**
D PM_{10} =	(E_{PM10})(Total VMT) =	**258**	lbs/yr
E PM_{10} =	(**D**)/(2,000 lbs/ton) =	**0.13**	**tons/yr uncontrolled**
F PM_{10} =	(**D**)/(Operating Hours) =	**0.83**	**lbs/hr uncontrolled**
G $PM_{2.5}$ =	$(E_{PM2.5})$(Total VMT) =	**18.1**	lbs/yr
H $PM_{2.5}$ =	(**G**)/(2,000 lbs/ton) =	**0.01**	**tons/yr uncontrolled**
I $PM_{2.5}$ =	(**G**)/(Operating Hours) =	**0.06**	**lbs/hr uncontrolled**

MOTOR GRADER OPERATIONS (Unpaved)
(Uncontrolled Emissions)

Purpose: The purpose of this calculation is to estimate the potential fugitive dust emissions from Motor Grader operations on unpaved portions of the Disposal Route and Access Roads.

Methodology: Emissions for TSP, PM_{10}, and $PM_{2.5}$ have been estimated by use of the emission factor equations provided in AP-42, Section 11.9, Western Surface Coal Mining (October 1998), Table 11.9-1:

Emissions Equations:

E_{TSP} =	$(0.040)(S)^{2.5}$	(AP-42, Table 11.9-1)
E_{PM15} =	$(0.051)(S)^{2.0}$	(AP-42, Table 11.9-1)
E_{PM10} =	$(0.60)(E_{PM15})$	(AP-42, Table 11.9-1)
E_{PM10} =	$(0.60)(0.051)(S)^{2.0}$	
$E_{PM2.5}$ =	$(0.031)(E_{TSP})$	(AP-42, Table 11.9-1)
$E_{PM2.5}$ =	$(0.031)(0.040)(S)^{2.5}$	

E = size-specific emission factor (lbs/VMT)

S = mean vehicle speed (mph) = **3** mph (based on Landfill estimates)

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} =	$(0.040)(S)^{2.5}$ =	**0.62**	lbs/VMT
E_{PM10} =	$(0.60)(0.051)(S)^{2.0}$ =	**0.28**	lbs/VMT
$E_{PM2.5}$ =	$(0.031)(0.040)(S)^{2.5}$ =	**0.02**	lbs/VMT

Operating Hours:

Operating efficiency = **100%** (based on Landfill estimates)

Based on Landfill estimates, one motor grader (CAT 140G) operates:

A	6	hr/week on unpaved roads (based on Landfill estimates)
B	52	weeks/yr (based on Landfill estimates)

Operating hours (**A**)(**B**)(Operating Efficiency) = **312** hrs/yr

Total Vehicle Miles Traveled (VMT):

Total VMT = (Operating Hours)(S) = **936** mi/yr

TSP, PM_{10} and $PM_{2.5}$ Emissions

A TSP =	(E_{TSP})(Total VMT) =	**584**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**0.29**	**tons/yr uncontrolled**
C TSP =	(**A**)/(Operating Hours) =	**1.87**	**lbs/hr uncontrolled**
D PM_{10} =	(E_{PM10})(Total VMT) =	**258**	lbs/yr
E PM_{10} =	(**D**)/(2,000 lbs/ton) =	**0.13**	**tons/yr uncontrolled**
F PM_{10} =	(**D**)/(Operating Hours) =	**0.83**	**lbs/hr uncontrolled**
G $PM_{2.5}$ =	($E_{PM2.5}$)(Total VMT) =	**18.1**	lbs/yr
H $PM_{2.5}$ =	(**G**)/(2,000 lbs/ton) =	**0.009**	**tons/yr uncontrolled**
I $PM_{2.5}$ =	(**G**)/(Operating Hours) =	**0.06**	**lbs/hr uncontrolled**

COMPACTOR/BULLDOZER OPERATIONS
(Uncontrolled Emissions)

Methodology: According to AP-42, Section 13.2.3, Heavy Construction Operations (January 1995), Table 13.2.3-1, emissions for TSP, $PM_{10,}$ and $PM_{2.5}$ for the compactor are to be estimated by use of the bulldozer emission factor equations provided in AP-42, Section 11.9, Western Surface Coal Mining (October 1998), Table 11.9-1. Therefore, a single equation was used to estimate emissions from both equipment types, which operate within the same area of the landfill (i.e., the Disposal Area).

Emissions Equations:

$E_{TSP} = \dfrac{(5.7)(s)^{1.2}}{(M)^{1.3}}$ (AP-42, Table 11.9-1)

$E_{PM15} = \dfrac{(1.0)(s)^{1.5}}{(M)^{1.4}}$ (AP-42, Table 11.9-1)

$E_{PM10} = (0.75)(E_{PM15})$ (AP-42, Table 11.9-1)

$E_{PM2.5} = (0.105)(E_{TSP})$ (AP-42, Table 11.9-1)

E = size-specific emission factor (lbs/ton of compacted waste)

s = material silt content (%) =	**0.5**	(assumed for silt content of MSW)
M = material moisture content (%) =	**15**	(assumed for MSW)

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

E_{TSP} =	$[(5.7)(s)^{1.2}]/[(M)^{1.3}]$ =	**0.073**	lbs/hr of operation
E_{PM10} =	$[(0.75)(s)^{1.5}]/[(M)^{1.4}]$ =	**0.006**	lbs/hr of operation
$E_{PM2.5}$ =	$[0.105][(5.7)(s)^{1.2}]/[(M)^{1.3}]$ =	**0.008**	lbs/hr of operation

Operating Hours:

Pieces of equipment operating at the Disposal Area = **2** pieces (based on Landfill estimates)

Equipment type: compactor (CAT 826H) & bulldozer (CAT D6)

Operating efficiency (each piece) = **85%** (based on Landfill estimates)

Based on Landfill estimates, from Monday through Friday, each piece of equipment operates:

A	7	hrs/day Monday through Friday
B	7	hrs/day Saturday
C	261	weekdays/year
D	52	Saturdays/year

Operating hours = [Pieces of equipment] [**(A)(C) + (B)(D)**] [Operating Efficiency] = **4,382** hrs/yr

TSP, PM_{10} and $PM_{2.5}$ Emissions

A TSP =	(E_{TSP})(Operating Hours) =	**322**	lbs/yr
B TSP =	(**A**)/(2,000 lbs/ton) =	**0.16**	**tons/yr uncontrolled**
C TSP =	(**A**)/(Operating Hours) =	**0.07**	**lbs/hr uncontrolled**
D PM_{10} =	(E_{PM10})(Operating Hours) =	**26**	lbs/yr
E PM_{10} =	(**D**)/(2,000 lbs/ton) =	**0.01**	**tons/yr uncontrolled**
F PM_{10} =	(D)/(Operating Hours) =	**0.006**	**lbs/hr uncontrolled**
G $PM_{2.5}$ =	($E_{PM2.5}$)(Operating Hours) =	**34**	lbs/yr
H $PM_{2.5}$ =	(**G**)/(2,000 lbs/ton) =	**0.02**	**tons/yr uncontrolled**
I $PM_{2.5}$ =	(G)/(Operating Hours) =	**0.008**	**lbs/hr uncontrolled**

ATTACHMENT 6.3

CONTROLLED EMISSIONS

EMISSION UNITS 1 AND 2

ATTACHMENT 6.3

ITEMIZED SUMMARY OF CONTROLLED VEHICLE EMISSIONS

Valencia County Regional Landfill - Emission Units 1 and 2

Controlled fugitive dust emissions are estimated by using the following equation:

Controlled emissions = (uncontrolled emissions)(1 - control efficiency)

Control efficiencies = **80%, 60%, and 0%**

Emissions	Uncontrolled		Control Efficiency (%)	Controlled	
	tons/yr	lbs/hr		tons/yr	lbs/hr
Refuse Delivery Vehicle Operations (Cold Millings)					
TSP Long-Term Emissions	41.63		80	8.33	
TSP Short-Term Emissions		32.37	80		6.47
PM_{10} Long-Term Emissions	11.24		80	2.25	
PM_{10} Short-Term Emissions		8.74	80		1.75
$PM_{2.5}$ Long-Term Emissions	1.12		80	0.22	
$PM_{2.5}$ Short-Term Emissions		0.87	80		0.17
Refuse Delivery Vehicle Operations (Unpaved)					
TSP Long-Term Emissions	13.94		60	5.58	
TSP Short-Term Emissions		10.84	60		4.34
PM_{10} Long-Term Emissions	3.76		60	1.51	
PM_{10} Short-Term Emissions		2.93	60		1.17
$PM_{2.5}$ Long-Term Emissions	0.38		60	0.15	
$PM_{2.5}$ Short-Term Emissions		0.29	60		0.12
Miscellaneous Vehicle Operations (Cold Millings)					
TSP Long-Term Emissions	3.98		80	0.80	
TSP Short-Term Emissions		5.07	80		1.0
PM_{10} Long-Term Emissions	1.07		80	0.21	
PM_{10} Short-Term Emissions		1.37	80		0.27
$PM_{2.5}$ Long-Term Emissions	0.11		80	0.021	
$PM_{2.5}$ Short-Term Emissions		0.14	80		0.027
Miscellaneous Vehicle Operations (Unpaved)					
TSP Long-Term Emissions	4.67		60	1.9	
TSP Short-Term Emissions		5.95	60		2.4
PM_{10} Long-Term Emissions	1.26		60	0.50	
PM_{10} Short-Term Emissions		1.61	60		0.6
$PM_{2.5}$ Long-Term Emissions	0.13		60	0.050	
$PM_{2.5}$ Short-Term Emissions		0.16	60		0.06
Compactor/Bulldozer Operations					
TSP Long-Term Emissions	0.16		0	0.16	
TSP Short-Term Emissions		0.07	0		0.073
PM_{10} Long-Term Emissions	0.01		0	0.013	
PM_{10} Short-Term Emissions		0.006	0		0.0060
$PM_{2.5}$ Long-Term Emissions	0.02		0	0.017	
$PM_{2.5}$ Short-Term Emissions		0.008	0		0.0077
Motor Grader Operations (Cold Millings)					
TSP Long-Term Emissions	0.29		80	0.058	
TSP Short-Term Emissions		1.87	80		0.37
PM_{10} Long-Term Emissions	0.13		80	0.0258	
PM_{10} Short-Term Emissions		0.83	80		0.17
$PM_{2.5}$ Long-Term Emissions	0.01		80	0.00181	
$PM_{2.5}$ Short-Term Emissions		0.06	80		0.012

ATTACHMENT 6.3 (continued)

ITEMIZED SUMMARY OF CONTROLLED VEHICLE EMISSIONS

Valencia County Regional Landfill - Emission Units 1 and 2

Controlled fugitive dust emissions are estimated by using the following equation:

Controlled emissions = (uncontrolled emissions)(1 - control efficiency)

Control efficiencies = **80%, 60%, and 0%**

Motor Grader Operations (Unpaved)					
TSP Long-Term Emissions	0.29		60	0.12	
TSP Short-Term Emissions		1.87	60		0.75
PM_{10} Long-Term Emissions	0.129		60	0.052	
PM_{10} Short-Term Emissions		0.83	60		0.33
$PM_{2.5}$ Long-Term Emissions	0.009		60	0.0036	
$PM_{2.5}$ Short-Term Emissions		0.06	60		0.023
Scraper Operations					
Scraper Travel (Cold Millings)					
TSP Long-Term Emissions	1.52		80	0.30	
TSP Short-Term Emissions		35.04	80		7.0
PM_{10} Long-Term Emissions	0.41		80	0.082	
PM_{10} Short-Term Emissions		9.46	80		1.89
$PM_{2.5}$ Long-Term Emissions	0.04		80	0.0082	
$PM_{2.5}$ Short-Term Emissions		0.95	80		0.189
Scraper Travel (Unpaved Disposal Route and Access Roads)					
TSP Long-Term Emissions	4.67		60	1.87	
TSP Short-Term Emissions		107.43	60		43.0
PM_{10} Long-Term Emissions	1.26		60	0.50	
PM_{10} Short-Term Emissions		29.00	60		11.60
$PM_{2.5}$ Long-Term Emissions	0.13		60	0.050	
$PM_{2.5}$ Short-Term Emissions		2.90	60		1.160
Scraper Loading					
TSP Long-Term Emissions	0.80		0	0.8	
TSP Short-Term Emissions		15.31	0		15.3
PM_{10} Long-Term Emissions	0.24		0	0.24	
PM_{10} Short-Term Emissions		4.69	0		4.7
$PM_{2.5}$ Long-Term Emissions	0.02		0	0.024	
$PM_{2.5}$ Short-Term Emissions		0.47	0		0.47
Scraper Unloading					
TSP Long-Term Emissions	0.009		0	0.0087	
TSP Short-Term Emissions		0.17	0		0.167
PM_{10} Long-Term Emissions	0.004		0	0.0041	
PM_{10} Short-Term Emissions		0.08	0		0.079
$PM_{2.5}$ Long-Term Emissions	0.001		0	0.00062	
$PM_{2.5}$ Short-Term Emissions		0.01	0		0.0120

ATTACHMENT 6.4
WIND EROSION EMISSIONS CALCULATIONS
EMISSION UNIT 2

WIND EROSION EMISSIONS CALCULATIONS

Purpose: The purpose of this calculation is to estimate the potential uncontrolled and controlled fugitive dust emissions due to wind erosion from actively disturbed areas at the Landfill.

Methodology: TSP, PM_{10}, and $PM_{2.5}$ emissions due to wind erosion are estimated through application of emission factors presented in AP-42, Section 11.9 (Table 11.9-4) and Section 13.2.2.2:

TSP, PM_{10} and $PM_{2.5}$ Emission Factors:

TSP, PM_{10} and $PM_{2.5}$ emissions due to wind erosion are estimated through application of emission factors presented in AP-42, Section 11.9, Table 11.9-4 and Section 13.2.2.2. Emissions from wind erosion were calculated as occurring 24 hours/day, 365 days/yr (i.e., 8,760 hrs/yr).

Hours/yr =	**8,760**	hours/yr
E_{TSP} =	**0.38**	tons/acre/yr (Table 11.9-4)

The emission factors for PM_{10} and $PM_{2.5}$ are calculated by applying ratios of the PM_{10}, $PM_{2.5}$ and TSP particle size multiplier (k) values (obtained from AP-42, Section 13.2.2.2) to the TSP emission factor (E_{TSP}) of 0.38 tons/acre/yr:

A	k_{TSP} =	4.9
B	k_{PM10} =	1.5
C	$k_{PM2.5}$ =	0.15

E_{PM10} =	(**B**/**A**)(E_{TSP}) =	**0.12**	tons/acre/yr
$E_{PM2.5}$ =	(**C**/**A**)(E_{TSP}) =	**0.012**	tons/acre/yr

EXAMPLE CALCULATIONS:

Potential fugitive dust emissions from actively disturbed areas are estimated utilizing the acreage of the disturbed area and the TSP, PM_{10} and $PM_{2.5}$ emission factors, as illustrated in the following example calculations:

► Example disturbed area = Disposal Route (unpaved):

The acreage for Landfill roads (i.e., Disposal Route and access roads) is calculated by multiplying the total unpaved road length by the average road width of 30 ft, and then dividing by 43,560 ft^2/acre.
The acreage for the Disposal Routes and access roads were determined using AutoCAD software.

A MSW Disposal Route (Cold Millings) =	**2,455**	feet
B MSW Disposal Route (Unpaved) =	**819**	feet
C PCS Disposal Route (Unpaved) =	**725**	feet
D Access Roads (Unpaved) =	**3,379**	feet
E Average road width =	**30.0**	feet
F ft^2/acre	**43,560**	ft^2/acre
G MSW Disposal Route Acreage (Cold Millings) = [(**A**)(**E**)]/(**F**) =	**1.69**	acres
H MSW Disposal Route Acreage (Unpaved) = [(**B**)(**E**)]/(**F**) =	**0.56**	acres
I PCS Disposal Route Acreage (Unpaved) = [(**C**)(**E**)]/(**F**) =	**0.50**	acres
J Access Roads Acreage (Unpaved) = [(**D**)(**E**)]/(**F**) =	**2.33**	acres

► Example: MSW Disposal Route (Cold Millings) uncontrolled TSP, $PM_{10,}$ and $PM_{2.5}$ Emissions:

K TSP =	(E_{TSP})(**G**) =	**0.64**	tons/yr (uncontrolled)
L TSP =	(**K**)(2,000 lbs/ton)/(8,760 hrs/yr) =	**0.15**	lbs/hr (uncontrolled)
M PM_{10} =	(E_{PM10})(**G**) =	**0.20**	tons/yr (uncontrolled)
N PM_{10} =	(**M**)(2,000 lbs/ton)/(8,760 hrs/yr) =	**0.04**	lbs/hr (uncontrolled)
O $PM_{2.5}$ =	($E_{PM2.5}$)(**G**) =	**0.02**	tons/yr (uncontrolled)
P $PM_{2.5}$ =	(**O**)(2,000 lbs/ton)/(8,760 hrs/yr) =	**0.004**	lbs/hr (uncontrolled)

Based on guidance provided in AP-42, Section 13.2.5, Industrial Wind Erosion (January 1995), only those areas of the Landfill that are actively disturbed by facility operations were included in the acreage for which potential fugitive dust emissions attributable to wind erosion were calculated. Fugitive dust emissions due to wind erosion on disturbed areas are based on wind erosion potentially occurring 24 hrs/day, 365 days/yr (i.e., 8,760 hrs/yr), and are summarized in **Table 1.**

WIND EROSION EMISSIONS CALCULATIONS (continued)

Controlled Emissions

Based on AQB guidance, control efficiencies of 60% (water only) and 80% (cold millings base course plus water) were applied to the following disturbed areas:

▶ **MSW Disposal Route**	**(80% control)**	**1.69**	acres
▶ **MSW Disposal Route**	**(60% control)**	**0.56**	acres
▶ **PCS Disposal Route**	**(60% control)**	**0.50**	acres
▶ **Access Roads**	**(60% control)**	**2.33**	acres

Example Controlled Emissions Calculations:

Controlled fugitive dust emissions are estimated by using the following equation:

Controlled emissions = (uncontrolled emissions)(1 - control efficiency)

Control Efficiency = **80%**

▶ Example: MSW Disposal Route (Cold Millings) controlled TSP, PM_{10}, and $PM_{2.5}$ Emissions:

Q	TSP =	(E_{TSP})(**G**)(1-Control Efficiency) =	**0.13**	tons/yr (controlled)
R	TSP =	(**Q**)(2,000 lbs/ton)/(8,760 hrs/yr) =	**0.03**	lbs/hr (controlled)
S	PM_{10} =	(E_{PM10})(**G**)(1-Control Efficiency) =	**0.04**	tons/yr (controlled)
T	PM_{10} =	(**S**)(2,000 lbs/ton)/(8,760 hrs/yr) =	**0.009**	lbs/hr (controlled)
U	$PM_{2.5}$ =	($E_{PM2.5}$)(**G**)(1-Control Efficiency) =	**0.004**	tons/yr (controlled)
V	$PM_{2.5}$	(**U**)(2,000 lbs/ton)/(8,760 hrs/yr) =	**0.0009**	lbs/hr (controlled)

The controlled fugitive dust emissions due to wind erosion on actively disturbed areas are summarized in **Table 1**.

Uncontrolled Emissions

Water is applied to the following areas for fugitive dust control on an as-needed basis. However, for emissions calculations, a conservative control efficiency of zero was applied to these areas:

▶ **Disposal Area**	**1.00**	ac
▶ **Soil Borrow Area 2**	**5.12**	ac
▶ **PCS Remediation Area**	**6.32**	ac

Uncontrolled fugitive dust emissions due to wind erosion on actively disturbed areas are also summarized in **Table 1**.

TABLE 1
SUMMARY OF WIND EROSION EMISSIONS
Valencia Regional Landfill and Recycling Facility

					Uncontrolled Emissions						Controlled Emissions						
Disturbed Area [1]	**Area (acres)**	**Emission Factor (E_{TSP})**	**Emission Factor (E_{PM10})**	**Emission Factor ($E_{PM2.5}$)**	**TSP Emissions (tons/yr)**	**TSP Emissions (lbs/hr)**	**PM_{10} Emissions (tons/yr)**	**PM_{10} Emissions (lbs/hr)**	**$PM_{2.5}$ Emissions (tons/yr)**	**$PM_{2.5}$ Emissions (lbs/hr)**	**Control Efficiency (%)**	**TSP Emissions (tons/yr)**	**TSP Emissions (lbs/hr)**	**PM_{10} Emissions (tons/yr)**	**PM_{10} Emissions (lbs/hr)**	**$PM_{2.5}$ Emissions (tons/yr)**	**$PM_{2.5}$ Emissions (lbs/hr)**
MSW Disposal Route (Cold Millings)	1.69	0.38	0.12	0.012	0.64	0.15	0.20	0.04	0.02	0.004	80%	0.13	0.03	0.04	0.009	0.004	0.0009
MSW Disposal Route (Unpaved)	0.40	0.38	0.12	0.012	0.15	0.03	0.05	0.011	0.005	0.0011	60%	0.06	0.014	0.02	0.004	0.002	0.0004
PCS Disposal Route (Unpaved)	0.29	0.38	0.12	0.012	0.11	0.03	0.03	0.01	0.00	0.001	60%	0.04	0.01	0.01	0.003	0.001	0.0003
Access Roads (Cold Millings)	1.03	0.38	0.12	0.012	0.39	0.09	0.12	0.03	0.01	0.003	80%	0.08	0.02	0.02	0.005	0.002	0.0005
Access Roads (Unpaved)	3.08	0.38	0.12	0.012	1.17	0.27	0.36	0.08	0.04	0.008	60%	0.47	0.11	0.14	0.03	0.014	0.003
Disposal Area	1.00	0.38	0.12	0.012	0.38	0.09	0.12	0.03	0.012	0.003	0%	0.38	0.09	0.12	0.03	0.012	0.003
Soil Borrow Area 2	5.12	0.38	0.12	0.012	1.9	0.44	0.60	0.14	0.06	0.014	0%	1.9	0.44	0.60	0.14	0.06	0.01
PCS Remediation Area	6.32	0.38	0.12	0.012	2.4	0.55	0.73	0.17	0.07	0.02	0%	2.4	0.55	0.73	0.17	0.07	0.02
TOTALS	**18.9**				**7.2**	**1.6**	**2.2**	**0.50**	**0.22**	**0.050**		**5.5**	**1.3**	**1.7**	**0.38**	**0.17**	**0.038**

Note:

[1] See **Figure 5.1**, **Section 5** for locations of actively disturbed areas subject to wind erosion

ATTACHMENT 6.5

NMOC EMISSIONS ESTIMATE

EMISSION UNIT 3

(LandGEM Modeling Outputs)

Summary Report

Landfill Name or Identifier: Valencia Regional Landfill

Date: Monday, November 05, 2018

Description/Comments:

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} kL_o \left(\frac{M_i}{10} \right) e^{-kt_{ij}}$$

Where,

Q_{CH4} = annual methane generation in the year of the calculation *(m^3/year)*
i = 1-year time increment
n = (year of the calculation) - (initial year of waste acceptance)
j = 0.1-year time increment
k = methane generation rate (*$year^{-1}$*)
L_o = potential methane generation capacity (*m^3/Mg*)

M_i = mass of waste accepted in the i^{th} year (*Mg*)
t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (*decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at http://www.epa.gov/ttnatw01/landfill/landflpg.html.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**1988**	
Landfill Closure Year (with 80-year limit)	**2067**	
Actual Closure Year (without limit)	***2067***	
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**58,242,200**	*short tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.020**	*year^{-1}*
Potential Methane Generation Capacity, L_o	**170**	*m^3/Mg*
NMOC Concentration	**345**	*ppmv as hexane*
Methane Content	**50**	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1988	6,857	7,543	0	0
1989	6,857	7,543	6,857	7,543
1990	6,857	7,543	13,714	15,085
1991	6,857	7,543	20,571	22,628
1992	6,857	7,543	27,428	30,171
1993	6,857	7,543	34,285	37,714
1994	2,449	2,694	41,142	45,256
1995	17,423	19,165	43,591	47,950
1996	24,345	26,780	61,014	67,115
1997	46,312	50,943	85,359	93,895
1998	42,864	47,150	131,671	144,838
1999	11,558	12,714	174,535	191,989
2000	0	0	186,093	204,702
2001	0	0	186,093	204,702
2002	0	0	186,093	204,702
2003	0	0	186,093	204,702
2004	0	0	186,093	204,702
2005	0	0	186,093	204,702
2006	0	0	186,093	204,702
2007	19,615	21,577	186,093	204,702
2008	32,771	36,048	205,708	226,279
2009	33,581	36,939	238,479	262,327
2010	43,856	48,242	272,060	299,266
2011	50,506	55,557	315,916	347,508
2012	54,942	60,437	366,422	403,064
2013	46,785	51,464	421,364	463,501
2014	44,692	49,162	468,149	514,964
2015	38,579	42,437	512,842	564,126
2016	29,120	32,032	551,421	606,563
2017	23,421	25,763	580,540	638,594
2018	24,592	27,051	603,961	664,357
2019	25,821	28,403	628,553	691,408
2020	27,112	29,824	654,374	719,812
2021	28,468	31,315	681,487	749,635
2022	29,891	32,881	709,955	780,950
2023	31,386	34,525	739,846	813,831
2024	32,955	36,251	771,232	848,355
2025	136,364	150,000	804,187	884,606
2026	136,364	150,000	940,551	1,034,607
2027	136,364	150,000	1,076,915	1,184,607

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
2028	136,364	150,000	1,213,279	1,334,607
2029	136,364	150,000	1,349,643	1,484,608
2030	136,364	150,000	1,486,007	1,634,608
2031	136,364	150,000	1,622,371	1,784,609
2032	136,364	150,000	1,758,735	1,934,609
2033	136,364	150,000	1,895,099	2,084,609
2034	136,364	150,000	2,031,463	2,234,610
2035	136,364	150,000	2,167,827	2,384,610
2036	136,364	150,000	2,304,191	2,534,611
2037	136,364	150,000	2,440,555	2,684,611
2038	136,364	150,000	2,576,919	2,834,611
2039	136,364	150,000	2,713,283	2,984,612
2040	136,364	150,000	2,849,647	3,134,612
2041	136,364	150,000	2,986,011	3,284,613
2042	136,364	150,000	3,122,375	3,434,613
2043	136,364	150,000	3,258,739	3,584,613
2044	136,364	150,000	3,395,103	3,734,614
2045	136,364	150,000	3,531,467	3,884,614
2046	136,364	150,000	3,667,831	4,034,615
2047	136,364	150,000	3,804,195	4,184,615
2048	136,364	150,000	3,940,559	4,334,615
2049	136,364	150,000	4,076,923	4,484,616
2050	136,364	150,000	4,213,287	4,634,616
2051	136,364	150,000	4,349,651	4,784,617
2052	136,364	150,000	4,486,015	4,934,617
2053	136,364	150,000	4,622,379	5,084,617
2054	136,364	150,000	4,758,743	5,234,618
2055	136,364	150,000	4,895,107	5,384,618
2056	136,364	150,000	5,031,471	5,534,619
2057	136,364	150,000	5,167,835	5,684,619
2058	136,364	150,000	5,304,199	5,834,619
2059	136,364	150,000	5,440,563	5,984,620
2060	136,364	150,000	5,576,927	6,134,620
2061	136,364	150,000	5,713,291	6,284,621
2062	136,364	150,000	5,849,655	6,434,621
2063	136,364	150,000	5,986,019	6,584,621
2064	136,364	150,000	6,122,383	6,734,622
2065	136,364	150,000	6,258,747	6,884,622
2066	136,364	150,000	6,395,111	7,034,623
2067	0	0	6,531,475	7,184,623

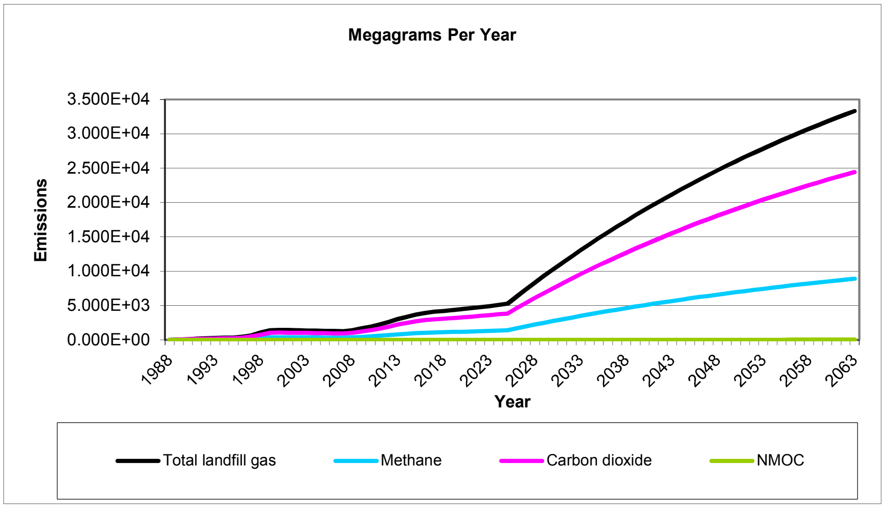
Pollutant Parameters

	Compound	Gas / Pollutant Default Parameters: Concentration (*ppmv*)	Molecular Weight	User-specified Pollutant Parameters: Concentration (*ppmv*)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41		
	1,1,2,2-Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		

Pollutant Parameters (Continued)

	Gas / Pollutant Default Parameters:			User-specified Pollutant Parameters:	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Pollutants	Ethyl mercaptan (ethanethiol) - VOC	2.3	62.13		
	Ethylbenzene - HAP/VOC	4.6	106.16		
	Ethylene dibromide - HAP/VOC	1.0E-03	187.88		
	Fluorotrichloromethane - VOC	0.76	137.38		
	Hexane - HAP/VOC	6.6	86.18		
	Hydrogen sulfide	36	34.08		
	Mercury (total) - HAP	2.9E-04	200.61		
	Methyl ethyl ketone - HAP/VOC	7.1	72.11		
	Methyl isobutyl ketone - HAP/VOC	1.9	100.16		
	Methyl mercaptan - VOC	2.5	48.11		
	Pentane - VOC	3.3	72.15		
	Perchloroethylene (tetrachloroethylene) - HAP	3.7	165.83		
	Propane - VOC	11	44.09		
	t-1,2-Dichloroethene - VOC	2.8	96.94		
	Toluene - No or Unknown Co-disposal - HAP/VOC	39	92.13		
	Toluene - Co-disposal - HAP/VOC	170	92.13		
	Trichloroethylene (trichloroethene) - HAP/VOC	2.8	131.40		
	Vinyl chloride - HAP/VOC	7.3	62.50		
	Xylenes - HAP/VOC	12	106.16		

Graphs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2.500E+04
2.000E+04
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1.000E+04
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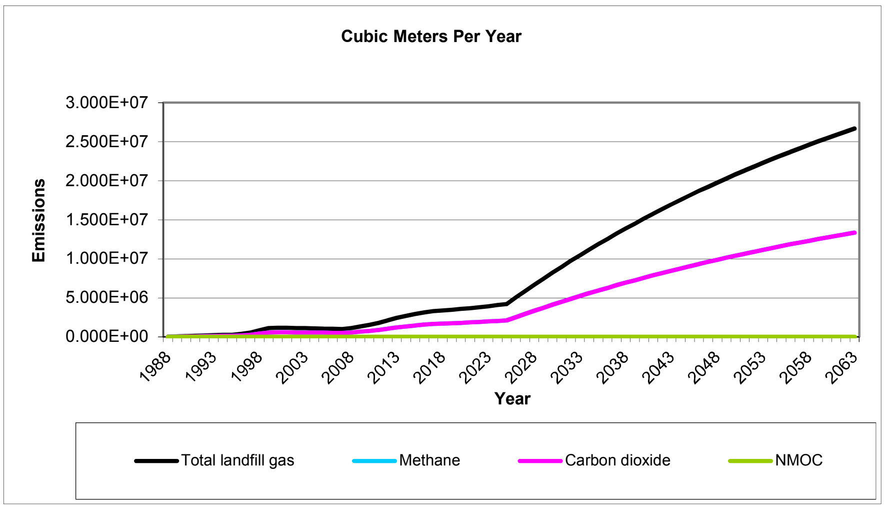
0.000E+00
Emissions
1988 1993 1998 2003 2008 2013 2018 2023 2028 2033 2038 2043 2048 2053 2058 2063
Year
Total landfill gas
Methane
Carbon dioxide
NMOC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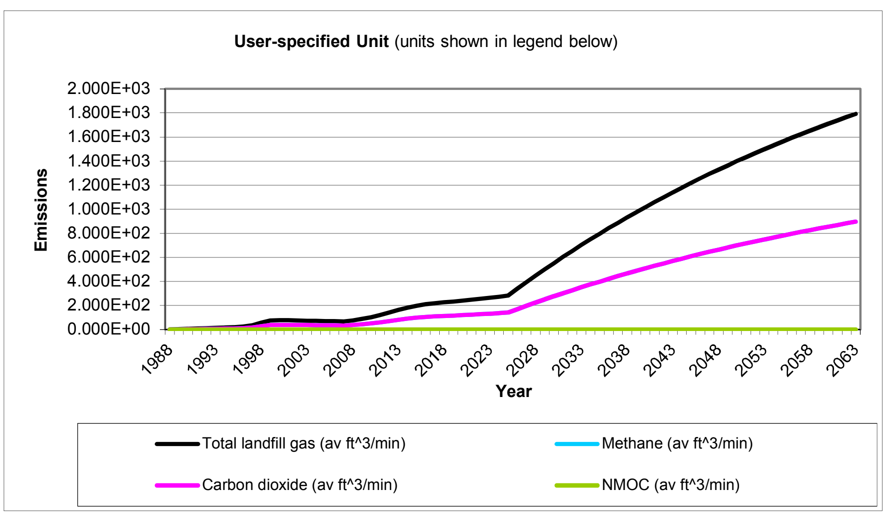
Total landfill gas
Methane
Carbon dioxide
NMOC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6.000E+02
4.000E+02
2.000E+02
0.000E+00
Emissions
1988 1993 1998 2003 2008 2013 2018 2023 2028 2033 2038 2043 2048 2053 2058 2063
Year
Total landfill gas (av ft^3/min)
Methane (av ft^3/min)
Carbon dioxide (av ft^3/min)
NMOC (av ft^3/min)

Results

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1988	0	0	0	0	0	0
1989	5.771E+01	4.621E+04	3.105E+00	1.541E+01	2.311E+04	1.552E+00
1990	1.143E+02	9.151E+04	6.148E+00	3.052E+01	4.575E+04	3.074E+00
1991	1.697E+02	1.359E+05	9.131E+00	4.533E+01	6.795E+04	4.566E+00
1992	2.241E+02	1.794E+05	1.206E+01	5.985E+01	8.971E+04	6.028E+00
1993	2.773E+02	2.221E+05	1.492E+01	7.408E+01	1.110E+05	7.461E+00
1994	3.296E+02	2.639E+05	1.773E+01	8.803E+01	1.319E+05	8.866E+00
1995	3.436E+02	2.752E+05	1.849E+01	9.179E+01	1.376E+05	9.244E+00
1996	4.835E+02	3.871E+05	2.601E+01	1.291E+02	1.936E+05	1.301E+01
1997	6.788E+02	5.435E+05	3.652E+01	1.813E+02	2.718E+05	1.826E+01
1998	1.055E+03	8.449E+05	5.677E+01	2.818E+02	4.224E+05	2.838E+01
1999	1.395E+03	1.117E+06	7.505E+01	3.726E+02	5.585E+05	3.753E+01
2000	1.465E+03	1.173E+06	7.880E+01	3.912E+02	5.864E+05	3.940E+01
2001	1.436E+03	1.150E+06	7.724E+01	3.835E+02	5.748E+05	3.862E+01
2002	1.407E+03	1.127E+06	7.571E+01	3.759E+02	5.634E+05	3.786E+01
2003	1.379E+03	1.104E+06	7.421E+01	3.684E+02	5.522E+05	3.711E+01
2004	1.352E+03	1.083E+06	7.274E+01	3.611E+02	5.413E+05	3.637E+01
2005	1.325E+03	1.061E+06	7.130E+01	3.540E+02	5.306E+05	3.565E+01
2006	1.299E+03	1.040E+06	6.989E+01	3.470E+02	5.201E+05	3.494E+01
2007	1.273E+03	1.020E+06	6.851E+01	3.401E+02	5.098E+05	3.425E+01
2008	1.413E+03	1.132E+06	7.603E+01	3.775E+02	5.658E+05	3.802E+01
2009	1.661E+03	1.330E+06	8.936E+01	4.437E+02	6.650E+05	4.468E+01
2010	1.911E+03	1.530E+06	1.028E+02	5.104E+02	7.650E+05	5.140E+01
2011	2.242E+03	1.795E+06	1.206E+02	5.988E+02	8.976E+05	6.031E+01
2012	2.623E+03	2.100E+06	1.411E+02	7.005E+02	1.050E+06	7.055E+01
2013	3.033E+03	2.429E+06	1.632E+02	8.102E+02	1.214E+06	8.159E+01
2014	3.367E+03	2.696E+06	1.811E+02	8.993E+02	1.348E+06	9.057E+01
2015	3.676E+03	2.944E+06	1.978E+02	9.820E+02	1.472E+06	9.890E+01
2016	3.928E+03	3.145E+06	2.113E+02	1.049E+03	1.573E+06	1.057E+02
2017	4.095E+03	3.279E+06	2.203E+02	1.094E+03	1.640E+06	1.102E+02
2018	4.211E+03	3.372E+06	2.266E+02	1.125E+03	1.686E+06	1.133E+02
2019	4.335E+03	3.471E+06	2.332E+02	1.158E+03	1.736E+06	1.166E+02
2020	4.466E+03	3.577E+06	2.403E+02	1.193E+03	1.788E+06	1.202E+02
2021	4.606E+03	3.688E+06	2.478E+02	1.230E+03	1.844E+06	1.239E+02
2022	4.755E+03	3.807E+06	2.558E+02	1.270E+03	1.904E+06	1.279E+02
2023	4.912E+03	3.933E+06	2.643E+02	1.312E+03	1.967E+06	1.321E+02
2024	5.079E+03	4.067E+06	2.733E+02	1.357E+03	2.033E+06	1.366E+02
2025	5.256E+03	4.209E+06	2.828E+02	1.404E+03	2.104E+06	1.414E+02
2026	6.299E+03	5.044E+06	3.389E+02	1.683E+03	2.522E+06	1.695E+02
2027	7.322E+03	5.863E+06	3.940E+02	1.956E+03	2.932E+06	1.970E+02
2028	8.325E+03	6.666E+06	4.479E+02	2.224E+03	3.333E+06	2.239E+02
2029	9.308E+03	7.453E+06	5.008E+02	2.486E+03	3.727E+06	2.504E+02
2030	1.027E+04	8.225E+06	5.526E+02	2.743E+03	4.112E+06	2.763E+02
2031	1.122E+04	8.981E+06	6.034E+02	2.996E+03	4.490E+06	3.017E+02
2032	1.214E+04	9.722E+06	6.532E+02	3.243E+03	4.861E+06	3.266E+02
2033	1.305E+04	1.045E+07	7.020E+02	3.485E+03	5.224E+06	3.510E+02
2034	1.394E+04	1.116E+07	7.499E+02	3.723E+03	5.580E+06	3.749E+02
2035	1.481E+04	1.186E+07	7.968E+02	3.956E+03	5.929E+06	3.984E+02
2036	1.566E+04	1.254E+07	8.427E+02	4.184E+03	6.271E+06	4.214E+02
2037	1.650E+04	1.321E+07	8.878E+02	4.408E+03	6.607E+06	4.439E+02

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2038	1.732E+04	1.387E+07	9.320E+02	4.627E+03	6.935E+06	4.660E+02
2039	1.813E+04	1.451E+07	9.752E+02	4.842E+03	7.257E+06	4.876E+02
2040	1.892E+04	1.515E+07	1.018E+03	5.052E+03	7.573E+06	5.088E+02
2041	1.969E+04	1.577E+07	1.059E+03	5.259E+03	7.883E+06	5.296E+02
2042	2.045E+04	1.637E+07	1.100E+03	5.461E+03	8.186E+06	5.500E+02
2043	2.119E+04	1.697E+07	1.140E+03	5.660E+03	8.484E+06	5.700E+02
2044	2.192E+04	1.755E+07	1.179E+03	5.854E+03	8.775E+06	5.896E+02
2045	2.263E+04	1.812E+07	1.218E+03	6.045E+03	9.061E+06	6.088E+02
2046	2.333E+04	1.868E+07	1.255E+03	6.232E+03	9.341E+06	6.276E+02
2047	2.402E+04	1.923E+07	1.292E+03	6.415E+03	9.615E+06	6.461E+02
2048	2.469E+04	1.977E+07	1.328E+03	6.594E+03	9.884E+06	6.641E+02
2049	2.535E+04	2.030E+07	1.364E+03	6.770E+03	1.015E+07	6.819E+02
2050	2.599E+04	2.081E+07	1.398E+03	6.943E+03	1.041E+07	6.992E+02
2051	2.663E+04	2.132E+07	1.433E+03	7.112E+03	1.066E+07	7.163E+02
2052	2.725E+04	2.182E+07	1.466E+03	7.278E+03	1.091E+07	7.329E+02
2053	2.785E+04	2.230E+07	1.499E+03	7.440E+03	1.115E+07	7.493E+02
2054	2.845E+04	2.278E+07	1.531E+03	7.599E+03	1.139E+07	7.653E+02
2055	2.903E+04	2.325E+07	1.562E+03	7.755E+03	1.162E+07	7.811E+02
2056	2.961E+04	2.371E+07	1.593E+03	7.908E+03	1.185E+07	7.965E+02
2057	3.017E+04	2.416E+07	1.623E+03	8.058E+03	1.208E+07	8.116E+02
2058	3.072E+04	2.460E+07	1.653E+03	8.205E+03	1.230E+07	8.264E+02
2059	3.126E+04	2.503E+07	1.682E+03	8.349E+03	1.252E+07	8.409E+02
2060	3.179E+04	2.545E+07	1.710E+03	8.491E+03	1.273E+07	8.551E+02
2061	3.231E+04	2.587E+07	1.738E+03	8.629E+03	1.293E+07	8.690E+02
2062	3.281E+04	2.628E+07	1.765E+03	8.765E+03	1.314E+07	8.827E+02
2063	3.331E+04	2.667E+07	1.792E+03	8.898E+03	1.334E+07	8.961E+02
2064	3.380E+04	2.706E+07	1.818E+03	9.028E+03	1.353E+07	9.092E+02
2065	3.428E+04	2.745E+07	1.844E+03	9.156E+03	1.372E+07	9.221E+02
2066	3.475E+04	2.782E+07	1.869E+03	9.281E+03	1.391E+07	9.347E+02
2067	3.521E+04	2.819E+07	1.894E+03	9.404E+03	1.410E+07	9.471E+02
2068	3.451E+04	2.763E+07	1.857E+03	9.218E+03	1.382E+07	9.283E+02
2069	3.383E+04	2.709E+07	1.820E+03	9.035E+03	1.354E+07	9.099E+02
2070	3.316E+04	2.655E+07	1.784E+03	8.856E+03	1.327E+07	8.919E+02
2071	3.250E+04	2.602E+07	1.749E+03	8.681E+03	1.301E+07	8.743E+02
2072	3.186E+04	2.551E+07	1.714E+03	8.509E+03	1.275E+07	8.570E+02
2073	3.122E+04	2.500E+07	1.680E+03	8.340E+03	1.250E+07	8.400E+02
2074	3.061E+04	2.451E+07	1.647E+03	8.175E+03	1.225E+07	8.234E+02
2075	3.000E+04	2.402E+07	1.614E+03	8.013E+03	1.201E+07	8.071E+02
2076	2.941E+04	2.355E+07	1.582E+03	7.855E+03	1.177E+07	7.911E+02
2077	2.882E+04	2.308E+07	1.551E+03	7.699E+03	1.154E+07	7.754E+02
2078	2.825E+04	2.262E+07	1.520E+03	7.547E+03	1.131E+07	7.601E+02
2079	2.769E+04	2.218E+07	1.490E+03	7.397E+03	1.109E+07	7.450E+02
2080	2.715E+04	2.174E+07	1.461E+03	7.251E+03	1.087E+07	7.303E+02
2081	2.661E+04	2.131E+07	1.432E+03	7.107E+03	1.065E+07	7.158E+02
2082	2.608E+04	2.088E+07	1.403E+03	6.967E+03	1.044E+07	7.016E+02
2083	2.556E+04	2.047E+07	1.375E+03	6.829E+03	1.024E+07	6.877E+02
2084	2.506E+04	2.007E+07	1.348E+03	6.693E+03	1.003E+07	6.741E+02
2085	2.456E+04	1.967E+07	1.322E+03	6.561E+03	9.834E+06	6.608E+02
2086	2.408E+04	1.928E+07	1.295E+03	6.431E+03	9.639E+06	6.477E+02
2087	2.360E+04	1.890E+07	1.270E+03	6.304E+03	9.449E+06	6.348E+02
2088	2.313E+04	1.852E+07	1.245E+03	6.179E+03	9.261E+06	6.223E+02

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2089	2.267E+04	1.816E+07	1.220E+03	6.056E+03	9.078E+06	6.100E+02
2090	2.222E+04	1.780E+07	1.196E+03	5.937E+03	8.898E+06	5.979E+02
2091	2.178E+04	1.744E+07	1.172E+03	5.819E+03	8.722E+06	5.860E+02
2092	2.135E+04	1.710E+07	1.149E+03	5.704E+03	8.549E+06	5.744E+02
2093	2.093E+04	1.676E+07	1.126E+03	5.591E+03	8.380E+06	5.631E+02
2094	2.052E+04	1.643E+07	1.104E+03	5.480E+03	8.214E+06	5.519E+02
2095	2.011E+04	1.610E+07	1.082E+03	5.372E+03	8.052E+06	5.410E+02
2096	1.971E+04	1.578E+07	1.061E+03	5.265E+03	7.892E+06	5.303E+02
2097	1.932E+04	1.547E+07	1.040E+03	5.161E+03	7.736E+06	5.198E+02
2098	1.894E+04	1.517E+07	1.019E+03	5.059E+03	7.583E+06	5.095E+02
2099	1.856E+04	1.487E+07	9.988E+02	4.959E+03	7.433E+06	4.994E+02
2100	1.820E+04	1.457E+07	9.790E+02	4.860E+03	7.285E+06	4.895E+02
2101	1.784E+04	1.428E+07	9.596E+02	4.764E+03	7.141E+06	4.798E+02
2102	1.748E+04	1.400E+07	9.406E+02	4.670E+03	7.000E+06	4.703E+02
2103	1.714E+04	1.372E+07	9.220E+02	4.577E+03	6.861E+06	4.610E+02
2104	1.680E+04	1.345E+07	9.037E+02	4.487E+03	6.725E+06	4.519E+02
2105	1.646E+04	1.318E+07	8.858E+02	4.398E+03	6.592E+06	4.429E+02
2106	1.614E+04	1.292E+07	8.683E+02	4.311E+03	6.462E+06	4.341E+02
2107	1.582E+04	1.267E+07	8.511E+02	4.225E+03	6.334E+06	4.256E+02
2108	1.551E+04	1.242E+07	8.343E+02	4.142E+03	6.208E+06	4.171E+02
2109	1.520E+04	1.217E+07	8.177E+02	4.060E+03	6.085E+06	4.089E+02
2110	1.490E+04	1.193E+07	8.015E+02	3.979E+03	5.965E+06	4.008E+02
2111	1.460E+04	1.169E+07	7.857E+02	3.901E+03	5.847E+06	3.928E+02
2112	1.431E+04	1.146E+07	7.701E+02	3.823E+03	5.731E+06	3.851E+02
2113	1.403E+04	1.123E+07	7.549E+02	3.748E+03	5.617E+06	3.774E+02
2114	1.375E+04	1.101E+07	7.399E+02	3.673E+03	5.506E+06	3.700E+02
2115	1.348E+04	1.079E+07	7.253E+02	3.601E+03	5.397E+06	3.626E+02
2116	1.321E+04	1.058E+07	7.109E+02	3.529E+03	5.290E+06	3.555E+02
2117	1.295E+04	1.037E+07	6.968E+02	3.459E+03	5.185E+06	3.484E+02
2118	1.270E+04	1.017E+07	6.830E+02	3.391E+03	5.083E+06	3.415E+02
2119	1.244E+04	9.964E+06	6.695E+02	3.324E+03	4.982E+06	3.348E+02
2120	1.220E+04	9.767E+06	6.562E+02	3.258E+03	4.884E+06	3.281E+02
2121	1.196E+04	9.574E+06	6.433E+02	3.194E+03	4.787E+06	3.216E+02
2122	1.172E+04	9.384E+06	6.305E+02	3.130E+03	4.692E+06	3.153E+02
2123	1.149E+04	9.198E+06	6.180E+02	3.068E+03	4.599E+06	3.090E+02
2124	1.126E+04	9.016E+06	6.058E+02	3.008E+03	4.508E+06	3.029E+02
2125	1.104E+04	8.838E+06	5.938E+02	2.948E+03	4.419E+06	2.969E+02
2126	1.082E+04	8.663E+06	5.820E+02	2.890E+03	4.331E+06	2.910E+02
2127	1.060E+04	8.491E+06	5.705E+02	2.832E+03	4.246E+06	2.853E+02
2128	1.039E+04	8.323E+06	5.592E+02	2.776E+03	4.161E+06	2.796E+02

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1988	0	0	0	0	0	0
1989	4.229E+01	2.311E+04	1.552E+00	5.715E-02	1.594E+01	1.071E-03
1990	8.375E+01	4.575E+04	3.074E+00	1.132E-01	3.157E+01	2.121E-03
1991	1.244E+02	6.795E+04	4.566E+00	1.681E-01	4.689E+01	3.150E-03
1992	1.642E+02	8.971E+04	6.028E+00	2.219E-01	6.190E+01	4.159E-03
1993	2.033E+02	1.110E+05	7.461E+00	2.746E-01	7.662E+01	5.148E-03
1994	2.415E+02	1.319E+05	8.866E+00	3.263E-01	9.104E+01	6.117E-03
1995	2.519E+02	1.376E+05	9.244E+00	3.403E-01	9.494E+01	6.379E-03
1996	3.543E+02	1.936E+05	1.301E+01	4.788E-01	1.336E+02	8.974E-03
1997	4.975E+02	2.718E+05	1.826E+01	6.722E-01	1.875E+02	1.260E-02
1998	7.733E+02	4.224E+05	2.838E+01	1.045E+00	2.915E+02	1.958E-02
1999	1.022E+03	5.585E+05	3.753E+01	1.381E+00	3.854E+02	2.589E-02
2000	1.073E+03	5.864E+05	3.940E+01	1.450E+00	4.046E+02	2.719E-02
2001	1.052E+03	5.748E+05	3.862E+01	1.422E+00	3.966E+02	2.665E-02
2002	1.031E+03	5.634E+05	3.786E+01	1.393E+00	3.887E+02	2.612E-02
2003	1.011E+03	5.522E+05	3.711E+01	1.366E+00	3.811E+02	2.560E-02
2004	9.909E+02	5.413E+05	3.637E+01	1.339E+00	3.735E+02	2.510E-02
2005	9.713E+02	5.306E+05	3.565E+01	1.312E+00	3.661E+02	2.460E-02
2006	9.520E+02	5.201E+05	3.494E+01	1.286E+00	3.589E+02	2.411E-02
2007	9.332E+02	5.098E+05	3.425E+01	1.261E+00	3.518E+02	2.363E-02
2008	1.036E+03	5.658E+05	3.802E+01	1.399E+00	3.904E+02	2.623E-02
2009	1.217E+03	6.650E+05	4.468E+01	1.645E+00	4.589E+02	3.083E-02
2010	1.400E+03	7.650E+05	5.140E+01	1.892E+00	5.278E+02	3.547E-02
2011	1.643E+03	8.976E+05	6.031E+01	2.220E+00	6.194E+02	4.161E-02
2012	1.922E+03	1.050E+06	7.055E+01	2.597E+00	7.245E+02	4.868E-02
2013	2.223E+03	1.214E+06	8.159E+01	3.003E+00	8.379E+02	5.630E-02
2014	2.467E+03	1.348E+06	9.057E+01	3.334E+00	9.301E+02	6.249E-02
2015	2.694E+03	1.472E+06	9.890E+01	3.640E+00	1.016E+03	6.824E-02
2016	2.879E+03	1.573E+06	1.057E+02	3.890E+00	1.085E+03	7.291E-02
2017	3.001E+03	1.640E+06	1.102E+02	4.055E+00	1.131E+03	7.602E-02
2018	3.087E+03	1.686E+06	1.133E+02	4.170E+00	1.163E+03	7.817E-02
2019	3.177E+03	1.736E+06	1.166E+02	4.293E+00	1.198E+03	8.047E-02
2020	3.273E+03	1.788E+06	1.202E+02	4.423E+00	1.234E+03	8.291E-02
2021	3.376E+03	1.844E+06	1.239E+02	4.561E+00	1.273E+03	8.550E-02
2022	3.485E+03	1.904E+06	1.279E+02	4.708E+00	1.314E+03	8.825E-02
2023	3.600E+03	1.967E+06	1.321E+02	4.864E+00	1.357E+03	9.118E-02
2024	3.722E+03	2.033E+06	1.366E+02	5.029E+00	1.403E+03	9.427E-02
2025	3.852E+03	2.104E+06	1.414E+02	5.204E+00	1.452E+03	9.756E-02
2026	4.617E+03	2.522E+06	1.695E+02	6.238E+00	1.740E+03	1.169E-01
2027	5.366E+03	2.932E+06	1.970E+02	7.251E+00	2.023E+03	1.359E-01
2028	6.101E+03	3.333E+06	2.239E+02	8.244E+00	2.300E+03	1.545E-01
2029	6.821E+03	3.727E+06	2.504E+02	9.217E+00	2.571E+03	1.728E-01
2030	7.527E+03	4.112E+06	2.763E+02	1.017E+01	2.837E+03	1.906E-01
2031	8.220E+03	4.490E+06	3.017E+02	1.111E+01	3.098E+03	2.082E-01
2032	8.898E+03	4.861E+06	3.266E+02	1.202E+01	3.354E+03	2.254E-01
2033	9.563E+03	5.224E+06	3.510E+02	1.292E+01	3.605E+03	2.422E-01
2034	1.021E+04	5.580E+06	3.749E+02	1.380E+01	3.850E+03	2.587E-01
2035	1.085E+04	5.929E+06	3.984E+02	1.466E+01	4.091E+03	2.749E-01
2036	1.148E+04	6.271E+06	4.214E+02	1.551E+01	4.327E+03	2.907E-01
2037	1.209E+04	6.607E+06	4.439E+02	1.634E+01	4.559E+03	3.063E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2038	1.269E+04	6.935E+06	4.660E+02	1.715E+01	4.785E+03	3.215E-01
2039	1.328E+04	7.257E+06	4.876E+02	1.795E+01	5.008E+03	3.365E-01
2040	1.386E+04	7.573E+06	5.088E+02	1.873E+01	5.226E+03	3.511E-01
2041	1.443E+04	7.883E+06	5.296E+02	1.950E+01	5.439E+03	3.655E-01
2042	1.498E+04	8.186E+06	5.500E+02	2.025E+01	5.648E+03	3.795E-01
2043	1.553E+04	8.484E+06	5.700E+02	2.098E+01	5.854E+03	3.933E-01
2044	1.606E+04	8.775E+06	5.896E+02	2.170E+01	6.055E+03	4.068E-01
2045	1.659E+04	9.061E+06	6.088E+02	2.241E+01	6.252E+03	4.201E-01
2046	1.710E+04	9.341E+06	6.276E+02	2.310E+01	6.445E+03	4.331E-01
2047	1.760E+04	9.615E+06	6.461E+02	2.378E+01	6.635E+03	4.458E-01
2048	1.809E+04	9.884E+06	6.641E+02	2.445E+01	6.820E+03	4.583E-01
2049	1.858E+04	1.015E+07	6.819E+02	2.510E+01	7.002E+03	4.705E-01
2050	1.905E+04	1.041E+07	6.992E+02	2.574E+01	7.181E+03	4.825E-01
2051	1.951E+04	1.066E+07	7.163E+02	2.637E+01	7.356E+03	4.942E-01
2052	1.997E+04	1.091E+07	7.329E+02	2.698E+01	7.527E+03	5.057E-01
2053	2.041E+04	1.115E+07	7.493E+02	2.758E+01	7.695E+03	5.170E-01
2054	2.085E+04	1.139E+07	7.653E+02	2.817E+01	7.860E+03	5.281E-01
2055	2.128E+04	1.162E+07	7.811E+02	2.875E+01	8.021E+03	5.389E-01
2056	2.170E+04	1.185E+07	7.965E+02	2.932E+01	8.179E+03	5.496E-01
2057	2.211E+04	1.208E+07	8.116E+02	2.987E+01	8.334E+03	5.600E-01
2058	2.251E+04	1.230E+07	8.264E+02	3.042E+01	8.486E+03	5.702E-01
2059	2.291E+04	1.252E+07	8.409E+02	3.095E+01	8.635E+03	5.802E-01
2060	2.330E+04	1.273E+07	8.551E+02	3.148E+01	8.781E+03	5.900E-01
2061	2.368E+04	1.293E+07	8.690E+02	3.199E+01	8.925E+03	5.996E-01
2062	2.405E+04	1.314E+07	8.827E+02	3.249E+01	9.065E+03	6.091E-01
2063	2.441E+04	1.334E+07	8.961E+02	3.299E+01	9.202E+03	6.183E-01
2064	2.477E+04	1.353E+07	9.092E+02	3.347E+01	9.337E+03	6.274E-01
2065	2.512E+04	1.372E+07	9.221E+02	3.394E+01	9.469E+03	6.363E-01
2066	2.547E+04	1.391E+07	9.347E+02	3.441E+01	9.599E+03	6.450E-01
2067	2.580E+04	1.410E+07	9.471E+02	3.486E+01	9.726E+03	6.535E-01
2068	2.529E+04	1.382E+07	9.283E+02	3.417E+01	9.533E+03	6.405E-01
2069	2.479E+04	1.354E+07	9.099E+02	3.350E+01	9.345E+03	6.279E-01
2070	2.430E+04	1.327E+07	8.919E+02	3.283E+01	9.160E+03	6.154E-01
2071	2.382E+04	1.301E+07	8.743E+02	3.218E+01	8.978E+03	6.032E-01
2072	2.335E+04	1.275E+07	8.570E+02	3.154E+01	8.800E+03	5.913E-01
2073	2.288E+04	1.250E+07	8.400E+02	3.092E+01	8.626E+03	5.796E-01
2074	2.243E+04	1.225E+07	8.234E+02	3.031E+01	8.455E+03	5.681E-01
2075	2.199E+04	1.201E+07	8.071E+02	2.971E+01	8.288E+03	5.569E-01
2076	2.155E+04	1.177E+07	7.911E+02	2.912E+01	8.124E+03	5.458E-01
2077	2.112E+04	1.154E+07	7.754E+02	2.854E+01	7.963E+03	5.350E-01
2078	2.071E+04	1.131E+07	7.601E+02	2.798E+01	7.805E+03	5.244E-01
2079	2.030E+04	1.109E+07	7.450E+02	2.742E+01	7.651E+03	5.141E-01
2080	1.989E+04	1.087E+07	7.303E+02	2.688E+01	7.499E+03	5.039E-01
2081	1.950E+04	1.065E+07	7.158E+02	2.635E+01	7.351E+03	4.939E-01
2082	1.911E+04	1.044E+07	7.016E+02	2.583E+01	7.205E+03	4.841E-01
2083	1.874E+04	1.024E+07	6.877E+02	2.532E+01	7.063E+03	4.745E-01
2084	1.837E+04	1.003E+07	6.741E+02	2.481E+01	6.923E+03	4.651E-01
2085	1.800E+04	9.834E+06	6.608E+02	2.432E+01	6.786E+03	4.559E-01
2086	1.765E+04	9.639E+06	6.477E+02	2.384E+01	6.651E+03	4.469E-01
2087	1.730E+04	9.449E+06	6.348E+02	2.337E+01	6.520E+03	4.380E-01
2088	1.695E+04	9.261E+06	6.223E+02	2.291E+01	6.390E+03	4.294E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2089	1.662E+04	9.078E+06	6.100E+02	2.245E+01	6.264E+03	4.209E-01
2090	1.629E+04	8.898E+06	5.979E+02	2.201E+01	6.140E+03	4.125E-01
2091	1.597E+04	8.722E+06	5.860E+02	2.157E+01	6.018E+03	4.044E-01
2092	1.565E+04	8.549E+06	5.744E+02	2.115E+01	5.899E+03	3.964E-01
2093	1.534E+04	8.380E+06	5.631E+02	2.073E+01	5.782E+03	3.885E-01
2094	1.504E+04	8.214E+06	5.519E+02	2.032E+01	5.668E+03	3.808E-01
2095	1.474E+04	8.052E+06	5.410E+02	1.991E+01	5.556E+03	3.733E-01
2096	1.445E+04	7.892E+06	5.303E+02	1.952E+01	5.446E+03	3.659E-01
2097	1.416E+04	7.736E+06	5.198E+02	1.913E+01	5.338E+03	3.586E-01
2098	1.388E+04	7.583E+06	5.095E+02	1.875E+01	5.232E+03	3.515E-01
2099	1.361E+04	7.433E+06	4.994E+02	1.838E+01	5.128E+03	3.446E-01
2100	1.334E+04	7.285E+06	4.895E+02	1.802E+01	5.027E+03	3.378E-01
2101	1.307E+04	7.141E+06	4.798E+02	1.766E+01	4.927E+03	3.311E-01
2102	1.281E+04	7.000E+06	4.703E+02	1.731E+01	4.830E+03	3.245E-01
2103	1.256E+04	6.861E+06	4.610E+02	1.697E+01	4.734E+03	3.181E-01
2104	1.231E+04	6.725E+06	4.519E+02	1.663E+01	4.640E+03	3.118E-01
2105	1.207E+04	6.592E+06	4.429E+02	1.630E+01	4.549E+03	3.056E-01
2106	1.183E+04	6.462E+06	4.341E+02	1.598E+01	4.458E+03	2.996E-01
2107	1.159E+04	6.334E+06	4.256E+02	1.566E+01	4.370E+03	2.936E-01
2108	1.136E+04	6.208E+06	4.171E+02	1.535E+01	4.284E+03	2.878E-01
2109	1.114E+04	6.085E+06	4.089E+02	1.505E+01	4.199E+03	2.821E-01
2110	1.092E+04	5.965E+06	4.008E+02	1.475E+01	4.116E+03	2.765E-01
2111	1.070E+04	5.847E+06	3.928E+02	1.446E+01	4.034E+03	2.711E-01
2112	1.049E+04	5.731E+06	3.851E+02	1.417E+01	3.954E+03	2.657E-01
2113	1.028E+04	5.617E+06	3.774E+02	1.389E+01	3.876E+03	2.604E-01
2114	1.008E+04	5.506E+06	3.700E+02	1.362E+01	3.799E+03	2.553E-01
2115	9.879E+03	5.397E+06	3.626E+02	1.335E+01	3.724E+03	2.502E-01
2116	9.684E+03	5.290E+06	3.555E+02	1.308E+01	3.650E+03	2.453E-01
2117	9.492E+03	5.185E+06	3.484E+02	1.283E+01	3.578E+03	2.404E-01
2118	9.304E+03	5.083E+06	3.415E+02	1.257E+01	3.507E+03	2.356E-01
2119	9.120E+03	4.982E+06	3.348E+02	1.232E+01	3.438E+03	2.310E-01
2120	8.939E+03	4.884E+06	3.281E+02	1.208E+01	3.370E+03	2.264E-01
2121	8.762E+03	4.787E+06	3.216E+02	1.184E+01	3.303E+03	2.219E-01
2122	8.589E+03	4.692E+06	3.153E+02	1.160E+01	3.237E+03	2.175E-01
2123	8.419E+03	4.599E+06	3.090E+02	1.137E+01	3.173E+03	2.132E-01
2124	8.252E+03	4.508E+06	3.029E+02	1.115E+01	3.111E+03	2.090E-01
2125	8.089E+03	4.419E+06	2.969E+02	1.093E+01	3.049E+03	2.049E-01
2126	7.928E+03	4.331E+06	2.910E+02	1.071E+01	2.989E+03	2.008E-01
2127	7.771E+03	4.246E+06	2.853E+02	1.050E+01	2.929E+03	1.968E-01
2128	7.618E+03	4.161E+06	2.796E+02	1.029E+01	2.871E+03	1.929E-01

ATTACHMENT 6.6

PCS ANALYTICAL TEST RESULTS

(03/29/2018 SAMPLING EVENT)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

TestAmerica Job ID: 280-107960-1
Client Project/Site: 3217|Valencia, NM - Soils

For:
Waste Management
1132 Carpenter Street NE
Rio Rancho, New Mexico 87144

Attn: Mr. Steve Miceli

Betsy Sara

Authorized for release by:
4/19/2018 9:07:45 AM

Betsy Sara, Project Manager II
(303)736-0189
betsy.sara@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 280-107960-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: Waste Management

Project: 3217|Valencia, NM - Soils

Report Number: 280-107960-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report may include reporting limits (RLs) less than TestAmerica's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

Sample Receiving

The samples were received on 03/30/2018; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.2º C, 1.2º C and 1.4º C.

Holding Times

All holding times were within established control limits.

Method Blanks

2-Butanone (MEK), Acetone Method 8260B, Gasoline Range Organics (GRO)-C6-C10 Method 8015B, Diesel Range Organics [C10-C28] and C10-C36 Method 8015B were detected in the Method Blanks below the project established reporting limits. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits.

All other Method Blanks were within the acceptance limits.

Laboratory Control Samples (LCS)

All Laboratory Control Samples were within established control limits.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Sample Duplicate (Dup)

Sample PCS AC2 was selected to fulfill the laboratory batch quality control requirements for Method 8260B. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of multiple spike compounds below the lower control limits. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

Sample PCS AC1 was selected to fulfill the laboratory batch quality control requirements for Method 8015B. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Gasoline Range Organics (GRO)-C6-C10 below the lower control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

All other MS and MSD and Dup samples were within established control limits.

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: PCS AC1 — Lab Sample ID: 280-107960-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.3	J B	21	1.9	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.50	J B F1	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	19	B	7.9	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	27	B	7.9	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC2 — Lab Sample ID: 280-107960-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichlorobenzene	0.69	J	5.8	0.52	ug/Kg	1		8260B	Total/NA
1,2-Dichloroethene, Total	7.4		5.8	0.45	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	7.4		2.9	0.64	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.64	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	230	B	7.6	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	280	B	7.6	1.9	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC3 — Lab Sample ID: 280-107960-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	11	J B	22	2.0	ug/Kg	1		8260B	Total/NA
Acetone	21	J	22	6.0	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.78	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	320	B	7.4	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	370	B	7.4	1.8	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC4 — Lab Sample ID: 280-107960-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethene, Total	4.8	J	5.7	0.45	ug/Kg	1		8260B	Total/NA
2-Butanone (MEK)	9.0	J B	23	2.1	ug/Kg	1		8260B	Total/NA
Acetone	20	J B	23	6.2	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	4.8		2.9	0.64	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.89	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	680	B	7.8	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	850	B	7.8	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC5 — Lab Sample ID: 280-107960-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	7.8	J B	24	2.2	ug/Kg	1		8260B	Total/NA
Acetone	12	J	24	6.4	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.84	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	25	B	7.8	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	39	B	7.8	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC6 — Lab Sample ID: 280-107960-6

This Detection Summary does not include radiochemical test results.

Client Sample ID: PCS AC6 (Continued) — Lab Sample ID: 280-107960-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethene, Total	4.6	J	5.7	0.44	ug/Kg	1		8260B	Total/NA
2-Butanone (MEK)	7.1	J B	23	2.1	ug/Kg	1		8260B	Total/NA
Acetone	15	J B	23	6.1	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	4.6		2.8	0.64	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.52	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	18	B	7.8	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	28	B	7.8	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC7 — Lab Sample ID: 280-107960-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethene, Total	4.1	J	5.7	0.45	ug/Kg	1		8260B	Total/NA
2-Butanone (MEK)	6.0	J B	23	2.1	ug/Kg	1		8260B	Total/NA
Acetone	12	J B	23	6.2	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	4.1		2.9	0.64	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.54	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	24	B	7.9	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	39	B	7.9	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC8 — Lab Sample ID: 280-107960-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	9.2	J B	21	1.9	ug/Kg	1		8260B	Total/NA
Acetone	18	J	21	5.6	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.58	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	32	B	7.7	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	51	B	7.7	1.9	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC9 — Lab Sample ID: 280-107960-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	7.5	J B	20	1.8	ug/Kg	1		8260B	Total/NA
Acetone	20		20	5.4	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.73	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	59	B	7.7	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	92	B	7.7	1.9	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC10 — Lab Sample ID: 280-107960-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	6.1	J B	22	2.1	ug/Kg	1		8260B	Total/NA
Acetone	12	J	22	6.0	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.61	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	26	B	7.8	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	41	B	7.8	2.0	mg/Kg	1		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC11

Lab Sample ID: 280-107960-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	9.7	J	22	2.0	ug/Kg	1		8260B	Total/NA
Acetone	29	B	22	6.0	ug/Kg	1		8260B	Total/NA
Methylene Chloride	1.8	J	5.6	1.8	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.67	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	20	B	8.0	1.4	mg/Kg	1		8015B	Total/NA
C10-C36	33	B	8.0	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC12

Lab Sample ID: 280-107960-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.8	J	22	2.1	ug/Kg	1		8260B	Total/NA
Acetone	12	J B	22	6.0	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.65	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	26	B	7.9	1.4	mg/Kg	1		8015B	Total/NA
C10-C36	44	B	7.9	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC13

Lab Sample ID: 280-107960-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	1.9	J	21	1.9	ug/Kg	1		8260B	Total/NA
Acetone	6.0	J B	21	5.6	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.71	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	20	B	7.7	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	32	B	7.7	1.9	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC14

Lab Sample ID: 280-107960-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	6.7	J	23	2.1	ug/Kg	1		8260B	Total/NA
Acetone	19	J B	23	6.1	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.82	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	16	B	7.3	1.2	mg/Kg	1		8015B	Total/NA
C10-C36	23	B	7.3	1.8	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC15

Lab Sample ID: 280-107960-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	8.8	J	21	1.9	ug/Kg	1		8260B	Total/NA
Acetone	27	B	21	5.6	ug/Kg	1		8260B	Total/NA
Methylene Chloride	1.9	J	5.2	1.7	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.83	J B	1.2	0.33	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	22	B	7.7	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	35	B	7.7	1.9	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC16

Lab Sample ID: 280-107960-16

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: PCS AC16 (Continued) — Lab Sample ID: 280-107960-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	7.4	J	21	1.9	ug/Kg	1		8260B	Total/NA
Acetone	22	B	21	5.7	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.69	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	25	B	7.1	1.2	mg/Kg	1		8015B	Total/NA
C10-C36	45	B	7.1	1.8	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC17 — Lab Sample ID: 280-107960-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	5.1	J	21	1.9	ug/Kg	1		8260B	Total/NA
Acetone	11	J B	21	5.7	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.72	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	20	B	7.1	1.2	mg/Kg	1		8015B	Total/NA
C10-C36	37	B	7.1	1.8	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC18 — Lab Sample ID: 280-107960-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.8	J	21	1.9	ug/Kg	1		8260B	Total/NA
Acetone	8.2	J B	21	5.5	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.62	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	20	B	8.0	1.4	mg/Kg	1		8015B	Total/NA
C10-C36	34	B	8.0	2.0	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC19 — Lab Sample ID: 280-107960-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	4.6	J	23	2.1	ug/Kg	1		8260B	Total/NA
Acetone	10	J B	23	6.2	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.71	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	17	B	7.4	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	30	B	7.4	1.8	mg/Kg	1		8015B	Total/NA

Client Sample ID: PCS AC20 — Lab Sample ID: 280-107960-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	6.6	J	20	1.9	ug/Kg	1		8260B	Total/NA
Acetone	21	B	20	5.5	ug/Kg	1		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C10	0.76	J B	1.2	0.32	mg/Kg	1		8015B	Total/NA
Diesel Range Organics [C10-C28]	20	B	7.5	1.3	mg/Kg	1		8015B	Total/NA
C10-C36	35	B	7.5	1.9	mg/Kg	1		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8015B	Gasoline Range Organics - (GC)	SW846	TAL DEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL DEN
3546	Microwave Extraction	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-107960-1	PCS AC1	Solid	03/29/18 11:35	03/30/18 08:50
280-107960-2	PCS AC2	Solid	03/29/18 11:41	03/30/18 08:50
280-107960-3	PCS AC3	Solid	03/29/18 11:46	03/30/18 08:50
280-107960-4	PCS AC4	Solid	03/29/18 11:50	03/30/18 08:50
280-107960-5	PCS AC5	Solid	03/29/18 11:55	03/30/18 08:50
280-107960-6	PCS AC6	Solid	03/29/18 12:00	03/30/18 08:50
280-107960-7	PCS AC7	Solid	03/29/18 12:05	03/30/18 08:50
280-107960-8	PCS AC8	Solid	03/29/18 12:10	03/30/18 08:50
280-107960-9	PCS AC9	Solid	03/29/18 12:15	03/30/18 08:50
280-107960-10	PCS AC10	Solid	03/29/18 12:20	03/30/18 08:50
280-107960-11	PCS AC11	Solid	03/29/18 12:25	03/30/18 08:50
280-107960-12	PCS AC12	Solid	03/29/18 12:30	03/30/18 08:50
280-107960-13	PCS AC13	Solid	03/29/18 12:36	03/30/18 08:50
280-107960-14	PCS AC14	Solid	03/29/18 12:41	03/30/18 08:50
280-107960-15	PCS AC15	Solid	03/29/18 12:46	03/30/18 08:50
280-107960-16	PCS AC16	Solid	03/29/18 12:51	03/30/18 08:50
280-107960-17	PCS AC17	Solid	03/29/18 12:56	03/30/18 08:50
280-107960-18	PCS AC18	Solid	03/29/18 13:02	03/30/18 08:50
280-107960-19	PCS AC19	Solid	03/29/18 13:07	03/30/18 08:50
280-107960-20	PCS AC20	Solid	03/29/18 13:14	03/30/18 08:50

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: PCS AC1
Date Collected: 03/29/18 11:35
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.3	0.60	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,1,1-Trichloroethane	ND		5.3	0.55	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,1,2,2-Tetrachloroethane	ND		5.3	0.65	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,1,2-Trichloroethane	ND		5.3	0.94	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,1-Dichloroethane	ND		5.3	0.22	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,1-Dichloroethene	ND		5.3	0.63	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,1-Dichloropropene	ND		5.3	0.57	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2,3-Trichlorobenzene	ND		5.3	0.80	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2,3-Trichloropropane	ND		5.3	0.86	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2,4-Trichlorobenzene	ND		5.3	0.78	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2,4-Trimethylbenzene	ND		5.3	0.62	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2-Dibromo-3-Chloropropane	ND		11	0.64	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2-Dibromoethane	ND		5.3	0.55	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2-Dichlorobenzene	ND		5.3	0.48	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2-Dichloroethane	ND		5.3	0.74	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2-Dichloroethene, Total	ND		5.3	0.41	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,2-Dichloropropane	ND		5.3	0.58	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,3,5-Trimethylbenzene	ND		5.3	0.61	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,3-Dichlorobenzene	ND		5.3	0.51	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,3-Dichloropropane	ND		5.3	0.54	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
1,4-Dichlorobenzene	ND		5.3	0.83	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
2,2-Dichloropropane	ND		5.3	0.47	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
2-Butanone (MEK)	**3.3**	**J B**	21	1.9	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
2-Chlorotoluene	ND		5.3	0.54	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
2-Hexanone	ND		21	5.2	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
4-Chlorotoluene	ND		5.3	0.83	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
4-Isopropyltoluene	ND		5.3	0.52	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.6	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Acetone	ND		21	5.7	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Benzene	ND		5.3	0.50	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Bromobenzene	ND		5.3	0.52	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Bromoform	ND		5.3	0.24	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Bromomethane	ND		11	0.53	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Carbon tetrachloride	ND		5.3	0.67	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Chlorobenzene	ND		5.3	0.57	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Chlorobromomethane	ND		5.3	0.32	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Chlorodibromomethane	ND		5.3	0.61	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Chloroethane	ND		11	0.95	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Chloroform	ND		11	0.31	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Chloromethane	ND		11	0.82	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
cis-1,2-Dichloroethene	ND		2.7	0.60	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
cis-1,3-Dichloropropene	ND		5.3	1.4	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Dibromomethane	ND		5.3	0.89	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Dichlorobromomethane	ND		5.3	0.23	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Dichlorodifluoromethane	ND		11	0.55	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Ethylbenzene	ND		5.3	0.71	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Hexachlorobutadiene	ND		5.3	0.58	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Isopropylbenzene	ND		5.3	0.63	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Methyl tert-butyl ether	ND		21	0.36	ug/Kg		04/10/18 20:00	04/11/18 01:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC1
Date Collected: 03/29/18 11:35
Date Received: 03/30/18 08:50
Lab Sample ID: 280-107960-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.3	1.7	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
m-Xylene & p-Xylene	ND		2.7	1.1	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Naphthalene	ND		5.3	0.67	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
n-Butylbenzene	ND		5.3	0.60	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
N-Propylbenzene	ND		5.3	0.62	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
o-Xylene	ND		2.7	0.65	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
sec-Butylbenzene	ND		5.3	0.82	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Styrene	ND		5.3	0.67	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
tert-Butylbenzene	ND		5.3	0.53	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Tetrachloroethene	ND		5.3	0.63	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Toluene	ND		5.3	0.73	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
trans-1,2-Dichloroethene	ND		2.7	0.41	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
trans-1,3-Dichloropropene	ND		5.3	0.71	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Trichloroethene	ND		5.3	0.24	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Trichlorofluoromethane	ND		11	1.1	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Vinyl chloride	ND		5.3	1.4	ug/Kg		04/10/18 20:00	04/11/18 01:50	1
Xylenes, Total	ND		5.3	0.65	ug/Kg		04/10/18 20:00	04/11/18 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*58 - 140*	*04/10/18 20:00*	*04/11/18 01:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 127*	*04/10/18 20:00*	*04/11/18 01:50*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 121*	*04/10/18 20:00*	*04/11/18 01:50*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/10/18 20:00*	*04/11/18 01:50*	*1*

Client Sample ID: PCS AC2
Date Collected: 03/29/18 11:41
Date Received: 03/30/18 08:50
Lab Sample ID: 280-107960-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.8	0.64	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,1,1-Trichloroethane	ND		5.8	0.60	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,1,2,2-Tetrachloroethane	ND		5.8	0.70	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,1,2-Trichloroethane	ND		5.8	1.0	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,1-Dichloroethane	ND		5.8	0.24	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,1-Dichloroethene	ND		5.8	0.68	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,1-Dichloropropene	ND		5.8	0.62	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2,3-Trichlorobenzene	ND	F1	5.8	0.86	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2,3-Trichloropropane	ND		5.8	0.93	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2,4-Trichlorobenzene	ND	F1	5.8	0.84	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2,4-Trimethylbenzene	ND		5.8	0.67	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2-Dibromo-3-Chloropropane	ND		12	0.69	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2-Dibromoethane	ND		5.8	0.60	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2-Dichlorobenzene	**0.69**	**J**	5.8	0.52	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2-Dichloroethane	ND		5.8	0.81	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2-Dichloroethene, Total	**7.4**		5.8	0.45	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,2-Dichloropropane	ND		5.8	0.63	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,3,5-Trimethylbenzene	ND		5.8	0.66	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,3-Dichlorobenzene	ND		5.8	0.55	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,3-Dichloropropane	ND		5.8	0.59	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
1,4-Dichlorobenzene	ND		5.8	0.90	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
2,2-Dichloropropane	ND		5.8	0.51	ug/Kg		04/11/18 19:00	04/12/18 03:22	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC2
Date Collected: 03/29/18 11:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		23	2.1	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
2-Chlorotoluene	ND		5.8	0.59	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
2-Hexanone	ND		23	5.6	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
4-Chlorotoluene	ND		5.8	0.90	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
4-Isopropyltoluene	ND		5.8	0.56	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
4-Methyl-2-pentanone (MIBK)	ND		23	5.0	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Acetone	ND		23	6.2	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Benzene	ND		5.8	0.54	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Bromobenzene	ND		5.8	0.56	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Bromoform	ND	F1	5.8	0.26	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Bromomethane	ND		12	0.58	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Carbon tetrachloride	ND		5.8	0.73	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Chlorobenzene	ND	F1	5.8	0.62	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Chlorobromomethane	ND		5.8	0.35	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Chlorodibromomethane	ND	F1	5.8	0.66	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Chloroethane	ND		12	1.0	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Chloroform	ND		12	0.33	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Chloromethane	ND		12	0.89	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
cis-1,2-Dichloroethene	**7.4**		2.9	0.64	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
cis-1,3-Dichloropropene	ND		5.8	1.5	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Dibromomethane	ND		5.8	0.97	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Dichlorobromomethane	ND		5.8	0.25	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Dichlorodifluoromethane	ND		12	0.60	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Ethylbenzene	ND		5.8	0.77	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Hexachlorobutadiene	ND		5.8	0.63	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Isopropylbenzene	ND	F1	5.8	0.68	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Methyl tert-butyl ether	ND		23	0.39	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Methylene Chloride	ND		5.8	1.8	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
m-Xylene & p-Xylene	ND	F1	2.9	1.2	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Naphthalene	ND		5.8	0.73	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
n-Butylbenzene	ND	F1	5.8	0.64	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
N-Propylbenzene	ND		5.8	0.67	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
o-Xylene	ND		2.9	0.70	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
sec-Butylbenzene	ND		5.8	0.89	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Styrene	ND	F1	5.8	0.73	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
tert-Butylbenzene	ND		5.8	0.58	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Tetrachloroethene	ND		5.8	0.68	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Toluene	ND		5.8	0.79	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
trans-1,2-Dichloroethene	ND		2.9	0.45	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
trans-1,3-Dichloropropene	ND		5.8	0.77	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Trichloroethene	ND		5.8	0.26	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Trichlorofluoromethane	ND		12	1.2	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Vinyl chloride	ND		5.8	1.5	ug/Kg		04/11/18 19:00	04/12/18 03:22	1
Xylenes, Total	ND		5.8	0.70	ug/Kg		04/11/18 19:00	04/12/18 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*58 - 140*	*04/11/18 19:00*	*04/12/18 03:22*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 127*	*04/11/18 19:00*	*04/12/18 03:22*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 121*	*04/11/18 19:00*	*04/12/18 03:22*	*1*
Toluene-d8 (Surr)	*93*		*80 - 126*	*04/11/18 19:00*	*04/12/18 03:22*	*1*

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC3
Date Collected: 03/29/18 11:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.62	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,1,1-Trichloroethane	ND		5.6	0.58	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.68	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,1,2-Trichloroethane	ND		5.6	0.98	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,1-Dichloroethane	ND		5.6	0.23	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,1-Dichloroethene	ND		5.6	0.65	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,1-Dichloropropene	ND		5.6	0.60	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2,3-Trichlorobenzene	ND		5.6	0.83	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2,3-Trichloropropane	ND		5.6	0.90	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2,4-Trichlorobenzene	ND		5.6	0.81	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2,4-Trimethylbenzene	ND		5.6	0.64	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2-Dibromo-3-Chloropropane	ND		11	0.67	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2-Dibromoethane	ND		5.6	0.58	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2-Dichlorobenzene	ND		5.6	0.50	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2-Dichloroethane	ND		5.6	0.78	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2-Dichloroethene, Total	ND		5.6	0.43	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,2-Dichloropropane	ND		5.6	0.61	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,3,5-Trimethylbenzene	ND		5.6	0.63	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,3-Dichlorobenzene	ND		5.6	0.53	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,3-Dichloropropane	ND		5.6	0.57	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
1,4-Dichlorobenzene	ND		5.6	0.87	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
2,2-Dichloropropane	ND		5.6	0.49	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
2-Butanone (MEK)	**11**	**J B**	22	2.0	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
2-Chlorotoluene	ND		5.6	0.57	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
2-Hexanone	ND		22	5.4	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
4-Chlorotoluene	ND		5.6	0.87	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
4-Isopropyltoluene	ND		5.6	0.54	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
4-Methyl-2-pentanone (MIBK)	ND		22	4.8	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Acetone	**21**	**J**	22	6.0	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Benzene	ND		5.6	0.52	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Bromobenzene	ND		5.6	0.54	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Bromoform	ND		5.6	0.26	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Bromomethane	ND		11	0.56	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Carbon tetrachloride	ND		5.6	0.70	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Chlorobenzene	ND		5.6	0.60	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Chlorobromomethane	ND		5.6	0.33	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Chlorodibromomethane	ND		5.6	0.63	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Chloroethane	ND		11	0.99	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Chloroform	ND		11	0.32	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Chloromethane	ND		11	0.85	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
cis-1,2-Dichloroethene	ND		2.8	0.62	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
cis-1,3-Dichloropropene	ND		5.6	1.4	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Dibromomethane	ND		5.6	0.93	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Dichlorobromomethane	ND		5.6	0.24	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Dichlorodifluoromethane	ND		11	0.58	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Ethylbenzene	ND		5.6	0.74	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Hexachlorobutadiene	ND		5.6	0.61	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Isopropylbenzene	ND		5.6	0.65	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Methyl tert-butyl ether	ND		22	0.38	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Methylene Chloride	ND		5.6	1.8	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
m-Xylene & p-Xylene	ND		2.8	1.2	ug/Kg		04/10/18 20:00	04/11/18 02:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC3
Date Collected: 03/29/18 11:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		5.6	0.70	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
n-Butylbenzene	ND		5.6	0.62	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
N-Propylbenzene	ND		5.6	0.64	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
o-Xylene	ND		2.8	0.68	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
sec-Butylbenzene	ND		5.6	0.85	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Styrene	ND		5.6	0.70	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
tert-Butylbenzene	ND		5.6	0.56	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Tetrachloroethene	ND		5.6	0.65	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Toluene	ND		5.6	0.77	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
trans-1,2-Dichloroethene	ND		2.8	0.43	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
trans-1,3-Dichloropropene	ND		5.6	0.74	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Trichloroethene	ND		5.6	0.26	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Vinyl chloride	ND		5.6	1.5	ug/Kg		04/10/18 20:00	04/11/18 02:30	1
Xylenes, Total	ND		5.6	0.68	ug/Kg		04/10/18 20:00	04/11/18 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*58 - 140*	*04/10/18 20:00*	*04/11/18 02:30*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 127*	*04/10/18 20:00*	*04/11/18 02:30*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 121*	*04/10/18 20:00*	*04/11/18 02:30*	*1*
Toluene-d8 (Surr)	*92*		*80 - 126*	*04/10/18 20:00*	*04/11/18 02:30*	*1*

Client Sample ID: PCS AC4
Date Collected: 03/29/18 11:50
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	0.64	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,1,1-Trichloroethane	ND		5.7	0.59	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,1,2,2-Tetrachloroethane	ND		5.7	0.70	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,1,2-Trichloroethane	ND		5.7	1.0	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,1-Dichloroethane	ND		5.7	0.24	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,1-Dichloroethene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,1-Dichloropropene	ND		5.7	0.62	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2,3-Trichlorobenzene	ND		5.7	0.86	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2,3-Trichloropropane	ND		5.7	0.93	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2,4-Trichlorobenzene	ND		5.7	0.84	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2,4-Trimethylbenzene	ND		5.7	0.66	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2-Dibromo-3-Chloropropane	ND		11	0.69	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2-Dibromoethane	ND		5.7	0.59	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2-Dichlorobenzene	ND		5.7	0.51	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2-Dichloroethane	ND		5.7	0.80	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2-Dichloroethene, Total	**4.8**	**J**	5.7	0.45	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,2-Dichloropropane	ND		5.7	0.63	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,3,5-Trimethylbenzene	ND		5.7	0.65	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,3-Dichlorobenzene	ND		5.7	0.55	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,3-Dichloropropane	ND		5.7	0.58	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
1,4-Dichlorobenzene	ND		5.7	0.89	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
2,2-Dichloropropane	ND		5.7	0.50	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
2-Butanone (MEK)	**9.0**	**J B**	23	2.1	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
2-Chlorotoluene	ND		5.7	0.58	ug/Kg		04/11/18 19:00	04/12/18 04:43	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC4
Date Collected: 03/29/18 11:50
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		23	5.6	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
4-Chlorotoluene	ND		5.7	0.89	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
4-Isopropyltoluene	ND		5.7	0.56	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
4-Methyl-2-pentanone (MIBK)	ND		23	5.0	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Acetone	**20**	**J B**	23	6.2	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Benzene	ND		5.7	0.54	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Bromobenzene	ND		5.7	0.56	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Bromoform	ND		5.7	0.26	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Bromomethane	ND		11	0.57	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Carbon tetrachloride	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Chlorobenzene	ND		5.7	0.62	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Chlorobromomethane	ND		5.7	0.34	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Chlorodibromomethane	ND		5.7	0.65	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Chloroethane	ND		11	1.0	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Chloroform	ND		11	0.33	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Chloromethane	ND		11	0.88	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
cis-1,2-Dichloroethene	**4.8**		2.9	0.64	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
cis-1,3-Dichloropropene	ND		5.7	1.5	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Dibromomethane	ND		5.7	0.96	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Dichlorobromomethane	ND		5.7	0.25	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Dichlorodifluoromethane	ND		11	0.59	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Ethylbenzene	ND		5.7	0.77	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Hexachlorobutadiene	ND		5.7	0.63	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Isopropylbenzene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Methyl tert-butyl ether	ND		23	0.39	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Methylene Chloride	ND		5.7	1.8	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
m-Xylene & p-Xylene	ND		2.9	1.2	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Naphthalene	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
n-Butylbenzene	ND		5.7	0.64	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
N-Propylbenzene	ND		5.7	0.66	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
o-Xylene	ND		2.9	0.70	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
sec-Butylbenzene	ND		5.7	0.88	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Styrene	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
tert-Butylbenzene	ND		5.7	0.57	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Tetrachloroethene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Toluene	ND		5.7	0.79	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
trans-1,2-Dichloroethene	ND		2.9	0.45	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
trans-1,3-Dichloropropene	ND		5.7	0.77	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Trichloroethene	ND		5.7	0.26	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Vinyl chloride	ND		5.7	1.5	ug/Kg		04/11/18 19:00	04/12/18 04:43	1
Xylenes, Total	ND		5.7	0.70	ug/Kg		04/11/18 19:00	04/12/18 04:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*77*		*58 - 140*	*04/11/18 19:00*	*04/12/18 04:43*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 127*	*04/11/18 19:00*	*04/12/18 04:43*	*1*
Dibromofluoromethane (Surr)	*89*		*75 - 121*	*04/11/18 19:00*	*04/12/18 04:43*	*1*
Toluene-d8 (Surr)	*92*		*80 - 126*	*04/11/18 19:00*	*04/12/18 04:43*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: PCS AC5
Date Collected: 03/29/18 11:55
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.0	0.67	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,1,1-Trichloroethane	ND		6.0	0.62	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,1,2,2-Tetrachloroethane	ND		6.0	0.73	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,1,2-Trichloroethane	ND		6.0	1.0	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,1-Dichloroethane	ND		6.0	0.25	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,1-Dichloroethene	ND		6.0	0.70	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,1-Dichloropropene	ND		6.0	0.64	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2,3-Trichlorobenzene	ND		6.0	0.89	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2,3-Trichloropropane	ND		6.0	0.96	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2,4-Trichlorobenzene	ND		6.0	0.87	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2,4-Trimethylbenzene	ND		6.0	0.69	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2-Dibromo-3-Chloropropane	ND		12	0.71	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2-Dibromoethane	ND		6.0	0.62	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2-Dichlorobenzene	ND		6.0	0.54	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2-Dichloroethane	ND		6.0	0.83	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2-Dichloroethene, Total	ND		6.0	0.46	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,2-Dichloropropane	ND		6.0	0.66	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,3,5-Trimethylbenzene	ND		6.0	0.68	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,3-Dichlorobenzene	ND		6.0	0.57	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,3-Dichloropropane	ND		6.0	0.61	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
1,4-Dichlorobenzene	ND		6.0	0.93	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
2,2-Dichloropropane	ND		6.0	0.52	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
2-Butanone (MEK)	**7.8**	**J B**	24	2.2	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
2-Chlorotoluene	ND		6.0	0.61	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
2-Hexanone	ND		24	5.8	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
4-Chlorotoluene	ND		6.0	0.93	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
4-Isopropyltoluene	ND		6.0	0.58	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
4-Methyl-2-pentanone (MIBK)	ND		24	5.2	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Acetone	**12**	**J**	24	6.4	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Benzene	ND		6.0	0.56	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Bromobenzene	ND		6.0	0.58	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Bromoform	ND		6.0	0.27	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Bromomethane	ND		12	0.60	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Carbon tetrachloride	ND		6.0	0.75	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Chlorobenzene	ND		6.0	0.64	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Chlorobromomethane	ND		6.0	0.36	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Chlorodibromomethane	ND		6.0	0.68	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Chloroethane	ND		12	1.1	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Chloroform	ND		12	0.35	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Chloromethane	ND		12	0.92	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
cis-1,2-Dichloroethene	ND		3.0	0.67	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
cis-1,3-Dichloropropene	ND		6.0	1.5	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Dibromomethane	ND		6.0	1.0	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Dichlorobromomethane	ND		6.0	0.26	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Dichlorodifluoromethane	ND		12	0.62	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Ethylbenzene	ND		6.0	0.80	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Hexachlorobutadiene	ND		6.0	0.66	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Isopropylbenzene	ND		6.0	0.70	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Methyl tert-butyl ether	ND		24	0.41	ug/Kg		04/10/18 20:00	04/11/18 03:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC5
Date Collected: 03/29/18 11:55
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		6.0	1.9	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
m-Xylene & p-Xylene	ND		3.0	1.2	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Naphthalene	ND		6.0	0.75	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
n-Butylbenzene	ND		6.0	0.67	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
N-Propylbenzene	ND		6.0	0.69	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
o-Xylene	ND		3.0	0.73	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
sec-Butylbenzene	ND		6.0	0.92	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Styrene	ND		6.0	0.75	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
tert-Butylbenzene	ND		6.0	0.60	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Tetrachloroethene	ND		6.0	0.70	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Toluene	ND		6.0	0.82	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
trans-1,2-Dichloroethene	ND		3.0	0.46	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
trans-1,3-Dichloropropene	ND		6.0	0.80	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Trichloroethene	ND		6.0	0.27	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Trichlorofluoromethane	ND		12	1.2	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Vinyl chloride	ND		6.0	1.6	ug/Kg		04/10/18 20:00	04/11/18 03:11	1
Xylenes, Total	ND		6.0	0.73	ug/Kg		04/10/18 20:00	04/11/18 03:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*58 - 140*	*04/10/18 20:00*	*04/11/18 03:11*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 127*	*04/10/18 20:00*	*04/11/18 03:11*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 121*	*04/10/18 20:00*	*04/11/18 03:11*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/10/18 20:00*	*04/11/18 03:11*	*1*

Client Sample ID: PCS AC6
Date Collected: 03/29/18 12:00
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	0.64	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,1,1-Trichloroethane	ND		5.7	0.59	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,1,2,2-Tetrachloroethane	ND		5.7	0.70	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,1,2-Trichloroethane	ND		5.7	1.0	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,1-Dichloroethane	ND		5.7	0.24	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,1-Dichloroethene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,1-Dichloropropene	ND		5.7	0.62	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2,3-Trichlorobenzene	ND		5.7	0.85	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2,3-Trichloropropane	ND		5.7	0.92	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2,4-Trichlorobenzene	ND		5.7	0.83	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2,4-Trimethylbenzene	ND		5.7	0.66	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2-Dibromo-3-Chloropropane	ND		11	0.68	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2-Dibromoethane	ND		5.7	0.59	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2-Dichlorobenzene	ND		5.7	0.51	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2-Dichloroethane	ND		5.7	0.80	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2-Dichloroethene, Total	**4.6**	**J**	5.7	0.44	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,2-Dichloropropane	ND		5.7	0.63	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,3,5-Trimethylbenzene	ND		5.7	0.65	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,3-Dichlorobenzene	ND		5.7	0.55	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,3-Dichloropropane	ND		5.7	0.58	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
1,4-Dichlorobenzene	ND		5.7	0.89	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
2,2-Dichloropropane	ND		5.7	0.50	ug/Kg		04/11/18 19:00	04/12/18 05:03	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC6
Date Collected: 03/29/18 12:00
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	**7.1**	**J B**	23	2.1	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
2-Chlorotoluene	ND		5.7	0.58	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
2-Hexanone	ND		23	5.6	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
4-Chlorotoluene	ND		5.7	0.89	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
4-Isopropyltoluene	ND		5.7	0.56	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
4-Methyl-2-pentanone (MIBK)	ND		23	5.0	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Acetone	**15**	**J B**	23	6.1	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Benzene	ND		5.7	0.54	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Bromobenzene	ND		5.7	0.56	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Bromoform	ND		5.7	0.26	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Bromomethane	ND		11	0.57	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Carbon tetrachloride	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Chlorobenzene	ND		5.7	0.62	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Chlorobromomethane	ND		5.7	0.34	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Chlorodibromomethane	ND		5.7	0.65	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Chloroethane	ND		11	1.0	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Chloroform	ND		11	0.33	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Chloromethane	ND		11	0.88	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
cis-1,2-Dichloroethene	**4.6**		2.8	0.64	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
cis-1,3-Dichloropropene	ND		5.7	1.5	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Dibromomethane	ND		5.7	0.96	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Dichlorobromomethane	ND		5.7	0.25	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Dichlorodifluoromethane	ND		11	0.59	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Ethylbenzene	ND		5.7	0.76	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Hexachlorobutadiene	ND		5.7	0.63	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Isopropylbenzene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Methyl tert-butyl ether	ND		23	0.39	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Methylene Chloride	ND		5.7	1.8	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
m-Xylene & p-Xylene	ND		2.8	1.2	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Naphthalene	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
n-Butylbenzene	ND		5.7	0.64	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
N-Propylbenzene	ND		5.7	0.66	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
o-Xylene	ND		2.8	0.70	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
sec-Butylbenzene	ND		5.7	0.88	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Styrene	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
tert-Butylbenzene	ND		5.7	0.57	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Tetrachloroethene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Toluene	ND		5.7	0.79	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
trans-1,2-Dichloroethene	ND		2.8	0.44	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
trans-1,3-Dichloropropene	ND		5.7	0.76	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Trichloroethene	ND		5.7	0.26	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Vinyl chloride	ND		5.7	1.5	ug/Kg		04/11/18 19:00	04/12/18 05:03	1
Xylenes, Total	ND		5.7	0.70	ug/Kg		04/11/18 19:00	04/12/18 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*75*		*58 - 140*	*04/11/18 19:00*	*04/12/18 05:03*	*1*
4-Bromofluorobenzene (Surr)	*96*		*76 - 127*	*04/11/18 19:00*	*04/12/18 05:03*	*1*
Dibromofluoromethane (Surr)	*88*		*75 - 121*	*04/11/18 19:00*	*04/12/18 05:03*	*1*
Toluene-d8 (Surr)	*90*		*80 - 126*	*04/11/18 19:00*	*04/12/18 05:03*	*1*

TestAmerica Denver

Client Sample ID: PCS AC7
Date Collected: 03/29/18 12:05
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	0.64	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,1,1-Trichloroethane	ND		5.7	0.60	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,1,2,2-Tetrachloroethane	ND		5.7	0.70	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,1,2-Trichloroethane	ND		5.7	1.0	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,1-Dichloroethane	ND		5.7	0.24	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,1-Dichloroethene	ND		5.7	0.68	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,1-Dichloropropene	ND		5.7	0.62	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2,3-Trichlorobenzene	ND		5.7	0.86	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2,3-Trichloropropane	ND		5.7	0.93	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2,4-Trichlorobenzene	ND		5.7	0.84	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2,4-Trimethylbenzene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2-Dibromo-3-Chloropropane	ND		11	0.69	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2-Dibromoethane	ND		5.7	0.60	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2-Dichlorobenzene	ND		5.7	0.52	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2-Dichloroethane	ND		5.7	0.80	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2-Dichloroethene, Total	**4.1**	**J**	5.7	0.45	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,2-Dichloropropane	ND		5.7	0.63	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,3,5-Trimethylbenzene	ND		5.7	0.66	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,3-Dichlorobenzene	ND		5.7	0.55	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,3-Dichloropropane	ND		5.7	0.59	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
1,4-Dichlorobenzene	ND		5.7	0.90	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
2,2-Dichloropropane	ND		5.7	0.51	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
2-Butanone (MEK)	**6.0**	**J B**	23	2.1	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
2-Chlorotoluene	ND		5.7	0.59	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
2-Hexanone	ND		23	5.6	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
4-Chlorotoluene	ND		5.7	0.90	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
4-Isopropyltoluene	ND		5.7	0.56	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
4-Methyl-2-pentanone (MIBK)	ND		23	5.0	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Acetone	**12**	**J B**	23	6.2	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Benzene	ND		5.7	0.54	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Bromobenzene	ND		5.7	0.56	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Bromoform	ND		5.7	0.26	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Bromomethane	ND		11	0.57	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Carbon tetrachloride	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Chlorobenzene	ND		5.7	0.62	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Chlorobromomethane	ND		5.7	0.34	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Chlorodibromomethane	ND		5.7	0.66	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Chloroethane	ND		11	1.0	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Chloroform	ND		11	0.33	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Chloromethane	ND		11	0.89	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
cis-1,2-Dichloroethene	**4.1**		2.9	0.64	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
cis-1,3-Dichloropropene	ND		5.7	1.5	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Dibromomethane	ND		5.7	0.97	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Dichlorobromomethane	ND		5.7	0.25	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Dichlorodifluoromethane	ND		11	0.60	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Ethylbenzene	ND		5.7	0.77	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Hexachlorobutadiene	ND		5.7	0.63	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Isopropylbenzene	ND		5.7	0.68	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Methyl tert-butyl ether	ND		23	0.39	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Methylene Chloride	ND		5.7	1.8	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
m-Xylene & p-Xylene	ND		2.9	1.2	ug/Kg		04/11/18 19:00	04/12/18 05:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC7
Date Collected: 03/29/18 12:05
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
n-Butylbenzene	ND		5.7	0.64	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
N-Propylbenzene	ND		5.7	0.67	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
o-Xylene	ND		2.9	0.70	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
sec-Butylbenzene	ND		5.7	0.89	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Styrene	ND		5.7	0.72	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
tert-Butylbenzene	ND		5.7	0.57	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Tetrachloroethene	ND		5.7	0.68	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Toluene	ND		5.7	0.79	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
trans-1,2-Dichloroethene	ND		2.9	0.45	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
trans-1,3-Dichloropropene	ND		5.7	0.77	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Trichloroethene	ND		5.7	0.26	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Vinyl chloride	ND		5.7	1.5	ug/Kg		04/11/18 19:00	04/12/18 05:24	1
Xylenes, Total	ND		5.7	0.70	ug/Kg		04/11/18 19:00	04/12/18 05:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*77*		*58 - 140*	*04/11/18 19:00*	*04/12/18 05:24*	*1*
4-Bromofluorobenzene (Surr)	*96*		*76 - 127*	*04/11/18 19:00*	*04/12/18 05:24*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 121*	*04/11/18 19:00*	*04/12/18 05:24*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/11/18 19:00*	*04/12/18 05:24*	*1*

Client Sample ID: PCS AC8
Date Collected: 03/29/18 12:10
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,1,1-Trichloroethane	ND		5.2	0.54	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,1,2-Trichloroethane	ND		5.2	0.92	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,1-Dichloroethane	ND		5.2	0.22	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,1-Dichloroethene	ND		5.2	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,1-Dichloropropene	ND		5.2	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2,3-Trichlorobenzene	ND		5.2	0.78	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2,3-Trichloropropane	ND		5.2	0.84	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2,4-Trichlorobenzene	ND		5.2	0.76	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2,4-Trimethylbenzene	ND		5.2	0.60	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2-Dibromo-3-Chloropropane	ND		10	0.62	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2-Dibromoethane	ND		5.2	0.54	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2-Dichlorobenzene	ND		5.2	0.47	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2-Dichloroethane	ND		5.2	0.73	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2-Dichloroethene, Total	ND		5.2	0.41	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,2-Dichloropropane	ND		5.2	0.57	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,3,5-Trimethylbenzene	ND		5.2	0.59	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,3-Dichlorobenzene	ND		5.2	0.50	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,3-Dichloropropane	ND		5.2	0.53	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
1,4-Dichlorobenzene	ND		5.2	0.81	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
2,2-Dichloropropane	ND		5.2	0.46	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
2-Butanone (MEK)	**9.2**	**J B**	21	1.9	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
2-Chlorotoluene	ND		5.2	0.53	ug/Kg		04/10/18 20:00	04/11/18 04:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC8
Date Collected: 03/29/18 12:10
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		21	5.1	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
4-Chlorotoluene	ND		5.2	0.81	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
4-Isopropyltoluene	ND		5.2	0.51	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.5	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Acetone	**18**	**J**	21	5.6	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Benzene	ND		5.2	0.49	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Bromobenzene	ND		5.2	0.51	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Bromoform	ND		5.2	0.24	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Bromomethane	ND		10	0.52	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Carbon tetrachloride	ND		5.2	0.66	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Chlorobenzene	ND		5.2	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Chlorobromomethane	ND		5.2	0.31	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Chlorodibromomethane	ND		5.2	0.59	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Chloroethane	ND		10	0.93	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Chloroform	ND		10	0.30	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Chloromethane	ND		10	0.80	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
cis-1,2-Dichloroethene	ND		2.6	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
cis-1,3-Dichloropropene	ND		5.2	1.3	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Dibromomethane	ND		5.2	0.87	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Dichlorobromomethane	ND		5.2	0.23	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Dichlorodifluoromethane	ND		10	0.54	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Ethylbenzene	ND		5.2	0.70	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Hexachlorobutadiene	ND		5.2	0.57	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Isopropylbenzene	ND		5.2	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Methyl tert-butyl ether	ND		21	0.35	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Methylene Chloride	ND		5.2	1.7	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
m-Xylene & p-Xylene	ND		2.6	1.1	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Naphthalene	ND		5.2	0.66	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
n-Butylbenzene	ND		5.2	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
N-Propylbenzene	ND		5.2	0.60	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
o-Xylene	ND		2.6	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
sec-Butylbenzene	ND		5.2	0.80	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Styrene	ND		5.2	0.66	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
tert-Butylbenzene	ND		5.2	0.52	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Tetrachloroethene	ND		5.2	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Toluene	ND		5.2	0.72	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
trans-1,2-Dichloroethene	ND		2.6	0.41	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
trans-1,3-Dichloropropene	ND		5.2	0.70	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Trichloroethene	ND		5.2	0.24	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Trichlorofluoromethane	ND		10	1.1	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Vinyl chloride	ND		5.2	1.4	ug/Kg		04/10/18 20:00	04/11/18 04:12	1
Xylenes, Total	ND		5.2	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*58 - 140*	*04/10/18 20:00*	*04/11/18 04:12*	*1*
4-Bromofluorobenzene (Surr)	*106*		*76 - 127*	*04/10/18 20:00*	*04/11/18 04:12*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 121*	*04/10/18 20:00*	*04/11/18 04:12*	*1*
Toluene-d8 (Surr)	*93*		*80 - 126*	*04/10/18 20:00*	*04/11/18 04:12*	*1*

Client Sample Results

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: PCS AC9
Date Collected: 03/29/18 12:15
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,1,1-Trichloroethane	ND		5.0	0.52	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,1,2-Trichloroethane	ND		5.0	0.88	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,1-Dichloroethane	ND		5.0	0.21	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,1-Dichloroethene	ND		5.0	0.59	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,1-Dichloropropene	ND		5.0	0.54	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2,3-Trichlorobenzene	ND		5.0	0.75	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2,3-Trichloropropane	ND		5.0	0.81	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2,4-Trichlorobenzene	ND		5.0	0.73	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2,4-Trimethylbenzene	ND		5.0	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2-Dibromo-3-Chloropropane	ND		10	0.60	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2-Dibromoethane	ND		5.0	0.52	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2-Dichlorobenzene	ND		5.0	0.45	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2-Dichloroethane	ND		5.0	0.70	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2-Dichloroethene, Total	ND		5.0	0.39	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,2-Dichloropropane	ND		5.0	0.55	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,3,5-Trimethylbenzene	ND		5.0	0.57	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,3-Dichlorobenzene	ND		5.0	0.48	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,3-Dichloropropane	ND		5.0	0.51	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
1,4-Dichlorobenzene	ND		5.0	0.78	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
2,2-Dichloropropane	ND		5.0	0.44	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
2-Butanone (MEK)	**7.5**	**J B**	20	1.8	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
2-Chlorotoluene	ND		5.0	0.51	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
2-Hexanone	ND		20	4.9	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
4-Chlorotoluene	ND		5.0	0.78	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
4-Isopropyltoluene	ND		5.0	0.49	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
4-Methyl-2-pentanone (MIBK)	ND		20	4.4	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Acetone	**20**		20	5.4	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Benzene	ND		5.0	0.47	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Bromobenzene	ND		5.0	0.49	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Bromoform	ND		5.0	0.23	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Bromomethane	ND		10	0.50	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Carbon tetrachloride	ND		5.0	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Chlorobenzene	ND		5.0	0.54	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Chlorobromomethane	ND		5.0	0.30	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Chlorodibromomethane	ND		5.0	0.57	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Chloroethane	ND		10	0.89	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Chloroform	ND		10	0.29	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Chloromethane	ND		10	0.77	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
cis-1,2-Dichloroethene	ND		2.5	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
cis-1,3-Dichloropropene	ND		5.0	1.3	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Dibromomethane	ND		5.0	0.84	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Dichlorobromomethane	ND		5.0	0.22	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Dichlorodifluoromethane	ND		10	0.52	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Ethylbenzene	ND		5.0	0.67	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Hexachlorobutadiene	ND		5.0	0.55	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Isopropylbenzene	ND		5.0	0.59	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Methyl tert-butyl ether	ND		20	0.34	ug/Kg		04/10/18 20:00	04/11/18 04:32	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC9
Date Collected: 03/29/18 12:15
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	1.6	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
m-Xylene & p-Xylene	ND		2.5	1.0	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Naphthalene	ND		5.0	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
n-Butylbenzene	ND		5.0	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
N-Propylbenzene	ND		5.0	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
o-Xylene	ND		2.5	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
sec-Butylbenzene	ND		5.0	0.77	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Styrene	ND		5.0	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
tert-Butylbenzene	ND		5.0	0.50	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Tetrachloroethene	ND		5.0	0.59	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Toluene	ND		5.0	0.69	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
trans-1,2-Dichloroethene	ND		2.5	0.39	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
trans-1,3-Dichloropropene	ND		5.0	0.67	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Trichloroethene	ND		5.0	0.23	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Trichlorofluoromethane	ND		10	1.0	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Vinyl chloride	ND		5.0	1.3	ug/Kg		04/10/18 20:00	04/11/18 04:32	1
Xylenes, Total	ND		5.0	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*58 - 140*	*04/10/18 20:00*	*04/11/18 04:32*	*1*
4-Bromofluorobenzene (Surr)	*105*		*76 - 127*	*04/10/18 20:00*	*04/11/18 04:32*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 121*	*04/10/18 20:00*	*04/11/18 04:32*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/10/18 20:00*	*04/11/18 04:32*	*1*

Client Sample ID: PCS AC10
Date Collected: 03/29/18 12:20
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,1,1-Trichloroethane	ND		5.6	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.68	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,1,2-Trichloroethane	ND		5.6	0.99	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,1-Dichloroethane	ND		5.6	0.24	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,1-Dichloroethene	ND		5.6	0.66	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,1-Dichloropropene	ND		5.6	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2,3-Trichlorobenzene	ND		5.6	0.84	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2,3-Trichloropropane	ND		5.6	0.91	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2,4-Trichlorobenzene	ND		5.6	0.82	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2,4-Trimethylbenzene	ND		5.6	0.65	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2-Dibromo-3-Chloropropane	ND		11	0.67	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2-Dibromoethane	ND		5.6	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2-Dichlorobenzene	ND		5.6	0.50	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2-Dichloroethane	ND		5.6	0.79	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2-Dichloroethene, Total	ND		5.6	0.44	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,2-Dichloropropane	ND		5.6	0.62	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,3,5-Trimethylbenzene	ND		5.6	0.64	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,3-Dichlorobenzene	ND		5.6	0.54	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,3-Dichloropropane	ND		5.6	0.57	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
1,4-Dichlorobenzene	ND		5.6	0.88	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
2,2-Dichloropropane	ND		5.6	0.49	ug/Kg		04/10/18 20:00	04/11/18 04:52	1

Client Sample Results

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC10
Date Collected: 03/29/18 12:20
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	**6.1**	**J B**	22	2.1	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
2-Chlorotoluene	ND		5.6	0.57	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
2-Hexanone	ND		22	5.5	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
4-Chlorotoluene	ND		5.6	0.88	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
4-Isopropyltoluene	ND		5.6	0.55	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
4-Methyl-2-pentanone (MIBK)	ND		22	4.9	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Acetone	**12**	**J**	22	6.0	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Benzene	ND		5.6	0.53	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Bromobenzene	ND		5.6	0.55	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Bromoform	ND		5.6	0.26	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Bromomethane	ND		11	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Carbon tetrachloride	ND		5.6	0.71	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Chlorobenzene	ND		5.6	0.61	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Chlorobromomethane	ND		5.6	0.34	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Chlorodibromomethane	ND		5.6	0.64	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Chloroethane	ND		11	1.0	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Chloroform	ND		11	0.33	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Chloromethane	ND		11	0.86	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
cis-1,2-Dichloroethene	ND		2.8	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
cis-1,3-Dichloropropene	ND		5.6	1.4	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Dibromomethane	ND		5.6	0.94	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Dichlorobromomethane	ND		5.6	0.25	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Dichlorodifluoromethane	ND		11	0.58	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Ethylbenzene	ND		5.6	0.75	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Hexachlorobutadiene	ND		5.6	0.62	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Isopropylbenzene	ND		5.6	0.66	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Methyl tert-butyl ether	ND		22	0.38	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Methylene Chloride	ND		5.6	1.8	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
m-Xylene & p-Xylene	ND		2.8	1.2	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Naphthalene	ND		5.6	0.71	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
n-Butylbenzene	ND		5.6	0.63	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
N-Propylbenzene	ND		5.6	0.65	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
o-Xylene	ND		2.8	0.68	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
sec-Butylbenzene	ND		5.6	0.86	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Styrene	ND		5.6	0.71	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
tert-Butylbenzene	ND		5.6	0.56	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Tetrachloroethene	ND		5.6	0.66	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Toluene	ND		5.6	0.77	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
trans-1,2-Dichloroethene	ND		2.8	0.44	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
trans-1,3-Dichloropropene	ND		5.6	0.75	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Trichloroethene	ND		5.6	0.26	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Vinyl chloride	ND		5.6	1.5	ug/Kg		04/10/18 20:00	04/11/18 04:52	1
Xylenes, Total	ND		5.6	0.68	ug/Kg		04/10/18 20:00	04/11/18 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*58 - 140*	*04/10/18 20:00*	*04/11/18 04:52*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 127*	*04/10/18 20:00*	*04/11/18 04:52*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 121*	*04/10/18 20:00*	*04/11/18 04:52*	*1*
Toluene-d8 (Surr)	*93*		*80 - 126*	*04/10/18 20:00*	*04/11/18 04:52*	*1*

Client Sample ID: PCS AC11
Date Collected: 03/29/18 12:25
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.62	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,1,1-Trichloroethane	ND		5.6	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.68	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,1,2-Trichloroethane	ND		5.6	0.98	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,1-Dichloroethane	ND		5.6	0.23	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,1-Dichloroethene	ND		5.6	0.66	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,1-Dichloropropene	ND		5.6	0.60	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2,3-Trichlorobenzene	ND		5.6	0.84	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2,3-Trichloropropane	ND		5.6	0.90	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2,4-Trichlorobenzene	ND		5.6	0.81	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2,4-Trimethylbenzene	ND		5.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2-Dibromo-3-Chloropropane	ND		11	0.67	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2-Dibromoethane	ND		5.6	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2-Dichlorobenzene	ND		5.6	0.50	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2-Dichloroethane	ND		5.6	0.78	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2-Dichloroethene, Total	ND		5.6	0.43	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,2-Dichloropropane	ND		5.6	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,3,5-Trimethylbenzene	ND		5.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,3-Dichlorobenzene	ND		5.6	0.53	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,3-Dichloropropane	ND		5.6	0.57	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
1,4-Dichlorobenzene	ND		5.6	0.87	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
2,2-Dichloropropane	ND		5.6	0.49	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
2-Butanone (MEK)	**9.7**	**J**	22	2.0	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
2-Chlorotoluene	ND		5.6	0.57	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
2-Hexanone	ND		22	5.5	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
4-Chlorotoluene	ND		5.6	0.87	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
4-Isopropyltoluene	ND		5.6	0.55	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
4-Methyl-2-pentanone (MIBK)	ND		22	4.9	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Acetone	**29**	**B**	22	6.0	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Benzene	ND		5.6	0.52	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Bromobenzene	ND		5.6	0.55	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Bromoform	ND		5.6	0.26	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Bromomethane	ND		11	0.56	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Carbon tetrachloride	ND		5.6	0.70	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Chlorobenzene	ND		5.6	0.60	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Chlorobromomethane	ND		5.6	0.33	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Chlorodibromomethane	ND		5.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Chloroethane	ND		11	0.99	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Chloroform	ND		11	0.32	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Chloromethane	ND		11	0.86	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
cis-1,2-Dichloroethene	ND		2.8	0.62	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
cis-1,3-Dichloropropene	ND		5.6	1.4	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Dibromomethane	ND		5.6	0.94	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Dichlorobromomethane	ND		5.6	0.25	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Dichlorodifluoromethane	ND		11	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Ethylbenzene	ND		5.6	0.75	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Hexachlorobutadiene	ND		5.6	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Isopropylbenzene	ND		5.6	0.66	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Methyl tert-butyl ether	ND		22	0.38	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Methylene Chloride	**1.8**	**J**	5.6	1.8	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
m-Xylene & p-Xylene	ND		2.8	1.2	ug/Kg		04/12/18 18:38	04/12/18 19:17	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC11
Date Collected: 03/29/18 12:25
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		5.6	0.70	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
n-Butylbenzene	ND		5.6	0.62	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
N-Propylbenzene	ND		5.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
o-Xylene	ND		2.8	0.68	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
sec-Butylbenzene	ND		5.6	0.86	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Styrene	ND		5.6	0.70	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
tert-Butylbenzene	ND		5.6	0.56	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Tetrachloroethene	ND		5.6	0.66	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Toluene	ND		5.6	0.77	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
trans-1,2-Dichloroethene	ND		2.8	0.43	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
trans-1,3-Dichloropropene	ND		5.6	0.75	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Trichloroethene	ND		5.6	0.26	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Vinyl chloride	ND		5.6	1.5	ug/Kg		04/12/18 18:38	04/12/18 19:17	1
Xylenes, Total	ND		5.6	0.68	ug/Kg		04/12/18 18:38	04/12/18 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*58 - 140*	*04/12/18 18:38*	*04/12/18 19:17*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 127*	*04/12/18 18:38*	*04/12/18 19:17*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 121*	*04/12/18 18:38*	*04/12/18 19:17*	*1*
Toluene-d8 (Surr)	*98*		*80 - 126*	*04/12/18 18:38*	*04/12/18 19:17*	*1*

Client Sample ID: PCS AC12
Date Collected: 03/29/18 12:30
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.63	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,1,1-Trichloroethane	ND		5.6	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.68	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,1,2-Trichloroethane	ND		5.6	0.99	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,1-Dichloroethane	ND		5.6	0.24	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,1-Dichloroethene	ND		5.6	0.66	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,1-Dichloropropene	ND		5.6	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2,3-Trichlorobenzene	ND		5.6	0.84	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2,3-Trichloropropane	ND		5.6	0.91	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2,4-Trichlorobenzene	ND		5.6	0.82	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2,4-Trimethylbenzene	ND		5.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2-Dibromo-3-Chloropropane	ND		11	0.67	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2-Dibromoethane	ND		5.6	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2-Dichlorobenzene	ND		5.6	0.50	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2-Dichloroethane	ND		5.6	0.79	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2-Dichloroethene, Total	ND		5.6	0.44	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,2-Dichloropropane	ND		5.6	0.62	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,3,5-Trimethylbenzene	ND		5.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,3-Dichlorobenzene	ND		5.6	0.54	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,3-Dichloropropane	ND		5.6	0.57	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
1,4-Dichlorobenzene	ND		5.6	0.88	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
2,2-Dichloropropane	ND		5.6	0.49	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
2-Butanone (MEK)	**3.8**	**J**	22	2.1	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
2-Chlorotoluene	ND		5.6	0.57	ug/Kg		04/12/18 18:38	04/12/18 19:38	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC12
Date Collected: 03/29/18 12:30
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		22	5.5	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
4-Chlorotoluene	ND		5.6	0.88	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
4-Isopropyltoluene	ND		5.6	0.55	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
4-Methyl-2-pentanone (MIBK)	ND		22	4.9	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Acetone	**12**	**J B**	22	6.0	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Benzene	ND		5.6	0.53	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Bromobenzene	ND		5.6	0.55	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Bromoform	ND		5.6	0.26	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Bromomethane	ND		11	0.56	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Carbon tetrachloride	ND		5.6	0.71	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Chlorobenzene	ND		5.6	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Chlorobromomethane	ND		5.6	0.34	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Chlorodibromomethane	ND		5.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Chloroethane	ND		11	1.0	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Chloroform	ND		11	0.33	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Chloromethane	ND		11	0.86	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
cis-1,2-Dichloroethene	ND		2.8	0.63	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
cis-1,3-Dichloropropene	ND		5.6	1.4	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Dibromomethane	ND		5.6	0.94	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Dichlorobromomethane	ND		5.6	0.25	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Dichlorodifluoromethane	ND		11	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Ethylbenzene	ND		5.6	0.75	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Hexachlorobutadiene	ND		5.6	0.62	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Isopropylbenzene	ND		5.6	0.66	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Methyl tert-butyl ether	ND		22	0.38	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Methylene Chloride	ND		5.6	1.8	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
m-Xylene & p-Xylene	ND		2.8	1.2	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Naphthalene	ND		5.6	0.71	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
n-Butylbenzene	ND		5.6	0.63	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
N-Propylbenzene	ND		5.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
o-Xylene	ND		2.8	0.68	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
sec-Butylbenzene	ND		5.6	0.86	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Styrene	ND		5.6	0.71	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
tert-Butylbenzene	ND		5.6	0.56	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Tetrachloroethene	ND		5.6	0.66	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Toluene	ND		5.6	0.77	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
trans-1,2-Dichloroethene	ND		2.8	0.44	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
trans-1,3-Dichloropropene	ND		5.6	0.75	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Trichloroethene	ND		5.6	0.26	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Vinyl chloride	ND		5.6	1.5	ug/Kg		04/12/18 18:38	04/12/18 19:38	1
Xylenes, Total	ND		5.6	0.68	ug/Kg		04/12/18 18:38	04/12/18 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*76*		*58 - 140*	*04/12/18 18:38*	*04/12/18 19:38*	*1*
4-Bromofluorobenzene (Surr)	*97*		*76 - 127*	*04/12/18 18:38*	*04/12/18 19:38*	*1*
Dibromofluoromethane (Surr)	*88*		*75 - 121*	*04/12/18 18:38*	*04/12/18 19:38*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/12/18 18:38*	*04/12/18 19:38*	*1*

Client Sample Results

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: PCS AC13
Date Collected: 03/29/18 12:36
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-13
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,1,1-Trichloroethane	ND		5.2	0.54	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.63	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,1,2-Trichloroethane	ND		5.2	0.91	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,1-Dichloroethane	ND		5.2	0.22	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,1-Dichloroethene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,1-Dichloropropene	ND		5.2	0.56	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2,3-Trichlorobenzene	ND		5.2	0.78	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2,3-Trichloropropane	ND		5.2	0.84	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2,4-Trichlorobenzene	ND		5.2	0.76	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2,4-Trimethylbenzene	ND		5.2	0.60	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2-Dibromo-3-Chloropropane	ND		10	0.62	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2-Dibromoethane	ND		5.2	0.54	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2-Dichlorobenzene	ND		5.2	0.47	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2-Dichloroethane	ND		5.2	0.73	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2-Dichloroethene, Total	ND		5.2	0.40	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,2-Dichloropropane	ND		5.2	0.57	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,3,5-Trimethylbenzene	ND		5.2	0.59	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,3-Dichlorobenzene	ND		5.2	0.50	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,3-Dichloropropane	ND		5.2	0.53	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
1,4-Dichlorobenzene	ND		5.2	0.81	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
2,2-Dichloropropane	ND		5.2	0.46	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
2-Butanone (MEK)	**1.9**	**J**	21	1.9	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
2-Chlorotoluene	ND		5.2	0.53	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
2-Hexanone	ND		21	5.1	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
4-Chlorotoluene	ND		5.2	0.81	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
4-Isopropyltoluene	ND		5.2	0.51	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.5	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Acetone	**6.0**	**J B**	21	5.6	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Benzene	ND		5.2	0.49	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Bromobenzene	ND		5.2	0.51	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Bromoform	ND		5.2	0.24	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Bromomethane	ND		10	0.52	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Carbon tetrachloride	ND		5.2	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Chlorobenzene	ND		5.2	0.56	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Chlorobromomethane	ND		5.2	0.31	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Chlorodibromomethane	ND		5.2	0.59	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Chloroethane	ND		10	0.92	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Chloroform	ND		10	0.30	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Chloromethane	ND		10	0.80	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
cis-1,2-Dichloroethene	ND		2.6	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
cis-1,3-Dichloropropene	ND		5.2	1.3	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Dibromomethane	ND		5.2	0.87	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Dichlorobromomethane	ND		5.2	0.23	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Dichlorodifluoromethane	ND		10	0.54	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Ethylbenzene	ND		5.2	0.69	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Hexachlorobutadiene	ND		5.2	0.57	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Isopropylbenzene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Methyl tert-butyl ether	ND		21	0.35	ug/Kg		04/12/18 18:38	04/12/18 19:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC13
Date Collected: 03/29/18 12:36
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-13
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.2	1.7	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
m-Xylene & p-Xylene	ND		2.6	1.1	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Naphthalene	ND		5.2	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
n-Butylbenzene	ND		5.2	0.58	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
N-Propylbenzene	ND		5.2	0.60	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
o-Xylene	ND		2.6	0.63	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
sec-Butylbenzene	ND		5.2	0.80	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Styrene	ND		5.2	0.65	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
tert-Butylbenzene	ND		5.2	0.52	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Tetrachloroethene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Toluene	ND		5.2	0.72	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
trans-1,2-Dichloroethene	ND		2.6	0.40	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
trans-1,3-Dichloropropene	ND		5.2	0.69	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Trichloroethene	ND		5.2	0.24	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Trichlorofluoromethane	ND		10	1.1	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Vinyl chloride	ND		5.2	1.4	ug/Kg		04/12/18 18:38	04/12/18 19:58	1
Xylenes, Total	ND		5.2	0.63	ug/Kg		04/12/18 18:38	04/12/18 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*58 - 140*	*04/12/18 18:38*	*04/12/18 19:58*	*1*
4-Bromofluorobenzene (Surr)	*95*		*76 - 127*	*04/12/18 18:38*	*04/12/18 19:58*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 121*	*04/12/18 18:38*	*04/12/18 19:58*	*1*
Toluene-d8 (Surr)	*92*		*80 - 126*	*04/12/18 18:38*	*04/12/18 19:58*	*1*

Client Sample ID: PCS AC14
Date Collected: 03/29/18 12:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.63	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,1,1-Trichloroethane	ND		5.6	0.59	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.69	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,1,2-Trichloroethane	ND		5.6	0.99	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,1-Dichloroethane	ND		5.6	0.24	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,1-Dichloroethene	ND		5.6	0.67	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,1-Dichloropropene	ND		5.6	0.61	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2,3-Trichlorobenzene	ND		5.6	0.85	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2,3-Trichloropropane	ND		5.6	0.91	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2,4-Trichlorobenzene	ND		5.6	0.82	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2,4-Trimethylbenzene	ND		5.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2-Dibromo-3-Chloropropane	ND		11	0.68	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2-Dibromoethane	ND		5.6	0.59	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2-Dichlorobenzene	ND		5.6	0.51	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2-Dichloroethane	ND		5.6	0.79	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2-Dichloroethene, Total	ND		5.6	0.44	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,2-Dichloropropane	ND		5.6	0.62	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,3,5-Trimethylbenzene	ND		5.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,3-Dichlorobenzene	ND		5.6	0.54	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,3-Dichloropropane	ND		5.6	0.57	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
1,4-Dichlorobenzene	ND		5.6	0.88	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
2,2-Dichloropropane	ND		5.6	0.50	ug/Kg		04/12/18 18:38	04/12/18 20:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC14
Date Collected: 03/29/18 12:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	**6.7**	**J**	23	2.1	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
2-Chlorotoluene	ND		5.6	0.57	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
2-Hexanone	ND		23	5.5	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
4-Chlorotoluene	ND		5.6	0.88	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
4-Isopropyltoluene	ND		5.6	0.55	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
4-Methyl-2-pentanone (MIBK)	ND		23	4.9	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Acetone	**19**	**J B**	23	6.1	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Benzene	ND		5.6	0.53	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Bromobenzene	ND		5.6	0.55	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Bromoform	ND		5.6	0.26	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Bromomethane	ND		11	0.56	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Carbon tetrachloride	ND		5.6	0.71	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Chlorobenzene	ND		5.6	0.61	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Chlorobromomethane	ND		5.6	0.34	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Chlorodibromomethane	ND		5.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Chloroethane	ND		11	1.0	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Chloroform	ND		11	0.33	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Chloromethane	ND		11	0.87	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
cis-1,2-Dichloroethene	ND		2.8	0.63	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
cis-1,3-Dichloropropene	ND		5.6	1.5	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Dibromomethane	ND		5.6	0.95	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Dichlorobromomethane	ND		5.6	0.25	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Dichlorodifluoromethane	ND		11	0.59	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Ethylbenzene	ND		5.6	0.76	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Hexachlorobutadiene	ND		5.6	0.62	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Isopropylbenzene	ND		5.6	0.67	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Methyl tert-butyl ether	ND		23	0.38	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Methylene Chloride	ND		5.6	1.8	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
m-Xylene & p-Xylene	ND		2.8	1.2	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Naphthalene	ND		5.6	0.71	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
n-Butylbenzene	ND		5.6	0.63	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
N-Propylbenzene	ND		5.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
o-Xylene	ND		2.8	0.69	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
sec-Butylbenzene	ND		5.6	0.87	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Styrene	ND		5.6	0.71	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
tert-Butylbenzene	ND		5.6	0.56	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Tetrachloroethene	ND		5.6	0.67	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Toluene	ND		5.6	0.78	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
trans-1,2-Dichloroethene	ND		2.8	0.44	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
trans-1,3-Dichloropropene	ND		5.6	0.76	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Trichloroethene	ND		5.6	0.26	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Trichlorofluoromethane	ND		11	1.2	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Vinyl chloride	ND		5.6	1.5	ug/Kg		04/12/18 18:38	04/12/18 20:59	1
Xylenes, Total	ND		5.6	0.69	ug/Kg		04/12/18 18:38	04/12/18 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*58 - 140*	*04/12/18 18:38*	*04/12/18 20:59*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 127*	*04/12/18 18:38*	*04/12/18 20:59*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 121*	*04/12/18 18:38*	*04/12/18 20:59*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/12/18 18:38*	*04/12/18 20:59*	*1*

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC15
Date Collected: 03/29/18 12:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.59	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,1,1-Trichloroethane	ND		5.2	0.54	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.64	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,1,2-Trichloroethane	ND		5.2	0.92	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,1-Dichloroethane	ND		5.2	0.22	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,1-Dichloroethene	ND		5.2	0.62	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,1-Dichloropropene	ND		5.2	0.56	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2,3-Trichlorobenzene	ND		5.2	0.78	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2,3-Trichloropropane	ND		5.2	0.85	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2,4-Trichlorobenzene	ND		5.2	0.76	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2,4-Trimethylbenzene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2-Dibromo-3-Chloropropane	ND		10	0.63	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2-Dibromoethane	ND		5.2	0.54	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2-Dichlorobenzene	ND		5.2	0.47	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2-Dichloroethane	ND		5.2	0.73	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2-Dichloroethene, Total	ND		5.2	0.41	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,2-Dichloropropane	ND		5.2	0.58	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,3,5-Trimethylbenzene	ND		5.2	0.60	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,3-Dichlorobenzene	ND		5.2	0.50	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,3-Dichloropropane	ND		5.2	0.53	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
1,4-Dichlorobenzene	ND		5.2	0.82	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
2,2-Dichloropropane	ND		5.2	0.46	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
2-Butanone (MEK)	**8.8**	**J**	21	1.9	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
2-Chlorotoluene	ND		5.2	0.53	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
2-Hexanone	ND		21	5.1	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
4-Chlorotoluene	ND		5.2	0.82	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
4-Isopropyltoluene	ND		5.2	0.51	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.6	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Acetone	**27**	**B**	21	5.6	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Benzene	ND		5.2	0.49	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Bromobenzene	ND		5.2	0.51	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Bromoform	ND		5.2	0.24	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Bromomethane	ND		10	0.52	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Carbon tetrachloride	ND		5.2	0.66	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Chlorobenzene	ND		5.2	0.56	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Chlorobromomethane	ND		5.2	0.31	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Chlorodibromomethane	ND		5.2	0.60	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Chloroethane	ND		10	0.93	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Chloroform	ND		10	0.30	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Chloromethane	ND		10	0.81	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
cis-1,2-Dichloroethene	ND		2.6	0.59	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
cis-1,3-Dichloropropene	ND		5.2	1.3	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Dibromomethane	ND		5.2	0.88	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Dichlorobromomethane	ND		5.2	0.23	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Dichlorodifluoromethane	ND		10	0.54	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Ethylbenzene	ND		5.2	0.70	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Hexachlorobutadiene	ND		5.2	0.58	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Isopropylbenzene	ND		5.2	0.62	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Methyl tert-butyl ether	ND		21	0.36	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Methylene Chloride	**1.9**	**J**	5.2	1.7	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
m-Xylene & p-Xylene	ND		2.6	1.1	ug/Kg		04/12/18 18:38	04/12/18 21:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC15
Date Collected: 03/29/18 12:46
Date Received: 03/30/18 08:50
Lab Sample ID: 280-107960-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		5.2	0.66	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
n-Butylbenzene	ND		5.2	0.59	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
N-Propylbenzene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
o-Xylene	ND		2.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
sec-Butylbenzene	ND		5.2	0.81	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Styrene	ND		5.2	0.66	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
tert-Butylbenzene	ND		5.2	0.52	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Tetrachloroethene	ND		5.2	0.62	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Toluene	ND		5.2	0.72	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
trans-1,2-Dichloroethene	ND		2.6	0.41	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
trans-1,3-Dichloropropene	ND		5.2	0.70	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Trichloroethene	ND		5.2	0.24	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Trichlorofluoromethane	ND		10	1.1	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Vinyl chloride	ND		5.2	1.4	ug/Kg		04/12/18 18:38	04/12/18 21:20	1
Xylenes, Total	ND		5.2	0.64	ug/Kg		04/12/18 18:38	04/12/18 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*76*		*58 - 140*	*04/12/18 18:38*	*04/12/18 21:20*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 127*	*04/12/18 18:38*	*04/12/18 21:20*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 121*	*04/12/18 18:38*	*04/12/18 21:20*	*1*
Toluene-d8 (Surr)	*96*		*80 - 126*	*04/12/18 18:38*	*04/12/18 21:20*	*1*

Client Sample ID: PCS AC16
Date Collected: 03/29/18 12:51
Date Received: 03/30/18 08:50
Lab Sample ID: 280-107960-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.3	0.59	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,1,1-Trichloroethane	ND		5.3	0.55	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,1,2,2-Tetrachloroethane	ND		5.3	0.64	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,1,2-Trichloroethane	ND		5.3	0.92	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,1-Dichloroethane	ND		5.3	0.22	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,1-Dichloroethene	ND		5.3	0.62	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,1-Dichloropropene	ND		5.3	0.57	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2,3-Trichlorobenzene	ND		5.3	0.79	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2,3-Trichloropropane	ND		5.3	0.85	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2,4-Trichlorobenzene	ND		5.3	0.77	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2,4-Trimethylbenzene	ND		5.3	0.61	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2-Dibromo-3-Chloropropane	ND		11	0.63	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2-Dibromoethane	ND		5.3	0.55	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2-Dichlorobenzene	ND		5.3	0.47	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2-Dichloroethane	ND		5.3	0.74	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2-Dichloroethene, Total	ND		5.3	0.41	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,2-Dichloropropane	ND		5.3	0.58	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,3,5-Trimethylbenzene	ND		5.3	0.60	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,3-Dichlorobenzene	ND		5.3	0.50	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,3-Dichloropropane	ND		5.3	0.54	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
1,4-Dichlorobenzene	ND		5.3	0.82	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
2,2-Dichloropropane	ND		5.3	0.46	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
2-Butanone (MEK)	**7.4**	**J**	21	1.9	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
2-Chlorotoluene	ND		5.3	0.54	ug/Kg		04/12/18 18:38	04/12/18 21:40	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC16
Date Collected: 03/29/18 12:51
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		21	5.1	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
4-Chlorotoluene	ND		5.3	0.82	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
4-Isopropyltoluene	ND		5.3	0.51	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.6	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Acetone	**22**	**B**	21	5.7	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Benzene	ND		5.3	0.49	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Bromobenzene	ND		5.3	0.51	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Bromoform	ND		5.3	0.24	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Bromomethane	ND		11	0.53	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Carbon tetrachloride	ND		5.3	0.66	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Chlorobenzene	ND		5.3	0.57	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Chlorobromomethane	ND		5.3	0.32	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Chlorodibromomethane	ND		5.3	0.60	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Chloroethane	ND		11	0.94	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Chloroform	ND		11	0.30	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Chloromethane	ND		11	0.81	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
cis-1,2-Dichloroethene	ND		2.6	0.59	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
cis-1,3-Dichloropropene	ND		5.3	1.4	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Dibromomethane	ND		5.3	0.88	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Dichlorobromomethane	ND		5.3	0.23	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Dichlorodifluoromethane	ND		11	0.55	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Ethylbenzene	ND		5.3	0.70	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Hexachlorobutadiene	ND		5.3	0.58	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Isopropylbenzene	ND		5.3	0.62	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Methyl tert-butyl ether	ND		21	0.36	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Methylene Chloride	ND		5.3	1.7	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
m-Xylene & p-Xylene	ND		2.6	1.1	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Naphthalene	ND		5.3	0.66	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
n-Butylbenzene	ND		5.3	0.59	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
N-Propylbenzene	ND		5.3	0.61	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
o-Xylene	ND		2.6	0.64	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
sec-Butylbenzene	ND		5.3	0.81	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Styrene	ND		5.3	0.66	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
tert-Butylbenzene	ND		5.3	0.53	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Tetrachloroethene	ND		5.3	0.62	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Toluene	ND		5.3	0.73	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
trans-1,2-Dichloroethene	ND		2.6	0.41	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
trans-1,3-Dichloropropene	ND		5.3	0.70	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Trichloroethene	ND		5.3	0.24	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Trichlorofluoromethane	ND		11	1.1	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Vinyl chloride	ND		5.3	1.4	ug/Kg		04/12/18 18:38	04/12/18 21:40	1
Xylenes, Total	ND		5.3	0.64	ug/Kg		04/12/18 18:38	04/12/18 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*58 - 140*	*04/12/18 18:38*	*04/12/18 21:40*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 127*	*04/12/18 18:38*	*04/12/18 21:40*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 121*	*04/12/18 18:38*	*04/12/18 21:40*	*1*
Toluene-d8 (Surr)	*96*		*80 - 126*	*04/12/18 18:38*	*04/12/18 21:40*	*1*

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: PCS AC17
Date Collected: 03/29/18 12:56
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-17
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.3	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,1,1-Trichloroethane	ND		5.3	0.55	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,1,2,2-Tetrachloroethane	ND		5.3	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,1,2-Trichloroethane	ND		5.3	0.93	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,1-Dichloroethane	ND		5.3	0.22	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,1-Dichloroethene	ND		5.3	0.62	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,1-Dichloropropene	ND		5.3	0.57	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2,3-Trichlorobenzene	ND		5.3	0.79	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2,3-Trichloropropane	ND		5.3	0.86	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2,4-Trichlorobenzene	ND		5.3	0.77	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2,4-Trimethylbenzene	ND		5.3	0.61	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2-Dibromo-3-Chloropropane	ND		11	0.63	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2-Dibromoethane	ND		5.3	0.55	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2-Dichlorobenzene	ND		5.3	0.48	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2-Dichloroethane	ND		5.3	0.74	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2-Dichloroethene, Total	ND		5.3	0.41	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,2-Dichloropropane	ND		5.3	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,3,5-Trimethylbenzene	ND		5.3	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,3-Dichlorobenzene	ND		5.3	0.51	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,3-Dichloropropane	ND		5.3	0.54	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
1,4-Dichlorobenzene	ND		5.3	0.83	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
2,2-Dichloropropane	ND		5.3	0.47	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
2-Butanone (MEK)	**5.1**	**J**	21	1.9	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
2-Chlorotoluene	ND		5.3	0.54	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
2-Hexanone	ND		21	5.2	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
4-Chlorotoluene	ND		5.3	0.83	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
4-Isopropyltoluene	ND		5.3	0.52	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.6	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Acetone	**11**	**J B**	21	5.7	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Benzene	ND		5.3	0.50	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Bromobenzene	ND		5.3	0.52	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Bromoform	ND		5.3	0.24	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Bromomethane	ND		11	0.53	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Carbon tetrachloride	ND		5.3	0.67	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Chlorobenzene	ND		5.3	0.57	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Chlorobromomethane	ND		5.3	0.32	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Chlorodibromomethane	ND		5.3	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Chloroethane	ND		11	0.94	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Chloroform	ND		11	0.31	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Chloromethane	ND		11	0.81	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
cis-1,2-Dichloroethene	ND		2.6	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
cis-1,3-Dichloropropene	ND		5.3	1.4	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Dibromomethane	ND		5.3	0.89	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Dichlorobromomethane	ND		5.3	0.23	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Dichlorodifluoromethane	ND		11	0.55	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Ethylbenzene	ND		5.3	0.71	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Hexachlorobutadiene	ND		5.3	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Isopropylbenzene	ND		5.3	0.62	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Methyl tert-butyl ether	ND		21	0.36	ug/Kg		04/12/18 18:38	04/12/18 22:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC17
Date Collected: 03/29/18 12:56
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-17
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.3	1.7	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
m-Xylene & p-Xylene	ND		2.6	1.1	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Naphthalene	ND		5.3	0.67	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
n-Butylbenzene	ND		5.3	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
N-Propylbenzene	ND		5.3	0.61	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
o-Xylene	ND		2.6	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
sec-Butylbenzene	ND		5.3	0.81	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Styrene	ND		5.3	0.67	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
tert-Butylbenzene	ND		5.3	0.53	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Tetrachloroethene	ND		5.3	0.62	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Toluene	ND		5.3	0.73	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
trans-1,2-Dichloroethene	ND		2.6	0.41	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
trans-1,3-Dichloropropene	ND		5.3	0.71	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Trichloroethene	ND		5.3	0.24	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Trichlorofluoromethane	ND		11	1.1	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Vinyl chloride	ND		5.3	1.4	ug/Kg		04/12/18 18:38	04/12/18 22:00	1
Xylenes, Total	ND		5.3	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*58 - 140*	*04/12/18 18:38*	*04/12/18 22:00*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 127*	*04/12/18 18:38*	*04/12/18 22:00*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 121*	*04/12/18 18:38*	*04/12/18 22:00*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/12/18 18:38*	*04/12/18 22:00*	*1*

Client Sample ID: PCS AC18
Date Collected: 03/29/18 13:02
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,1,1-Trichloroethane	ND		5.2	0.54	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.63	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,1,2-Trichloroethane	ND		5.2	0.91	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,1-Dichloroethane	ND		5.2	0.22	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,1-Dichloroethene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,1-Dichloropropene	ND		5.2	0.56	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2,3-Trichlorobenzene	ND		5.2	0.77	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2,3-Trichloropropane	ND		5.2	0.83	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2,4-Trichlorobenzene	ND		5.2	0.75	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2,4-Trimethylbenzene	ND		5.2	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2-Dibromo-3-Chloropropane	ND		10	0.62	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2-Dibromoethane	ND		5.2	0.54	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2-Dichlorobenzene	ND		5.2	0.46	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2-Dichloroethane	ND		5.2	0.72	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2-Dichloroethene, Total	ND		5.2	0.40	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,2-Dichloropropane	ND		5.2	0.57	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,3,5-Trimethylbenzene	ND		5.2	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,3-Dichlorobenzene	ND		5.2	0.49	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,3-Dichloropropane	ND		5.2	0.53	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
1,4-Dichlorobenzene	ND		5.2	0.80	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
2,2-Dichloropropane	ND		5.2	0.45	ug/Kg		04/12/18 18:38	04/12/18 22:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC18
Date Collected: 03/29/18 13:02
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	**3.8**	**J**	21	1.9	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
2-Chlorotoluene	ND		5.2	0.53	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
2-Hexanone	ND		21	5.0	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
4-Chlorotoluene	ND		5.2	0.80	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
4-Isopropyltoluene	ND		5.2	0.50	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
4-Methyl-2-pentanone (MIBK)	ND		21	4.5	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Acetone	**8.2**	**J B**	21	5.5	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Benzene	ND		5.2	0.48	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Bromobenzene	ND		5.2	0.50	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Bromoform	ND		5.2	0.24	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Bromomethane	ND		10	0.52	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Carbon tetrachloride	ND		5.2	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Chlorobenzene	ND		5.2	0.56	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Chlorobromomethane	ND		5.2	0.31	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Chlorodibromomethane	ND		5.2	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Chloroethane	ND		10	0.92	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Chloroform	ND		10	0.30	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Chloromethane	ND		10	0.79	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
cis-1,2-Dichloroethene	ND		2.6	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
cis-1,3-Dichloropropene	ND		5.2	1.3	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Dibromomethane	ND		5.2	0.87	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Dichlorobromomethane	ND		5.2	0.23	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Dichlorodifluoromethane	ND		10	0.54	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Ethylbenzene	ND		5.2	0.69	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Hexachlorobutadiene	ND		5.2	0.57	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Isopropylbenzene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Methyl tert-butyl ether	ND		21	0.35	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Methylene Chloride	ND		5.2	1.6	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
m-Xylene & p-Xylene	ND		2.6	1.1	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Naphthalene	ND		5.2	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
n-Butylbenzene	ND		5.2	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
N-Propylbenzene	ND		5.2	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
o-Xylene	ND		2.6	0.63	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
sec-Butylbenzene	ND		5.2	0.79	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Styrene	ND		5.2	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
tert-Butylbenzene	ND		5.2	0.52	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Tetrachloroethene	ND		5.2	0.61	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Toluene	ND		5.2	0.71	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
trans-1,2-Dichloroethene	ND		2.6	0.40	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
trans-1,3-Dichloropropene	ND		5.2	0.69	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Trichloroethene	ND		5.2	0.24	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Trichlorofluoromethane	ND		10	1.1	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Vinyl chloride	ND		5.2	1.4	ug/Kg		04/12/18 18:38	04/12/18 22:20	1
Xylenes, Total	ND		5.2	0.63	ug/Kg		04/12/18 18:38	04/12/18 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*77*		*58 - 140*	*04/12/18 18:38*	*04/12/18 22:20*	*1*
4-Bromofluorobenzene (Surr)	*103*		*76 - 127*	*04/12/18 18:38*	*04/12/18 22:20*	*1*
Dibromofluoromethane (Surr)	*88*		*75 - 121*	*04/12/18 18:38*	*04/12/18 22:20*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/12/18 18:38*	*04/12/18 22:20*	*1*

Client Sample Results

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC19
Date Collected: 03/29/18 13:07
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-19
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.8	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,1,1-Trichloroethane	ND		5.8	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,1,2,2-Tetrachloroethane	ND		5.8	0.70	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,1,2-Trichloroethane	ND		5.8	1.0	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,1-Dichloroethane	ND		5.8	0.24	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,1-Dichloroethene	ND		5.8	0.68	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,1-Dichloropropene	ND		5.8	0.62	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2,3-Trichlorobenzene	ND		5.8	0.86	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2,3-Trichloropropane	ND		5.8	0.93	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2,4-Trichlorobenzene	ND		5.8	0.84	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2,4-Trimethylbenzene	ND		5.8	0.67	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2-Dibromo-3-Chloropropane	ND		12	0.69	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2-Dibromoethane	ND		5.8	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2-Dichlorobenzene	ND		5.8	0.52	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2-Dichloroethane	ND		5.8	0.81	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2-Dichloroethene, Total	ND		5.8	0.45	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,2-Dichloropropane	ND		5.8	0.63	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,3,5-Trimethylbenzene	ND		5.8	0.66	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,3-Dichlorobenzene	ND		5.8	0.55	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,3-Dichloropropane	ND		5.8	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
1,4-Dichlorobenzene	ND		5.8	0.90	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
2,2-Dichloropropane	ND		5.8	0.51	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
2-Butanone (MEK)	**4.6**	**J**	23	2.1	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
2-Chlorotoluene	ND		5.8	0.59	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
2-Hexanone	ND		23	5.6	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
4-Chlorotoluene	ND		5.8	0.90	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
4-Isopropyltoluene	ND		5.8	0.56	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
4-Methyl-2-pentanone (MIBK)	ND		23	5.0	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Acetone	**10**	**J B**	23	6.2	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Benzene	ND		5.8	0.54	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Bromobenzene	ND		5.8	0.56	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Bromoform	ND		5.8	0.27	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Bromomethane	ND		12	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Carbon tetrachloride	ND		5.8	0.73	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Chlorobenzene	ND		5.8	0.62	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Chlorobromomethane	ND		5.8	0.35	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Chlorodibromomethane	ND		5.8	0.66	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Chloroethane	ND		12	1.0	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Chloroform	ND		12	0.33	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Chloromethane	ND		12	0.89	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
cis-1,2-Dichloroethene	ND		2.9	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
cis-1,3-Dichloropropene	ND		5.8	1.5	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Dibromomethane	ND		5.8	0.97	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Dichlorobromomethane	ND		5.8	0.25	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Dichlorodifluoromethane	ND		12	0.60	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Ethylbenzene	ND		5.8	0.77	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Hexachlorobutadiene	ND		5.8	0.63	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Isopropylbenzene	ND		5.8	0.68	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Methyl tert-butyl ether	ND		23	0.39	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Methylene Chloride	ND		5.8	1.8	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
m-Xylene & p-Xylene	ND		2.9	1.2	ug/Kg		04/12/18 18:38	04/12/18 22:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC19
Date Collected: 03/29/18 13:07
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-19
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		5.8	0.73	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
n-Butylbenzene	ND		5.8	0.65	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
N-Propylbenzene	ND		5.8	0.67	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
o-Xylene	ND		2.9	0.70	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
sec-Butylbenzene	ND		5.8	0.89	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Styrene	ND		5.8	0.73	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
tert-Butylbenzene	ND		5.8	0.58	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Tetrachloroethene	ND		5.8	0.68	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Toluene	ND		5.8	0.80	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
trans-1,2-Dichloroethene	ND		2.9	0.45	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
trans-1,3-Dichloropropene	ND		5.8	0.77	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Trichloroethene	ND		5.8	0.27	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Trichlorofluoromethane	ND		12	1.2	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Vinyl chloride	ND		5.8	1.5	ug/Kg		04/12/18 18:38	04/12/18 22:41	1
Xylenes, Total	ND		5.8	0.70	ug/Kg		04/12/18 18:38	04/12/18 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*58 - 140*	*04/12/18 18:38*	*04/12/18 22:41*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 127*	*04/12/18 18:38*	*04/12/18 22:41*	*1*
Dibromofluoromethane (Surr)	*89*		*75 - 121*	*04/12/18 18:38*	*04/12/18 22:41*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/12/18 18:38*	*04/12/18 22:41*	*1*

Client Sample ID: PCS AC20
Date Collected: 03/29/18 13:14
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.57	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,1,1-Trichloroethane	ND		5.1	0.53	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.62	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,1,2-Trichloroethane	ND		5.1	0.89	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,1-Dichloroethane	ND		5.1	0.21	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,1-Dichloroethene	ND		5.1	0.60	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,1-Dichloropropene	ND		5.1	0.55	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2,3-Trichlorobenzene	ND		5.1	0.76	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2,3-Trichloropropane	ND		5.1	0.82	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2,4-Trichlorobenzene	ND		5.1	0.74	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2,4-Trimethylbenzene	ND		5.1	0.59	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2-Dibromo-3-Chloropropane	ND		10	0.61	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2-Dibromoethane	ND		5.1	0.53	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2-Dichlorobenzene	ND		5.1	0.46	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2-Dichloroethane	ND		5.1	0.71	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2-Dichloroethene, Total	ND		5.1	0.40	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,2-Dichloropropane	ND		5.1	0.56	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,3,5-Trimethylbenzene	ND		5.1	0.58	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,3-Dichlorobenzene	ND		5.1	0.49	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,3-Dichloropropane	ND		5.1	0.52	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
1,4-Dichlorobenzene	ND		5.1	0.79	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
2,2-Dichloropropane	ND		5.1	0.45	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
2-Butanone (MEK)	**6.6**	**J**	20	1.9	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
2-Chlorotoluene	ND		5.1	0.52	ug/Kg		04/12/18 18:38	04/12/18 23:01	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: PCS AC20
Date Collected: 03/29/18 13:14
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		20	5.0	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
4-Chlorotoluene	ND		5.1	0.79	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
4-Isopropyltoluene	ND		5.1	0.50	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
4-Methyl-2-pentanone (MIBK)	ND		20	4.4	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Acetone	**21**	**B**	20	5.5	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Benzene	ND		5.1	0.48	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Bromobenzene	ND		5.1	0.50	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Bromoform	ND		5.1	0.23	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Bromomethane	ND		10	0.51	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Carbon tetrachloride	ND		5.1	0.64	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Chlorobenzene	ND		5.1	0.55	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Chlorobromomethane	ND		5.1	0.30	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Chlorodibromomethane	ND		5.1	0.58	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Chloroethane	ND		10	0.90	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Chloroform	ND		10	0.29	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Chloromethane	ND		10	0.78	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
cis-1,2-Dichloroethene	ND		2.5	0.57	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
cis-1,3-Dichloropropene	ND		5.1	1.3	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Dibromomethane	ND		5.1	0.85	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Dichlorobromomethane	ND		5.1	0.22	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Dichlorodifluoromethane	ND		10	0.53	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Ethylbenzene	ND		5.1	0.68	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Hexachlorobutadiene	ND		5.1	0.56	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Isopropylbenzene	ND		5.1	0.60	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Methyl tert-butyl ether	ND		20	0.35	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Methylene Chloride	ND		5.1	1.6	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
m-Xylene & p-Xylene	ND		2.5	1.1	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Naphthalene	ND		5.1	0.64	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
n-Butylbenzene	ND		5.1	0.57	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
N-Propylbenzene	ND		5.1	0.59	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
o-Xylene	ND		2.5	0.62	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
sec-Butylbenzene	ND		5.1	0.78	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Styrene	ND		5.1	0.64	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
tert-Butylbenzene	ND		5.1	0.51	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Tetrachloroethene	ND		5.1	0.60	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Toluene	ND		5.1	0.70	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
trans-1,2-Dichloroethene	ND		2.5	0.40	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
trans-1,3-Dichloropropene	ND		5.1	0.68	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Trichloroethene	ND		5.1	0.23	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Trichlorofluoromethane	ND		10	1.1	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Vinyl chloride	ND		5.1	1.4	ug/Kg		04/12/18 18:38	04/12/18 23:01	1
Xylenes, Total	ND		5.1	0.62	ug/Kg		04/12/18 18:38	04/12/18 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*77*		*58 - 140*	*04/12/18 18:38*	*04/12/18 23:01*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 127*	*04/12/18 18:38*	*04/12/18 23:01*	*1*
Dibromofluoromethane (Surr)	*88*		*75 - 121*	*04/12/18 18:38*	*04/12/18 23:01*	*1*
Toluene-d8 (Surr)	*93*		*80 - 126*	*04/12/18 18:38*	*04/12/18 23:01*	*1*

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: PCS AC1
Date Collected: 03/29/18 11:35
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.50	J B F1	1.2	0.33	mg/Kg		04/03/18 13:40	04/10/18 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*94*		*77 - 123*	*04/03/18 13:40*	*04/10/18 15:10*	*1*

Client Sample ID: PCS AC2
Date Collected: 03/29/18 11:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.64	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/10/18 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*92*		*77 - 123*	*04/03/18 13:40*	*04/10/18 16:49*	*1*

Client Sample ID: PCS AC3
Date Collected: 03/29/18 11:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.78	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/10/18 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*88*		*77 - 123*	*04/03/18 13:40*	*04/10/18 17:13*	*1*

Client Sample ID: PCS AC4
Date Collected: 03/29/18 11:50
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.89	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/10/18 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*87*		*77 - 123*	*04/03/18 13:40*	*04/10/18 17:38*	*1*

Client Sample ID: PCS AC5
Date Collected: 03/29/18 11:55
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.84	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/10/18 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*88*		*77 - 123*	*04/03/18 13:40*	*04/10/18 18:03*	*1*

Client Sample ID: PCS AC6
Date Collected: 03/29/18 12:00
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.52	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/10/18 20:17	1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	87		77 - 123	04/03/18 13:40	04/10/18 20:17	1

Client Sample ID: PCS AC7
Date Collected: 03/29/18 12:05
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.54	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/10/18 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	96		77 - 123	04/03/18 13:40	04/10/18 20:41	1

Client Sample ID: PCS AC8
Date Collected: 03/29/18 12:10
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.58	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/10/18 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	95		77 - 123	04/03/18 13:40	04/10/18 21:06	1

Client Sample ID: PCS AC9
Date Collected: 03/29/18 12:15
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.73	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/10/18 21:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	89		77 - 123	04/03/18 13:40	04/10/18 21:30	1

Client Sample ID: PCS AC10
Date Collected: 03/29/18 12:20
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.61	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/10/18 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	88		77 - 123	04/03/18 13:40	04/10/18 21:55	1

Client Sample ID: PCS AC11
Date Collected: 03/29/18 12:25
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.67	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	92		77 - 123	04/03/18 13:40	04/11/18 14:26	1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: PCS AC12
Date Collected: 03/29/18 12:30
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.65	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/11/18 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*97*		*77 - 123*	*04/03/18 13:40*	*04/11/18 14:51*	*1*

Client Sample ID: PCS AC13
Date Collected: 03/29/18 12:36
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-13
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.71	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*77 - 123*	*04/03/18 13:40*	*04/11/18 15:16*	*1*

Client Sample ID: PCS AC14
Date Collected: 03/29/18 12:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.82	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/11/18 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*77 - 123*	*04/03/18 13:40*	*04/11/18 15:41*	*1*

Client Sample ID: PCS AC15
Date Collected: 03/29/18 12:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.83	J B	1.2	0.33	mg/Kg		04/03/18 13:40	04/11/18 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*85*		*77 - 123*	*04/03/18 13:40*	*04/11/18 16:06*	*1*

Client Sample ID: PCS AC16
Date Collected: 03/29/18 12:51
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.69	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*85*		*77 - 123*	*04/03/18 13:40*	*04/11/18 16:31*	*1*

Client Sample ID: PCS AC17
Date Collected: 03/29/18 12:56
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-17
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.72	J B	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 16:56	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*92*		*77 - 123*	*04/03/18 13:40*	*04/11/18 16:56*	*1*

Client Sample ID: PCS AC18
Date Collected: 03/29/18 13:02
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**0.62**	**J B**	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*86*		*77 - 123*	*04/03/18 13:40*	*04/11/18 17:21*	*1*

Client Sample ID: PCS AC19
Date Collected: 03/29/18 13:07
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-19
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**0.71**	**J B**	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*98*		*77 - 123*	*04/03/18 13:40*	*04/11/18 17:45*	*1*

Client Sample ID: PCS AC20
Date Collected: 03/29/18 13:14
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**0.76**	**J B**	1.2	0.32	mg/Kg		04/03/18 13:40	04/11/18 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*95*		*77 - 123*	*04/03/18 13:40*	*04/11/18 18:10*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: PCS AC1
Date Collected: 03/29/18 11:35
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**19**	**B**	7.9	1.3	mg/Kg		04/03/18 07:33	04/09/18 15:15	1
C10-C36	**27**	**B**	7.9	2.0	mg/Kg		04/03/18 07:33	04/09/18 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*82*		*49 - 115*	*04/03/18 07:33*	*04/09/18 15:15*	*1*

Client Sample ID: PCS AC2
Date Collected: 03/29/18 11:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**230**	**B**	7.6	1.3	mg/Kg		04/03/18 07:33	04/09/18 16:28	1
C10-C36	**280**	**B**	7.6	1.9	mg/Kg		04/03/18 07:33	04/09/18 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*83*		*49 - 115*	*04/03/18 07:33*	*04/09/18 16:28*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: PCS AC3
Date Collected: 03/29/18 11:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**320**	**B**	7.4	1.3	mg/Kg		04/03/18 07:33	04/09/18 16:53	1
C10-C36	**370**	**B**	7.4	1.8	mg/Kg		04/03/18 07:33	04/09/18 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*49 - 115*	*04/03/18 07:33*	*04/09/18 16:53*	*1*

Client Sample ID: PCS AC4
Date Collected: 03/29/18 11:50
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**680**	**B**	7.8	1.3	mg/Kg		04/03/18 07:33	04/09/18 17:17	1
C10-C36	**850**	**B**	7.8	2.0	mg/Kg		04/03/18 07:33	04/09/18 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*49 - 115*	*04/03/18 07:33*	*04/09/18 17:17*	*1*

Client Sample ID: PCS AC5
Date Collected: 03/29/18 11:55
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**25**	**B**	7.8	1.3	mg/Kg		04/03/18 07:33	04/09/18 17:42	1
C10-C36	**39**	**B**	7.8	2.0	mg/Kg		04/03/18 07:33	04/09/18 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*49 - 115*	*04/03/18 07:33*	*04/09/18 17:42*	*1*

Client Sample ID: PCS AC6
Date Collected: 03/29/18 12:00
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**18**	**B**	7.8	1.3	mg/Kg		04/03/18 07:33	04/09/18 18:06	1
C10-C36	**28**	**B**	7.8	2.0	mg/Kg		04/03/18 07:33	04/09/18 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*49 - 115*	*04/03/18 07:33*	*04/09/18 18:06*	*1*

Client Sample ID: PCS AC7
Date Collected: 03/29/18 12:05
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**24**	**B**	7.9	1.3	mg/Kg		04/03/18 07:33	04/09/18 18:31	1
C10-C36	**39**	**B**	7.9	2.0	mg/Kg		04/03/18 07:33	04/09/18 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*49 - 115*	*04/03/18 07:33*	*04/09/18 18:31*	*1*

Client Sample ID: PCS AC8
Date Collected: 03/29/18 12:10
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**32**	**B**	7.7	1.3	mg/Kg		04/03/18 07:33	04/09/18 18:55	1
C10-C36	**51**	**B**	7.7	1.9	mg/Kg		04/03/18 07:33	04/09/18 18:55	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		49 - 115	04/03/18 07:33	04/09/18 18:55	1

Client Sample ID: PCS AC9
Lab Sample ID: 280-107960-9
Date Collected: 03/29/18 12:15
Matrix: Solid
Date Received: 03/30/18 08:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	59	B	7.7	1.3	mg/Kg		04/03/18 07:33	04/09/18 19:20	1
C10-C36	92	B	7.7	1.9	mg/Kg		04/03/18 07:33	04/09/18 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	91		49 - 115	04/03/18 07:33	04/09/18 19:20	1

Client Sample ID: PCS AC10
Lab Sample ID: 280-107960-10
Date Collected: 03/29/18 12:20
Matrix: Solid
Date Received: 03/30/18 08:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	26	B	7.8	1.3	mg/Kg		04/03/18 07:33	04/09/18 19:44	1
C10-C36	41	B	7.8	2.0	mg/Kg		04/03/18 07:33	04/09/18 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		49 - 115	04/03/18 07:33	04/09/18 19:44	1

Client Sample ID: PCS AC11
Lab Sample ID: 280-107960-11
Date Collected: 03/29/18 12:25
Matrix: Solid
Date Received: 03/30/18 08:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	20	B	8.0	1.4	mg/Kg		04/03/18 07:33	04/09/18 20:33	1
C10-C36	33	B	8.0	2.0	mg/Kg		04/03/18 07:33	04/09/18 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		49 - 115	04/03/18 07:33	04/09/18 20:33	1

Client Sample ID: PCS AC12
Lab Sample ID: 280-107960-12
Date Collected: 03/29/18 12:30
Matrix: Solid
Date Received: 03/30/18 08:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	26	B	7.9	1.4	mg/Kg		04/03/18 07:33	04/09/18 20:57	1
C10-C36	44	B	7.9	2.0	mg/Kg		04/03/18 07:33	04/09/18 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	92		49 - 115	04/03/18 07:33	04/09/18 20:57	1

Client Sample ID: PCS AC13
Lab Sample ID: 280-107960-13
Date Collected: 03/29/18 12:36
Matrix: Solid
Date Received: 03/30/18 08:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	20	B	7.7	1.3	mg/Kg		04/03/18 07:33	04/09/18 21:22	1
C10-C36	32	B	7.7	1.9	mg/Kg		04/03/18 07:33	04/09/18 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	80		49 - 115	04/03/18 07:33	04/09/18 21:22	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: PCS AC14
Date Collected: 03/29/18 12:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	16	B	7.3	1.2	mg/Kg		04/03/18 07:33	04/09/18 21:46	1
C10-C36	23	B	7.3	1.8	mg/Kg		04/03/18 07:33	04/09/18 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*49 - 115*	*04/03/18 07:33*	*04/09/18 21:46*	*1*

Client Sample ID: PCS AC15
Date Collected: 03/29/18 12:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	22	B	7.7	1.3	mg/Kg		04/03/18 07:33	04/09/18 22:10	1
C10-C36	35	B	7.7	1.9	mg/Kg		04/03/18 07:33	04/09/18 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*49 - 115*	*04/03/18 07:33*	*04/09/18 22:10*	*1*

Client Sample ID: PCS AC16
Date Collected: 03/29/18 12:51
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	25	B	7.1	1.2	mg/Kg		04/03/18 07:33	04/09/18 22:35	1
C10-C36	45	B	7.1	1.8	mg/Kg		04/03/18 07:33	04/09/18 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*49 - 115*	*04/03/18 07:33*	*04/09/18 22:35*	*1*

Client Sample ID: PCS AC17
Date Collected: 03/29/18 12:56
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-17
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	20	B	7.1	1.2	mg/Kg		04/03/18 07:33	04/09/18 22:59	1
C10-C36	37	B	7.1	1.8	mg/Kg		04/03/18 07:33	04/09/18 22:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*49 - 115*	*04/03/18 07:33*	*04/09/18 22:59*	*1*

Client Sample ID: PCS AC18
Date Collected: 03/29/18 13:02
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	20	B	8.0	1.4	mg/Kg		04/03/18 07:33	04/09/18 23:24	1
C10-C36	34	B	8.0	2.0	mg/Kg		04/03/18 07:33	04/09/18 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*49 - 115*	*04/03/18 07:33*	*04/09/18 23:24*	*1*

Client Sample ID: PCS AC19
Date Collected: 03/29/18 13:07
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-19
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	17	B	7.4	1.3	mg/Kg		04/03/18 07:33	04/09/18 23:48	1
C10-C36	30	B	7.4	1.8	mg/Kg		04/03/18 07:33	04/09/18 23:48	1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*87*		*49 - 115*	*04/03/18 07:33*	*04/09/18 23:48*	*1*

Client Sample ID: PCS AC20
Date Collected: 03/29/18 13:14
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**20**	**B**	7.5	1.3	mg/Kg		04/03/18 07:33	04/10/18 00:13	1
C10-C36	**35**	**B**	7.5	1.9	mg/Kg		04/03/18 07:33	04/10/18 00:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*86*		*49 - 115*	*04/03/18 07:33*	*04/10/18 00:13*	*1*

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-410881/3-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.56	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,1,1-Trichloroethane	ND		5.0	0.52	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.61	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,1,2-Trichloroethane	ND		5.0	0.88	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,1-Dichloroethane	ND		5.0	0.21	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,1-Dichloroethene	ND		5.0	0.59	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,1-Dichloropropene	ND		5.0	0.54	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2,3-Trichlorobenzene	ND		5.0	0.75	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2,3-Trichloropropane	ND		5.0	0.81	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2,4-Trichlorobenzene	ND		5.0	0.73	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2,4-Trimethylbenzene	ND		5.0	0.58	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2-Dibromo-3-Chloropropane	ND		10	0.60	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2-Dibromoethane	ND		5.0	0.52	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2-Dichlorobenzene	ND		5.0	0.45	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2-Dichloroethane	ND		5.0	0.70	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2-Dichloroethene, Total	ND		5.0	0.39	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,2-Dichloropropane	ND		5.0	0.55	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,3,5-Trimethylbenzene	ND		5.0	0.57	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,3-Dichlorobenzene	ND		5.0	0.48	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,3-Dichloropropane	ND		5.0	0.51	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
1,4-Dichlorobenzene	ND		5.0	0.78	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
2,2-Dichloropropane	ND		5.0	0.44	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
2-Butanone (MEK)	4.78	J	20	1.8	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
2-Chlorotoluene	ND		5.0	0.51	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
2-Hexanone	ND		20	4.9	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
4-Chlorotoluene	ND		5.0	0.78	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
4-Isopropyltoluene	ND		5.0	0.49	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
4-Methyl-2-pentanone (MIBK)	ND		20	4.4	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Acetone	ND		20	5.4	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Benzene	ND		5.0	0.47	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Bromobenzene	ND		5.0	0.49	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Bromoform	ND		5.0	0.23	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Bromomethane	ND		10	0.50	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Carbon tetrachloride	ND		5.0	0.63	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Chlorobenzene	ND		5.0	0.54	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Chlorobromomethane	ND		5.0	0.30	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Chlorodibromomethane	ND		5.0	0.57	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Chloroethane	ND		10	0.89	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Chloroform	ND		10	0.29	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Chloromethane	ND		10	0.77	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
cis-1,2-Dichloroethene	ND		2.5	0.56	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
cis-1,3-Dichloropropene	ND		5.0	1.3	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Dibromomethane	ND		5.0	0.84	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Dichlorobromomethane	ND		5.0	0.22	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Dichlorodifluoromethane	ND		10	0.52	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Ethylbenzene	ND		5.0	0.67	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Hexachlorobutadiene	ND		5.0	0.55	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Isopropylbenzene	ND		5.0	0.59	ug/Kg		04/10/18 19:00	04/10/18 20:45	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-410881/3-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		20	0.34	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Methylene Chloride	ND		5.0	1.6	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
m-Xylene & p-Xylene	ND		2.5	1.0	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Naphthalene	ND		5.0	0.63	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
n-Butylbenzene	ND		5.0	0.56	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
N-Propylbenzene	ND		5.0	0.58	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
o-Xylene	ND		2.5	0.61	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
sec-Butylbenzene	ND		5.0	0.77	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Styrene	ND		5.0	0.63	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
tert-Butylbenzene	ND		5.0	0.50	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Tetrachloroethene	ND		5.0	0.59	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Toluene	ND		5.0	0.69	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
trans-1,2-Dichloroethene	ND		2.5	0.39	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
trans-1,3-Dichloropropene	ND		5.0	0.67	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Trichloroethene	ND		5.0	0.23	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Trichlorofluoromethane	ND		10	1.0	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Vinyl chloride	ND		5.0	1.3	ug/Kg		04/10/18 19:00	04/10/18 20:45	1
Xylenes, Total	ND		5.0	0.61	ug/Kg		04/10/18 19:00	04/10/18 20:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*79*		*58 - 140*	*04/10/18 19:00*	*04/10/18 20:45*	*1*
4-Bromofluorobenzene (Surr)	*94*		*76 - 127*	*04/10/18 19:00*	*04/10/18 20:45*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 121*	*04/10/18 19:00*	*04/10/18 20:45*	*1*
Toluene-d8 (Surr)	*92*		*80 - 126*	*04/10/18 19:00*	*04/10/18 20:45*	*1*

Lab Sample ID: LCS 280-410881/1-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	44.2		ug/Kg		88	76 - 135
1,1,1-Trichloroethane	50.0	40.2		ug/Kg		80	70 - 135
1,1,2,2-Tetrachloroethane	50.0	47.6		ug/Kg		95	65 - 135
1,1,2-Trichloroethane	50.0	50.9		ug/Kg		102	78 - 135
1,1-Dichloroethane	50.0	44.5		ug/Kg		89	70 - 135
1,1-Dichloroethene	50.0	45.9		ug/Kg		92	79 - 135
1,1-Dichloropropene	50.0	47.4		ug/Kg		95	72 - 135
1,2,3-Trichlorobenzene	50.0	49.9		ug/Kg		100	62 - 135
1,2,3-Trichloropropane	50.0	48.0		ug/Kg		96	65 - 135
1,2,4-Trichlorobenzene	50.0	48.1		ug/Kg		96	65 - 135
1,2,4-Trimethylbenzene	50.0	42.3		ug/Kg		85	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	50.2		ug/Kg		100	66 - 150
1,2-Dibromoethane	50.0	47.8		ug/Kg		96	76 - 135
1,2-Dichlorobenzene	50.0	47.3		ug/Kg		95	73 - 135
1,2-Dichloroethane	50.0	42.1		ug/Kg		84	69 - 135
1,2-Dichloroethene, Total	100	97.1		ug/Kg		97	78 - 135
1,2-Dichloropropane	50.0	47.9		ug/Kg		96	72 - 121
1,3,5-Trimethylbenzene	50.0	42.6		ug/Kg		85	65 - 135

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-410881/1-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	50.0	46.9		ug/Kg		94	69 - 135
1,3-Dichloropropane	50.0	46.2		ug/Kg		92	74 - 135
1,4-Dichlorobenzene	50.0	47.4		ug/Kg		95	73 - 135
2,2-Dichloropropane	50.0	41.5		ug/Kg		83	69 - 135
2-Butanone (MEK)	200	203		ug/Kg		101	45 - 177
2-Chlorotoluene	50.0	45.2		ug/Kg		90	67 - 135
2-Hexanone	200	226		ug/Kg		113	67 - 150
4-Chlorotoluene	50.0	47.0		ug/Kg		94	68 - 135
4-Isopropyltoluene	50.0	44.0		ug/Kg		88	66 - 135
4-Methyl-2-pentanone (MIBK)	200	214		ug/Kg		107	69 - 150
Acetone	200	224		ug/Kg		112	65 - 150
Benzene	50.0	49.6		ug/Kg		99	75 - 135
Bromobenzene	50.0	47.7		ug/Kg		95	72 - 135
Bromoform	50.0	42.9		ug/Kg		86	77 - 135
Bromomethane	50.0	50.8		ug/Kg		102	52 - 135
Carbon tetrachloride	50.0	38.5		ug/Kg		77	69 - 138
Chlorobenzene	50.0	45.3		ug/Kg		91	78 - 135
Chlorobromomethane	50.0	50.9		ug/Kg		102	74 - 135
Chlorodibromomethane	50.0	42.2		ug/Kg		84	77 - 135
Chloroethane	50.0	51.8		ug/Kg		104	51 - 145
Chloroform	50.0	43.5		ug/Kg		87	73 - 123
Chloromethane	50.0	49.2		ug/Kg		98	41 - 138
cis-1,2-Dichloroethene	50.0	48.3		ug/Kg		97	76 - 135
cis-1,3-Dichloropropene	50.0	44.4		ug/Kg		89	71 - 135
Dibromomethane	50.0	46.9		ug/Kg		94	73 - 135
Dichlorobromomethane	50.0	42.4		ug/Kg		85	73 - 135
Dichlorodifluoromethane	50.0	42.1		ug/Kg		84	32 - 152
Ethylbenzene	50.0	46.2		ug/Kg		92	73 - 125
Hexachlorobutadiene	50.0	45.7		ug/Kg		91	52 - 151
Isopropylbenzene	50.0	43.7		ug/Kg		87	74 - 137
Methyl tert-butyl ether	50.0	46.6		ug/Kg		93	71 - 141
Methylene Chloride	50.0	50.3		ug/Kg		101	76 - 136
m-Xylene & p-Xylene	50.0	45.5		ug/Kg		91	77 - 135
Naphthalene	50.0	52.1		ug/Kg		104	65 - 135
n-Butylbenzene	50.0	44.4		ug/Kg		89	68 - 135
N-Propylbenzene	50.0	44.9		ug/Kg		90	67 - 135
o-Xylene	50.0	46.6		ug/Kg		93	75 - 135
sec-Butylbenzene	50.0	46.2		ug/Kg		92	69 - 135
Styrene	50.0	46.3		ug/Kg		93	76 - 135
tert-Butylbenzene	50.0	43.7		ug/Kg		87	66 - 135
Tetrachloroethene	50.0	49.0		ug/Kg		98	76 - 135
Toluene	50.0	48.7		ug/Kg		97	77 - 122
trans-1,2-Dichloroethene	50.0	48.8		ug/Kg		98	77 - 135
trans-1,3-Dichloropropene	50.0	42.5		ug/Kg		85	71 - 135
Trichloroethene	50.0	46.1		ug/Kg		92	77 - 135
Trichlorofluoromethane	50.0	38.8		ug/Kg		78	48 - 150
Vinyl chloride	50.0	46.8		ug/Kg		94	43 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-410881/1-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410881

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	74		58 - 140
4-Bromofluorobenzene (Surr)	91		76 - 127
Dibromofluoromethane (Surr)	87		75 - 121
Toluene-d8 (Surr)	92		80 - 126

Lab Sample ID: LCSD 280-410881/2-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	44.1		ug/Kg		88	76 - 135	0	20
1,1,1-Trichloroethane	50.0	40.6		ug/Kg		81	70 - 135	1	20
1,1,2,2-Tetrachloroethane	50.0	46.9		ug/Kg		94	65 - 135	1	21
1,1,2-Trichloroethane	50.0	50.9		ug/Kg		102	78 - 135	0	20
1,1-Dichloroethane	50.0	44.9		ug/Kg		90	70 - 135	1	20
1,1-Dichloroethene	50.0	45.7		ug/Kg		91	79 - 135	0	20
1,1-Dichloropropene	50.0	47.3		ug/Kg		95	72 - 135	0	20
1,2,3-Trichlorobenzene	50.0	50.0		ug/Kg		100	62 - 135	0	31
1,2,3-Trichloropropane	50.0	47.5		ug/Kg		95	65 - 135	1	21
1,2,4-Trichlorobenzene	50.0	47.7		ug/Kg		95	65 - 135	1	26
1,2,4-Trimethylbenzene	50.0	42.7		ug/Kg		85	67 - 135	1	20
1,2-Dibromo-3-Chloropropane	50.0	48.8		ug/Kg		98	66 - 150	3	28
1,2-Dibromoethane	50.0	46.9		ug/Kg		94	76 - 135	2	20
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	73 - 135	3	20
1,2-Dichloroethane	50.0	41.5		ug/Kg		83	69 - 135	1	20
1,2-Dichloroethene, Total	100	97.9		ug/Kg		98	78 - 135	1	20
1,2-Dichloropropane	50.0	48.6		ug/Kg		97	72 - 121	1	20
1,3,5-Trimethylbenzene	50.0	43.4		ug/Kg		87	65 - 135	2	21
1,3-Dichlorobenzene	50.0	47.1		ug/Kg		94	69 - 135	0	20
1,3-Dichloropropane	50.0	45.7		ug/Kg		91	74 - 135	1	20
1,4-Dichlorobenzene	50.0	46.8		ug/Kg		94	73 - 135	1	22
2,2-Dichloropropane	50.0	41.5		ug/Kg		83	69 - 135	0	20
2-Butanone (MEK)	200	192		ug/Kg		96	45 - 177	5	32
2-Chlorotoluene	50.0	46.1		ug/Kg		92	67 - 135	2	22
2-Hexanone	200	215		ug/Kg		107	67 - 150	5	29
4-Chlorotoluene	50.0	47.0		ug/Kg		94	68 - 135	0	20
4-Isopropyltoluene	50.0	44.0		ug/Kg		88	66 - 135	0	20
4-Methyl-2-pentanone (MIBK)	200	209		ug/Kg		104	69 - 150	3	25
Acetone	200	209		ug/Kg		105	65 - 150	7	28
Benzene	50.0	50.0		ug/Kg		100	75 - 135	1	20
Bromobenzene	50.0	48.6		ug/Kg		97	72 - 135	2	22
Bromoform	50.0	42.6		ug/Kg		85	77 - 135	1	20
Bromomethane	50.0	48.3		ug/Kg		97	52 - 135	5	22
Carbon tetrachloride	50.0	38.7		ug/Kg		77	69 - 138	1	20
Chlorobenzene	50.0	45.2		ug/Kg		90	78 - 135	0	20
Chlorobromomethane	50.0	51.4		ug/Kg		103	74 - 135	1	21
Chlorodibromomethane	50.0	41.8		ug/Kg		84	77 - 135	1	20
Chloroethane	50.0	51.2		ug/Kg		102	51 - 145	1	22

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-410881/2-A
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 410881

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			50.0	43.3		ug/Kg		87	73 - 123	0	20
Chloromethane			50.0	45.8		ug/Kg		92	41 - 138	7	25
cis-1,2-Dichloroethene			50.0	48.7		ug/Kg		97	76 - 135	1	20
cis-1,3-Dichloropropene			50.0	43.8		ug/Kg		88	71 - 135	1	20
Dibromomethane			50.0	46.2		ug/Kg		92	73 - 135	2	20
Dichlorobromomethane			50.0	42.8		ug/Kg		86	73 - 135	1	20
Dichlorodifluoromethane			50.0	40.3		ug/Kg		81	32 - 152	4	28
Ethylbenzene			50.0	46.4		ug/Kg		93	73 - 125	1	20
Hexachlorobutadiene			50.0	45.8		ug/Kg		92	52 - 151	0	25
Isopropylbenzene			50.0	44.4		ug/Kg		89	74 - 137	2	20
Methyl tert-butyl ether			50.0	46.1		ug/Kg		92	71 - 141	1	20
Methylene Chloride			50.0	50.5		ug/Kg		101	76 - 136	0	21
m-Xylene & p-Xylene			50.0	45.9		ug/Kg		92	77 - 135	1	20
Naphthalene			50.0	50.9		ug/Kg		102	65 - 135	2	38
n-Butylbenzene			50.0	45.0		ug/Kg		90	68 - 135	1	21
N-Propylbenzene			50.0	45.8		ug/Kg		92	67 - 135	2	22
o-Xylene			50.0	47.1		ug/Kg		94	75 - 135	1	20
sec-Butylbenzene			50.0	46.3		ug/Kg		93	69 - 135	0	22
Styrene			50.0	46.8		ug/Kg		94	76 - 135	1	20
tert-Butylbenzene			50.0	44.2		ug/Kg		88	66 - 135	1	22
Tetrachloroethene			50.0	48.2		ug/Kg		96	76 - 135	2	20
Toluene			50.0	49.4		ug/Kg		99	77 - 122	1	20
trans-1,2-Dichloroethene			50.0	49.2		ug/Kg		98	77 - 135	1	20
trans-1,3-Dichloropropene			50.0	42.8		ug/Kg		86	71 - 135	1	20
Trichloroethene			50.0	46.9		ug/Kg		94	77 - 135	2	20
Trichlorofluoromethane			50.0	38.8		ug/Kg		78	48 - 150	0	33
Vinyl chloride			50.0	43.8		ug/Kg		88	43 - 145	7	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*83*		*58 - 140*
4-Bromofluorobenzene (Surr)	*94*		*76 - 127*
Dibromofluoromethane (Surr)	*91*		*75 - 121*
Toluene-d8 (Surr)	*96*		*80 - 126*

Lab Sample ID: 280-107962-A-1-B MS
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		54.7	46.4		ug/Kg		85	76 - 135
1,1,1-Trichloroethane	ND		54.7	44.0		ug/Kg		80	70 - 135
1,1,2,2-Tetrachloroethane	ND		54.7	48.3		ug/Kg		88	65 - 135
1,1,2-Trichloroethane	ND		54.7	54.2		ug/Kg		99	78 - 135
1,1-Dichloroethane	ND		54.7	49.9		ug/Kg		91	70 - 135
1,1-Dichloroethene	ND		54.7	50.3		ug/Kg		92	79 - 135
1,1-Dichloropropene	ND		54.7	50.1		ug/Kg		91	72 - 135
1,2,3-Trichlorobenzene	ND		54.7	43.9		ug/Kg		80	62 - 135
1,2,3-Trichloropropane	ND		54.7	50.4		ug/Kg		92	65 - 135

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107962-A-1-B MS
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		54.7	41.4		ug/Kg		76	65 - 135
1,2,4-Trimethylbenzene	ND		54.7	42.8		ug/Kg		78	67 - 135
1,2-Dibromo-3-Chloropropane	ND		54.7	49.4		ug/Kg		90	66 - 150
1,2-Dibromoethane	ND		54.7	49.9		ug/Kg		91	76 - 135
1,2-Dichlorobenzene	ND		54.7	47.9		ug/Kg		88	73 - 135
1,2-Dichloroethane	ND		54.7	45.5		ug/Kg		83	69 - 135
1,2-Dichloroethene, Total	ND		109	106		ug/Kg		97	78 - 135
1,2-Dichloropropane	ND		54.7	51.6		ug/Kg		94	72 - 121
1,3,5-Trimethylbenzene	ND		54.7	44.2		ug/Kg		81	65 - 135
1,3-Dichlorobenzene	ND		54.7	46.9		ug/Kg		86	69 - 135
1,3-Dichloropropane	ND		54.7	49.2		ug/Kg		90	74 - 135
1,4-Dichlorobenzene	ND		54.7	46.5		ug/Kg		85	73 - 135
2,2-Dichloropropane	ND		54.7	44.2		ug/Kg		81	69 - 135
2-Butanone (MEK)	ND		219	213		ug/Kg		97	45 - 177
2-Chlorotoluene	ND		54.7	46.7		ug/Kg		85	67 - 135
2-Hexanone	ND		219	231		ug/Kg		105	67 - 150
4-Chlorotoluene	ND		54.7	47.7		ug/Kg		87	68 - 135
4-Isopropyltoluene	ND		54.7	43.6		ug/Kg		80	66 - 135
4-Methyl-2-pentanone (MIBK)	ND		219	219		ug/Kg		100	69 - 150
Acetone	ND		219	211		ug/Kg		96	65 - 150
Benzene	ND		54.7	53.8		ug/Kg		98	75 - 135
Bromobenzene	ND		54.7	48.9		ug/Kg		89	72 - 135
Bromoform	ND		54.7	44.3		ug/Kg		81	77 - 135
Bromomethane	ND		54.7	55.7		ug/Kg		102	52 - 135
Carbon tetrachloride	ND		54.7	42.1		ug/Kg		77	69 - 138
Chlorobenzene	ND		54.7	46.8		ug/Kg		86	78 - 135
Chlorobromomethane	ND		54.7	54.2		ug/Kg		99	74 - 135
Chlorodibromomethane	ND		54.7	43.8		ug/Kg		80	77 - 135
Chloroethane	ND		54.7	59.1		ug/Kg		108	51 - 145
Chloroform	ND		54.7	47.4		ug/Kg		87	73 - 123
Chloromethane	ND		54.7	50.1		ug/Kg		92	41 - 138
cis-1,2-Dichloroethene	ND		54.7	52.6		ug/Kg		96	76 - 135
cis-1,3-Dichloropropene	ND		54.7	45.5		ug/Kg		83	71 - 135
Dibromomethane	ND		54.7	49.7		ug/Kg		91	73 - 135
Dichlorobromomethane	ND		54.7	45.1		ug/Kg		82	73 - 135
Dichlorodifluoromethane	ND		54.7	44.1		ug/Kg		81	32 - 152
Ethylbenzene	ND		54.7	47.9		ug/Kg		88	73 - 125
Hexachlorobutadiene	ND		54.7	38.8		ug/Kg		71	52 - 151
Isopropylbenzene	ND		54.7	45.1		ug/Kg		82	74 - 137
Methyl tert-butyl ether	ND		54.7	50.2		ug/Kg		92	71 - 141
Methylene Chloride	ND		54.7	54.5		ug/Kg		100	76 - 136
m-Xylene & p-Xylene	ND		54.7	47.1		ug/Kg		86	77 - 135
Naphthalene	ND		54.7	47.2		ug/Kg		86	65 - 135
n-Butylbenzene	ND		54.7	42.5		ug/Kg		78	68 - 135
N-Propylbenzene	ND		54.7	47.0		ug/Kg		86	67 - 135
o-Xylene	ND		54.7	49.4		ug/Kg		90	75 - 135
sec-Butylbenzene	ND		54.7	44.6		ug/Kg		81	69 - 135
Styrene	ND		54.7	45.8		ug/Kg		84	76 - 135

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107962-A-1-B MS
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	ND		54.7	44.4		ug/Kg		81	66 - 135
Tetrachloroethene	ND		54.7	49.0		ug/Kg		89	76 - 135
Toluene	ND		54.7	51.1		ug/Kg		93	77 - 122
trans-1,2-Dichloroethene	ND		54.7	53.2		ug/Kg		97	77 - 135
trans-1,3-Dichloropropene	ND		54.7	45.3		ug/Kg		83	71 - 135
Trichloroethene	ND		54.7	49.1		ug/Kg		90	77 - 135
Trichlorofluoromethane	ND		54.7	42.1		ug/Kg		77	48 - 150
Vinyl chloride	ND		54.7	48.2		ug/Kg		88	43 - 145

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*58 - 140*
4-Bromofluorobenzene (Surr)	*94*		*76 - 127*
Dibromofluoromethane (Surr)	*91*		*75 - 121*
Toluene-d8 (Surr)	*93*		*80 - 126*

Lab Sample ID: 280-107962-A-1-C MSD
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		54.3	46.3		ug/Kg		85	76 - 135	0	20
1,1,1-Trichloroethane	ND		54.3	42.8		ug/Kg		79	70 - 135	3	20
1,1,2,2-Tetrachloroethane	ND		54.3	45.4		ug/Kg		84	65 - 135	6	21
1,1,2-Trichloroethane	ND		54.3	51.3		ug/Kg		95	78 - 135	5	20
1,1-Dichloroethane	ND		54.3	48.9		ug/Kg		90	70 - 135	2	20
1,1-Dichloroethene	ND		54.3	48.8		ug/Kg		90	79 - 135	3	20
1,1-Dichloropropene	ND		54.3	48.7		ug/Kg		90	72 - 135	3	20
1,2,3-Trichlorobenzene	ND		54.3	39.9		ug/Kg		73	62 - 135	10	31
1,2,3-Trichloropropane	ND		54.3	47.3		ug/Kg		87	65 - 135	6	21
1,2,4-Trichlorobenzene	ND		54.3	37.1		ug/Kg		68	65 - 135	11	26
1,2,4-Trimethylbenzene	ND		54.3	39.5		ug/Kg		73	67 - 135	8	20
1,2-Dibromo-3-Chloropropane	ND		54.3	42.9		ug/Kg		79	66 - 150	14	28
1,2-Dibromoethane	ND		54.3	47.8		ug/Kg		88	76 - 135	4	20
1,2-Dichlorobenzene	ND		54.3	43.7		ug/Kg		80	73 - 135	9	20
1,2-Dichloroethane	ND		54.3	43.6		ug/Kg		80	69 - 135	4	20
1,2-Dichloroethene, Total	ND		109	103		ug/Kg		95	78 - 135	2	20
1,2-Dichloropropane	ND		54.3	51.1		ug/Kg		94	72 - 121	1	20
1,3,5-Trimethylbenzene	ND		54.3	42.0		ug/Kg		77	65 - 135	5	21
1,3-Dichlorobenzene	ND		54.3	43.3		ug/Kg		80	69 - 135	8	20
1,3-Dichloropropane	ND		54.3	48.1		ug/Kg		89	74 - 135	2	20
1,4-Dichlorobenzene	ND		54.3	43.5		ug/Kg		80	73 - 135	7	22
2,2-Dichloropropane	ND		54.3	42.8		ug/Kg		79	69 - 135	3	20
2-Butanone (MEK)	ND		217	183		ug/Kg		84	45 - 177	15	32
2-Chlorotoluene	ND		54.3	43.8		ug/Kg		81	67 - 135	6	22
2-Hexanone	ND		217	207		ug/Kg		95	67 - 150	11	29
4-Chlorotoluene	ND		54.3	45.5		ug/Kg		84	68 - 135	5	20
4-Isopropyltoluene	ND		54.3	40.7		ug/Kg		75	66 - 135	7	20
4-Methyl-2-pentanone (MIBK)	ND		217	195		ug/Kg		90	69 - 150	12	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107962-A-1-C MSD
Matrix: Solid
Analysis Batch: 410890

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 410881

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		217	185		ug/Kg		85	65 - 150	13	28
Benzene	ND		54.3	52.1		ug/Kg		96	75 - 135	3	20
Bromobenzene	ND		54.3	47.5		ug/Kg		87	72 - 135	3	22
Bromoform	ND		54.3	42.0		ug/Kg		77	77 - 135	5	20
Bromomethane	ND		54.3	55.3		ug/Kg		102	52 - 135	1	22
Carbon tetrachloride	ND		54.3	40.8		ug/Kg		75	69 - 138	3	20
Chlorobenzene	ND		54.3	46.0		ug/Kg		85	78 - 135	2	20
Chlorobromomethane	ND		54.3	52.7		ug/Kg		97	74 - 135	3	21
Chlorodibromomethane	ND		54.3	43.1		ug/Kg		79	77 - 135	2	20
Chloroethane	ND		54.3	58.2		ug/Kg		107	51 - 145	2	22
Chloroform	ND		54.3	46.5		ug/Kg		86	73 - 123	2	20
Chloromethane	ND		54.3	49.7		ug/Kg		91	41 - 138	1	25
cis-1,2-Dichloroethene	ND		54.3	50.9		ug/Kg		94	76 - 135	3	20
cis-1,3-Dichloropropene	ND		54.3	45.1		ug/Kg		83	71 - 135	1	20
Dibromomethane	ND		54.3	47.1		ug/Kg		87	73 - 135	5	20
Dichlorobromomethane	ND		54.3	44.0		ug/Kg		81	73 - 135	3	20
Dichlorodifluoromethane	ND		54.3	43.7		ug/Kg		81	32 - 152	1	28
Ethylbenzene	ND		54.3	47.4		ug/Kg		87	73 - 125	1	20
Hexachlorobutadiene	ND		54.3	33.4		ug/Kg		61	52 - 151	15	25
Isopropylbenzene	ND		54.3	43.7		ug/Kg		80	74 - 137	3	20
Methyl tert-butyl ether	ND		54.3	48.3		ug/Kg		89	71 - 141	4	20
Methylene Chloride	ND		54.3	52.4		ug/Kg		97	76 - 136	4	21
m-Xylene & p-Xylene	ND		54.3	46.8		ug/Kg		86	77 - 135	1	20
Naphthalene	ND		54.3	42.0		ug/Kg		77	65 - 135	12	38
n-Butylbenzene	ND		54.3	39.0		ug/Kg		72	68 - 135	8	21
N-Propylbenzene	ND		54.3	44.2		ug/Kg		81	67 - 135	6	22
o-Xylene	ND		54.3	47.7		ug/Kg		88	75 - 135	3	20
sec-Butylbenzene	ND		54.3	42.4		ug/Kg		78	69 - 135	5	22
Styrene	ND		54.3	44.1		ug/Kg		81	76 - 135	4	20
tert-Butylbenzene	ND		54.3	41.9		ug/Kg		77	66 - 135	6	22
Tetrachloroethene	ND		54.3	48.3		ug/Kg		89	76 - 135	1	20
Toluene	ND		54.3	50.4		ug/Kg		93	77 - 122	1	20
trans-1,2-Dichloroethene	ND		54.3	52.3		ug/Kg		96	77 - 135	2	20
trans-1,3-Dichloropropene	ND		54.3	43.6		ug/Kg		80	71 - 135	4	20
Trichloroethene	ND		54.3	48.8		ug/Kg		90	77 - 135	1	20
Trichlorofluoromethane	ND		54.3	41.6		ug/Kg		77	48 - 150	1	33
Vinyl chloride	ND		54.3	47.5		ug/Kg		87	43 - 145	2	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*76*		*58 - 140*
4-Bromofluorobenzene (Surr)	*95*		*76 - 127*
Dibromofluoromethane (Surr)	*89*		*75 - 121*
Toluene-d8 (Surr)	*96*		*80 - 126*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-411028/3-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411028

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.56	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,1,1-Trichloroethane	ND		5.0	0.52	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.61	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,1,2-Trichloroethane	ND		5.0	0.88	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,1-Dichloroethane	ND		5.0	0.21	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,1-Dichloroethene	ND		5.0	0.59	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,1-Dichloropropene	ND		5.0	0.54	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2,3-Trichlorobenzene	ND		5.0	0.75	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2,3-Trichloropropane	ND		5.0	0.81	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2,4-Trichlorobenzene	ND		5.0	0.73	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2,4-Trimethylbenzene	ND		5.0	0.58	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2-Dibromo-3-Chloropropane	ND		10	0.60	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2-Dibromoethane	ND		5.0	0.52	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2-Dichlorobenzene	ND		5.0	0.45	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2-Dichloroethane	ND		5.0	0.70	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2-Dichloroethene, Total	ND		5.0	0.39	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,2-Dichloropropane	ND		5.0	0.55	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,3,5-Trimethylbenzene	ND		5.0	0.57	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,3-Dichlorobenzene	ND		5.0	0.48	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,3-Dichloropropane	ND		5.0	0.51	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
1,4-Dichlorobenzene	ND		5.0	0.78	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
2,2-Dichloropropane	ND		5.0	0.44	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
2-Butanone (MEK)	5.18	J	20	1.8	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
2-Chlorotoluene	ND		5.0	0.51	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
2-Hexanone	ND		20	4.9	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
4-Chlorotoluene	ND		5.0	0.78	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
4-Isopropyltoluene	ND		5.0	0.49	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
4-Methyl-2-pentanone (MIBK)	ND		20	4.4	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Acetone	9.27	J	20	5.4	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Benzene	ND		5.0	0.47	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Bromobenzene	ND		5.0	0.49	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Bromoform	ND		5.0	0.23	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Bromomethane	ND		10	0.50	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Carbon tetrachloride	ND		5.0	0.63	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Chlorobenzene	ND		5.0	0.54	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Chlorobromomethane	ND		5.0	0.30	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Chlorodibromomethane	ND		5.0	0.57	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Chloroethane	ND		10	0.89	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Chloroform	ND		10	0.29	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Chloromethane	ND		10	0.77	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
cis-1,2-Dichloroethene	ND		2.5	0.56	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
cis-1,3-Dichloropropene	ND		5.0	1.3	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Dibromomethane	ND		5.0	0.84	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Dichlorobromomethane	ND		5.0	0.22	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Dichlorodifluoromethane	ND		10	0.52	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Ethylbenzene	ND		5.0	0.67	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Hexachlorobutadiene	ND		5.0	0.55	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Isopropylbenzene	ND		5.0	0.59	ug/Kg		04/11/18 19:00	04/11/18 20:36	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-411028/3-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411028

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		20	0.34	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Methylene Chloride	ND		5.0	1.6	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
m-Xylene & p-Xylene	ND		2.5	1.0	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Naphthalene	ND		5.0	0.63	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
n-Butylbenzene	ND		5.0	0.56	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
N-Propylbenzene	ND		5.0	0.58	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
o-Xylene	ND		2.5	0.61	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
sec-Butylbenzene	ND		5.0	0.77	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Styrene	ND		5.0	0.63	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
tert-Butylbenzene	ND		5.0	0.50	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Tetrachloroethene	ND		5.0	0.59	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Toluene	ND		5.0	0.69	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
trans-1,2-Dichloroethene	ND		2.5	0.39	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
trans-1,3-Dichloropropene	ND		5.0	0.67	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Trichloroethene	ND		5.0	0.23	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Trichlorofluoromethane	ND		10	1.0	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Vinyl chloride	ND		5.0	1.3	ug/Kg		04/11/18 19:00	04/11/18 20:36	1
Xylenes, Total	ND		5.0	0.61	ug/Kg		04/11/18 19:00	04/11/18 20:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*58 - 140*	*04/11/18 19:00*	*04/11/18 20:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 127*	*04/11/18 19:00*	*04/11/18 20:36*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 121*	*04/11/18 19:00*	*04/11/18 20:36*	*1*
Toluene-d8 (Surr)	*96*		*80 - 126*	*04/11/18 19:00*	*04/11/18 20:36*	*1*

Lab Sample ID: LCS 280-411028/1-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	47.7		ug/Kg		95	76 - 135
1,1,1-Trichloroethane	50.0	44.1		ug/Kg		88	70 - 135
1,1,2,2-Tetrachloroethane	50.0	46.7		ug/Kg		93	65 - 135
1,1,2-Trichloroethane	50.0	52.4		ug/Kg		105	78 - 135
1,1-Dichloroethane	50.0	47.3		ug/Kg		95	70 - 135
1,1-Dichloroethene	50.0	50.7		ug/Kg		101	79 - 135
1,1-Dichloropropene	50.0	50.5		ug/Kg		101	72 - 135
1,2,3-Trichlorobenzene	50.0	56.1		ug/Kg		112	62 - 135
1,2,3-Trichloropropane	50.0	46.9		ug/Kg		94	65 - 135
1,2,4-Trichlorobenzene	50.0	52.7		ug/Kg		105	65 - 135
1,2,4-Trimethylbenzene	50.0	45.2		ug/Kg		90	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.9		ug/Kg		100	66 - 150
1,2-Dibromoethane	50.0	48.6		ug/Kg		97	76 - 135
1,2-Dichlorobenzene	50.0	50.9		ug/Kg		102	73 - 135
1,2-Dichloroethane	50.0	43.6		ug/Kg		87	69 - 135
1,2-Dichloroethene, Total	100	102		ug/Kg		102	78 - 135
1,2-Dichloropropane	50.0	50.9		ug/Kg		102	72 - 121
1,3,5-Trimethylbenzene	50.0	46.6		ug/Kg		93	65 - 135

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-411028/1-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	50.0	50.7		ug/Kg		101	69 - 135
1,3-Dichloropropane	50.0	48.6		ug/Kg		97	74 - 135
1,4-Dichlorobenzene	50.0	50.2		ug/Kg		100	73 - 135
2,2-Dichloropropane	50.0	46.0		ug/Kg		92	69 - 135
2-Butanone (MEK)	200	177		ug/Kg		88	45 - 177
2-Chlorotoluene	50.0	48.9		ug/Kg		98	67 - 135
2-Hexanone	200	192		ug/Kg		96	67 - 150
4-Chlorotoluene	50.0	50.6		ug/Kg		101	68 - 135
4-Isopropyltoluene	50.0	48.8		ug/Kg		98	66 - 135
4-Methyl-2-pentanone (MIBK)	200	187		ug/Kg		94	69 - 150
Acetone	200	194		ug/Kg		97	65 - 150
Benzene	50.0	52.7		ug/Kg		105	75 - 135
Bromobenzene	50.0	50.7		ug/Kg		101	72 - 135
Bromoform	50.0	44.0		ug/Kg		88	77 - 135
Bromomethane	50.0	52.2		ug/Kg		104	52 - 135
Carbon tetrachloride	50.0	42.2		ug/Kg		84	69 - 138
Chlorobenzene	50.0	49.2		ug/Kg		98	78 - 135
Chlorobromomethane	50.0	52.4		ug/Kg		105	74 - 135
Chlorodibromomethane	50.0	43.9		ug/Kg		88	77 - 135
Chloroethane	50.0	53.5		ug/Kg		107	51 - 145
Chloroform	50.0	45.4		ug/Kg		91	73 - 123
Chloromethane	50.0	47.3		ug/Kg		95	41 - 138
cis-1,2-Dichloroethene	50.0	50.6		ug/Kg		101	76 - 135
cis-1,3-Dichloropropene	50.0	46.8		ug/Kg		94	71 - 135
Dibromomethane	50.0	48.1		ug/Kg		96	73 - 135
Dichlorobromomethane	50.0	45.7		ug/Kg		91	73 - 135
Dichlorodifluoromethane	50.0	44.8		ug/Kg		90	32 - 152
Ethylbenzene	50.0	49.8		ug/Kg		100	73 - 125
Hexachlorobutadiene	50.0	52.0		ug/Kg		104	52 - 151
Isopropylbenzene	50.0	47.0		ug/Kg		94	74 - 137
Methyl tert-butyl ether	50.0	46.9		ug/Kg		94	71 - 141
Methylene Chloride	50.0	53.8		ug/Kg		108	76 - 136
m-Xylene & p-Xylene	50.0	50.1		ug/Kg		100	77 - 135
Naphthalene	50.0	53.6		ug/Kg		107	65 - 135
n-Butylbenzene	50.0	48.1		ug/Kg		96	68 - 135
N-Propylbenzene	50.0	49.3		ug/Kg		99	67 - 135
o-Xylene	50.0	50.4		ug/Kg		101	75 - 135
sec-Butylbenzene	50.0	50.1		ug/Kg		100	69 - 135
Styrene	50.0	48.2		ug/Kg		96	76 - 135
tert-Butylbenzene	50.0	47.8		ug/Kg		96	66 - 135
Tetrachloroethene	50.0	53.5		ug/Kg		107	76 - 135
Toluene	50.0	52.0		ug/Kg		104	77 - 122
trans-1,2-Dichloroethene	50.0	51.5		ug/Kg		103	77 - 135
trans-1,3-Dichloropropene	50.0	45.6		ug/Kg		91	71 - 135
Trichloroethene	50.0	49.9		ug/Kg		100	77 - 135
Trichlorofluoromethane	50.0	41.2		ug/Kg		82	48 - 150
Vinyl chloride	50.0	48.5		ug/Kg		97	43 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-411028/1-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411028

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*75*		*58 - 140*
4-Bromofluorobenzene (Surr)	*91*		*76 - 127*
Dibromofluoromethane (Surr)	*89*		*75 - 121*
Toluene-d8 (Surr)	*95*		*80 - 126*

Lab Sample ID: LCSD 280-411028/2-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	46.7		ug/Kg		93	76 - 135	2	20
1,1,1-Trichloroethane	50.0	42.2		ug/Kg		84	70 - 135	5	20
1,1,2,2-Tetrachloroethane	50.0	47.7		ug/Kg		95	65 - 135	2	21
1,1,2-Trichloroethane	50.0	52.2		ug/Kg		104	78 - 135	0	20
1,1-Dichloroethane	50.0	47.1		ug/Kg		94	70 - 135	0	20
1,1-Dichloroethene	50.0	49.5		ug/Kg		99	79 - 135	2	20
1,1-Dichloropropene	50.0	49.7		ug/Kg		99	72 - 135	2	20
1,2,3-Trichlorobenzene	50.0	53.2		ug/Kg		106	62 - 135	5	31
1,2,3-Trichloropropane	50.0	49.9		ug/Kg		100	65 - 135	6	21
1,2,4-Trichlorobenzene	50.0	51.2		ug/Kg		102	65 - 135	3	26
1,2,4-Trimethylbenzene	50.0	44.9		ug/Kg		90	67 - 135	0	20
1,2-Dibromo-3-Chloropropane	50.0	50.9		ug/Kg		102	66 - 150	2	28
1,2-Dibromoethane	50.0	48.8		ug/Kg		98	76 - 135	0	20
1,2-Dichlorobenzene	50.0	50.3		ug/Kg		101	73 - 135	1	20
1,2-Dichloroethane	50.0	42.8		ug/Kg		86	69 - 135	2	20
1,2-Dichloroethene, Total	100	103		ug/Kg		103	78 - 135	1	20
1,2-Dichloropropane	50.0	49.8		ug/Kg		100	72 - 121	2	20
1,3,5-Trimethylbenzene	50.0	45.6		ug/Kg		91	65 - 135	2	21
1,3-Dichlorobenzene	50.0	48.8		ug/Kg		98	69 - 135	4	20
1,3-Dichloropropane	50.0	48.3		ug/Kg		97	74 - 135	1	20
1,4-Dichlorobenzene	50.0	49.9		ug/Kg		100	73 - 135	1	22
2,2-Dichloropropane	50.0	43.8		ug/Kg		88	69 - 135	5	20
2-Butanone (MEK)	200	180		ug/Kg		90	45 - 177	2	32
2-Chlorotoluene	50.0	48.3		ug/Kg		97	67 - 135	1	22
2-Hexanone	200	202		ug/Kg		101	67 - 150	5	29
4-Chlorotoluene	50.0	49.6		ug/Kg		99	68 - 135	2	20
4-Isopropyltoluene	50.0	47.1		ug/Kg		94	66 - 135	3	20
4-Methyl-2-pentanone (MIBK)	200	192		ug/Kg		96	69 - 150	2	25
Acetone	200	197		ug/Kg		98	65 - 150	2	28
Benzene	50.0	52.5		ug/Kg		105	75 - 135	0	20
Bromobenzene	50.0	50.3		ug/Kg		101	72 - 135	1	22
Bromoform	50.0	44.9		ug/Kg		90	77 - 135	2	20
Bromomethane	50.0	46.7		ug/Kg		93	52 - 135	11	22
Carbon tetrachloride	50.0	40.8		ug/Kg		82	69 - 138	3	20
Chlorobenzene	50.0	48.1		ug/Kg		96	78 - 135	2	20
Chlorobromomethane	50.0	53.1		ug/Kg		106	74 - 135	1	21
Chlorodibromomethane	50.0	43.9		ug/Kg		88	77 - 135	0	20
Chloroethane	50.0	48.7		ug/Kg		97	51 - 145	9	22

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-411028/2-A
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411028

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			50.0	45.5		ug/Kg		91	73 - 123	0	20
Chloromethane			50.0	43.2		ug/Kg		86	41 - 138	9	25
cis-1,2-Dichloroethene			50.0	51.1		ug/Kg		102	76 - 135	1	20
cis-1,3-Dichloropropene			50.0	44.9		ug/Kg		90	71 - 135	4	20
Dibromomethane			50.0	48.0		ug/Kg		96	73 - 135	0	20
Dichlorobromomethane			50.0	44.7		ug/Kg		89	73 - 135	2	20
Dichlorodifluoromethane			50.0	38.2		ug/Kg		76	32 - 152	16	28
Ethylbenzene			50.0	48.8		ug/Kg		98	73 - 125	2	20
Hexachlorobutadiene			50.0	50.6		ug/Kg		101	52 - 151	3	25
Isopropylbenzene			50.0	46.1		ug/Kg		92	74 - 137	2	20
Methyl tert-butyl ether			50.0	47.8		ug/Kg		96	71 - 141	2	20
Methylene Chloride			50.0	52.9		ug/Kg		106	76 - 136	2	21
m-Xylene & p-Xylene			50.0	47.8		ug/Kg		96	77 - 135	5	20
Naphthalene			50.0	53.4		ug/Kg		107	65 - 135	0	38
n-Butylbenzene			50.0	47.8		ug/Kg		96	68 - 135	1	21
N-Propylbenzene			50.0	48.0		ug/Kg		96	67 - 135	3	22
o-Xylene			50.0	49.1		ug/Kg		98	75 - 135	3	20
sec-Butylbenzene			50.0	48.8		ug/Kg		98	69 - 135	3	22
Styrene			50.0	48.4		ug/Kg		97	76 - 135	0	20
tert-Butylbenzene			50.0	46.8		ug/Kg		94	66 - 135	2	22
Tetrachloroethene			50.0	51.9		ug/Kg		104	76 - 135	3	20
Toluene			50.0	52.0		ug/Kg		104	77 - 122	0	20
trans-1,2-Dichloroethene			50.0	52.3		ug/Kg		105	77 - 135	2	20
trans-1,3-Dichloropropene			50.0	44.4		ug/Kg		89	71 - 135	3	20
Trichloroethene			50.0	48.9		ug/Kg		98	77 - 135	2	20
Trichlorofluoromethane			50.0	36.8		ug/Kg		74	48 - 150	11	33
Vinyl chloride			50.0	42.3		ug/Kg		85	43 - 145	14	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*74*		*58 - 140*
4-Bromofluorobenzene (Surr)	*93*		*76 - 127*
Dibromofluoromethane (Surr)	*90*		*75 - 121*
Toluene-d8 (Surr)	*95*		*80 - 126*

Lab Sample ID: 280-107960-2 MS
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: PCS AC2
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		55.7	47.1		ug/Kg		85	76 - 135
1,1,1-Trichloroethane	ND		55.7	41.9		ug/Kg		75	70 - 135
1,1,2,2-Tetrachloroethane	ND		55.7	48.4		ug/Kg		87	65 - 135
1,1,2-Trichloroethane	ND		55.7	54.0		ug/Kg		97	78 - 135
1,1-Dichloroethane	ND		55.7	48.3		ug/Kg		87	70 - 135
1,1-Dichloroethene	ND		55.7	49.1		ug/Kg		88	79 - 135
1,1-Dichloropropene	ND		55.7	48.3		ug/Kg		87	72 - 135
1,2,3-Trichlorobenzene	ND	F1	55.7	33.9	F1	ug/Kg		61	62 - 135
1,2,3-Trichloropropane	ND		55.7	51.3		ug/Kg		92	65 - 135

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107960-2 MS
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: PCS AC2
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND	F1	55.7	33.6	F1	ug/Kg		60	65 - 135
1,2,4-Trimethylbenzene	ND		55.7	42.9		ug/Kg		77	67 - 135
1,2-Dibromo-3-Chloropropane	ND		55.7	50.4		ug/Kg		91	66 - 150
1,2-Dibromoethane	ND		55.7	49.1		ug/Kg		88	76 - 135
1,2-Dichlorobenzene	0.69	J	55.7	46.9		ug/Kg		83	73 - 135
1,2-Dichloroethane	ND		55.7	43.8		ug/Kg		79	69 - 135
1,2-Dichloroethene, Total	7.4		111	111		ug/Kg		93	78 - 135
1,2-Dichloropropane	ND		55.7	51.3		ug/Kg		92	72 - 121
1,3,5-Trimethylbenzene	ND		55.7	43.9		ug/Kg		79	65 - 135
1,3-Dichlorobenzene	ND		55.7	46.5		ug/Kg		84	69 - 135
1,3-Dichloropropane	ND		55.7	48.3		ug/Kg		87	74 - 135
1,4-Dichlorobenzene	ND		55.7	44.7		ug/Kg		80	73 - 135
2,2-Dichloropropane	ND		55.7	39.3		ug/Kg		71	69 - 135
2-Butanone (MEK)	ND		223	362		ug/Kg		163	45 - 177
2-Chlorotoluene	ND		55.7	47.5		ug/Kg		85	67 - 135
2-Hexanone	ND		223	183		ug/Kg		82	67 - 150
4-Chlorotoluene	ND		55.7	48.5		ug/Kg		87	68 - 135
4-Isopropyltoluene	ND		55.7	41.6		ug/Kg		75	66 - 135
4-Methyl-2-pentanone (MIBK)	ND		223	186		ug/Kg		83	69 - 150
Acetone	ND		223	179		ug/Kg		80	65 - 150
Benzene	ND		55.7	53.5		ug/Kg		96	75 - 135
Bromobenzene	ND		55.7	51.8		ug/Kg		93	72 - 135
Bromoform	ND	F1	55.7	45.3		ug/Kg		81	77 - 135
Bromomethane	ND		55.7	39.0		ug/Kg		70	52 - 135
Carbon tetrachloride	ND		55.7	40.2		ug/Kg		72	69 - 138
Chlorobenzene	ND	F1	55.7	46.7		ug/Kg		84	78 - 135
Chlorobromomethane	ND		55.7	54.4		ug/Kg		98	74 - 135
Chlorodibromomethane	ND	F1	55.7	45.8		ug/Kg		82	77 - 135
Chloroethane	ND		55.7	40.0		ug/Kg		72	51 - 145
Chloroform	ND		55.7	46.0		ug/Kg		83	73 - 123
Chloromethane	ND		55.7	37.9		ug/Kg		68	41 - 138
cis-1,2-Dichloroethene	7.4		55.7	58.0		ug/Kg		91	76 - 135
cis-1,3-Dichloropropene	ND		55.7	44.5		ug/Kg		80	71 - 135
Dibromomethane	ND		55.7	49.0		ug/Kg		88	73 - 135
Dichlorobromomethane	ND		55.7	45.6		ug/Kg		82	73 - 135
Dichlorodifluoromethane	ND		55.7	37.2		ug/Kg		67	32 - 152
Ethylbenzene	ND		55.7	47.3		ug/Kg		85	73 - 125
Hexachlorobutadiene	ND		55.7	31.8		ug/Kg		57	52 - 151
Isopropylbenzene	ND	F1	55.7	47.5		ug/Kg		85	74 - 137
Methyl tert-butyl ether	ND		55.7	49.7		ug/Kg		89	71 - 141
Methylene Chloride	ND		55.7	52.3		ug/Kg		94	76 - 136
m-Xylene & p-Xylene	ND	F1	55.7	45.7		ug/Kg		82	77 - 135
Naphthalene	ND		55.7	39.3		ug/Kg		71	65 - 135
n-Butylbenzene	ND	F1	55.7	39.3		ug/Kg		71	68 - 135
N-Propylbenzene	ND		55.7	47.6		ug/Kg		85	67 - 135
o-Xylene	ND		55.7	47.2		ug/Kg		85	75 - 135
sec-Butylbenzene	ND		55.7	45.3		ug/Kg		81	69 - 135
Styrene	ND	F1	55.7	43.0		ug/Kg		77	76 - 135

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107960-2 MS
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: PCS AC2
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	ND		55.7	44.4		ug/Kg		80	66 - 135
Tetrachloroethene	ND		55.7	50.2		ug/Kg		90	76 - 135
Toluene	ND		55.7	50.7		ug/Kg		91	77 - 122
trans-1,2-Dichloroethene	ND		55.7	52.6		ug/Kg		94	77 - 135
trans-1,3-Dichloropropene	ND		55.7	43.1		ug/Kg		77	71 - 135
Trichloroethene	ND		55.7	51.2		ug/Kg		92	77 - 135
Trichlorofluoromethane	ND		55.7	35.5		ug/Kg		64	48 - 150
Vinyl chloride	ND		55.7	36.7		ug/Kg		66	43 - 145

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*81*		*58 - 140*
4-Bromofluorobenzene (Surr)	*104*		*76 - 127*
Dibromofluoromethane (Surr)	*96*		*75 - 121*
Toluene-d8 (Surr)	*103*		*80 - 126*

Lab Sample ID: 280-107960-2 MSD
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: PCS AC2
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		56.3	43.6		ug/Kg		77	76 - 135	8	20
1,1,1-Trichloroethane	ND		56.3	41.7		ug/Kg		74	70 - 135	1	20
1,1,2,2-Tetrachloroethane	ND		56.3	42.0		ug/Kg		75	65 - 135	14	21
1,1,2-Trichloroethane	ND		56.3	52.0		ug/Kg		92	78 - 135	4	20
1,1-Dichloroethane	ND		56.3	46.7		ug/Kg		83	70 - 135	3	20
1,1-Dichloroethene	ND		56.3	50.9		ug/Kg		90	79 - 135	4	20
1,1-Dichloropropene	ND		56.3	47.5		ug/Kg		84	72 - 135	2	20
1,2,3-Trichlorobenzene	ND	F1	56.3	36.9		ug/Kg		65	62 - 135	9	31
1,2,3-Trichloropropane	ND		56.3	47.2		ug/Kg		84	65 - 135	8	21
1,2,4-Trichlorobenzene	ND	F1	56.3	34.8	F1	ug/Kg		62	65 - 135	3	26
1,2,4-Trimethylbenzene	ND		56.3	37.9		ug/Kg		67	67 - 135	12	20
1,2-Dibromo-3-Chloropropane	ND		56.3	47.7		ug/Kg		85	66 - 150	6	28
1,2-Dibromoethane	ND		56.3	46.2		ug/Kg		82	76 - 135	6	20
1,2-Dichlorobenzene	0.69	J	56.3	43.2		ug/Kg		75	73 - 135	8	20
1,2-Dichloroethane	ND		56.3	41.2		ug/Kg		73	69 - 135	6	20
1,2-Dichloroethene, Total	7.4		113	109		ug/Kg		90	78 - 135	2	20
1,2-Dichloropropane	ND		56.3	48.2		ug/Kg		86	72 - 121	6	20
1,3,5-Trimethylbenzene	ND		56.3	39.3		ug/Kg		70	65 - 135	11	21
1,3-Dichlorobenzene	ND		56.3	41.1		ug/Kg		73	69 - 135	12	20
1,3-Dichloropropane	ND		56.3	44.9		ug/Kg		80	74 - 135	7	20
1,4-Dichlorobenzene	ND		56.3	41.3		ug/Kg		73	73 - 135	8	22
2,2-Dichloropropane	ND		56.3	40.2		ug/Kg		71	69 - 135	2	20
2-Butanone (MEK)	ND		225	338		ug/Kg		150	45 - 177	7	32
2-Chlorotoluene	ND		56.3	41.9		ug/Kg		74	67 - 135	13	22
2-Hexanone	ND		225	178		ug/Kg		79	67 - 150	3	29
4-Chlorotoluene	ND		56.3	42.9		ug/Kg		76	68 - 135	12	20
4-Isopropyltoluene	ND		56.3	38.3		ug/Kg		68	66 - 135	8	20
4-Methyl-2-pentanone (MIBK)	ND		225	179		ug/Kg		80	69 - 150	3	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107960-2 MSD
Matrix: Solid
Analysis Batch: 411029

Client Sample ID: PCS AC2
Prep Type: Total/NA
Prep Batch: 411028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		225	166		ug/Kg		74	65 - 150	7	28
Benzene	ND		56.3	51.2		ug/Kg		91	75 - 135	5	20
Bromobenzene	ND		56.3	45.9		ug/Kg		81	72 - 135	12	22
Bromoform	ND	F1	56.3	42.0	F1	ug/Kg		75	77 - 135	8	20
Bromomethane	ND		56.3	40.4		ug/Kg		72	52 - 135	3	22
Carbon tetrachloride	ND		56.3	39.4		ug/Kg		70	69 - 138	2	20
Chlorobenzene	ND	F1	56.3	43.6	F1	ug/Kg		77	78 - 135	7	20
Chlorobromomethane	ND		56.3	52.5		ug/Kg		93	74 - 135	4	21
Chlorodibromomethane	ND	F1	56.3	42.3	F1	ug/Kg		75	77 - 135	8	20
Chloroethane	ND		56.3	42.5		ug/Kg		75	51 - 145	6	22
Chloroform	ND		56.3	44.2		ug/Kg		78	73 - 123	4	20
Chloromethane	ND		56.3	39.2		ug/Kg		70	41 - 138	3	25
cis-1,2-Dichloroethene	7.4		56.3	56.0		ug/Kg		86	76 - 135	4	20
cis-1,3-Dichloropropene	ND		56.3	42.0		ug/Kg		75	71 - 135	6	20
Dibromomethane	ND		56.3	46.6		ug/Kg		83	73 - 135	5	20
Dichlorobromomethane	ND		56.3	43.2		ug/Kg		77	73 - 135	5	20
Dichlorodifluoromethane	ND		56.3	37.3		ug/Kg		66	32 - 152	0	28
Ethylbenzene	ND		56.3	43.8		ug/Kg		78	73 - 125	8	20
Hexachlorobutadiene	ND		56.3	33.9		ug/Kg		60	52 - 151	6	25
Isopropylbenzene	ND	F1	56.3	41.3	F1	ug/Kg		73	74 - 137	14	20
Methyl tert-butyl ether	ND		56.3	48.3		ug/Kg		86	71 - 141	3	20
Methylene Chloride	ND		56.3	52.8		ug/Kg		94	76 - 136	1	21
m-Xylene & p-Xylene	ND	F1	56.3	42.9	F1	ug/Kg		76	77 - 135	6	20
Naphthalene	ND		56.3	40.2		ug/Kg		71	65 - 135	2	38
n-Butylbenzene	ND	F1	56.3	36.5	F1	ug/Kg		65	68 - 135	7	21
N-Propylbenzene	ND		56.3	40.5		ug/Kg		72	67 - 135	16	22
o-Xylene	ND		56.3	43.9		ug/Kg		78	75 - 135	7	20
sec-Butylbenzene	ND		56.3	41.4		ug/Kg		73	69 - 135	9	22
Styrene	ND	F1	56.3	41.1	F1	ug/Kg		73	76 - 135	5	20
tert-Butylbenzene	ND		56.3	39.9		ug/Kg		71	66 - 135	11	22
Tetrachloroethene	ND		56.3	47.5		ug/Kg		84	76 - 135	6	20
Toluene	ND		56.3	49.5		ug/Kg		88	77 - 122	2	20
trans-1,2-Dichloroethene	ND		56.3	52.8		ug/Kg		94	77 - 135	0	20
trans-1,3-Dichloropropene	ND		56.3	41.8		ug/Kg		74	71 - 135	3	20
Trichloroethene	ND		56.3	49.0		ug/Kg		87	77 - 135	4	20
Trichlorofluoromethane	ND		56.3	36.1		ug/Kg		64	48 - 150	2	33
Vinyl chloride	ND		56.3	36.7		ug/Kg		65	43 - 145	0	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*58 - 140*
4-Bromofluorobenzene (Surr)	*92*		*76 - 127*
Dibromofluoromethane (Surr)	*91*		*75 - 121*
Toluene-d8 (Surr)	*94*		*80 - 126*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-411171/3-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.56	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,1,1-Trichloroethane	ND		5.0	0.52	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.61	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,1,2-Trichloroethane	ND		5.0	0.88	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,1-Dichloroethane	ND		5.0	0.21	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,1-Dichloroethene	ND		5.0	0.59	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,1-Dichloropropene	ND		5.0	0.54	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2,3-Trichlorobenzene	ND		5.0	0.75	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2,3-Trichloropropane	ND		5.0	0.81	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2,4-Trichlorobenzene	ND		5.0	0.73	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2,4-Trimethylbenzene	ND		5.0	0.58	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2-Dibromo-3-Chloropropane	ND		10	0.60	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2-Dibromoethane	ND		5.0	0.52	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2-Dichlorobenzene	ND		5.0	0.45	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2-Dichloroethane	ND		5.0	0.70	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2-Dichloroethene, Total	ND		5.0	0.39	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,2-Dichloropropane	ND		5.0	0.55	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,3,5-Trimethylbenzene	ND		5.0	0.57	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,3-Dichlorobenzene	ND		5.0	0.48	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,3-Dichloropropane	ND		5.0	0.51	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
1,4-Dichlorobenzene	ND		5.0	0.78	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
2,2-Dichloropropane	ND		5.0	0.44	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
2-Butanone (MEK)	ND		20	1.8	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
2-Chlorotoluene	ND		5.0	0.51	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
2-Hexanone	ND		20	4.9	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
4-Chlorotoluene	ND		5.0	0.78	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
4-Isopropyltoluene	ND		5.0	0.49	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
4-Methyl-2-pentanone (MIBK)	ND		20	4.4	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Acetone	13.5	J	20	5.4	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Benzene	ND		5.0	0.47	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Bromobenzene	ND		5.0	0.49	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Bromoform	ND		5.0	0.23	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Bromomethane	ND		10	0.50	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Carbon tetrachloride	ND		5.0	0.63	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Chlorobenzene	ND		5.0	0.54	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Chlorobromomethane	ND		5.0	0.30	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Chlorodibromomethane	ND		5.0	0.57	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Chloroethane	ND		10	0.89	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Chloroform	ND		10	0.29	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Chloromethane	ND		10	0.77	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
cis-1,2-Dichloroethene	ND		2.5	0.56	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
cis-1,3-Dichloropropene	ND		5.0	1.3	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Dibromomethane	ND		5.0	0.84	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Dichlorobromomethane	ND		5.0	0.22	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Dichlorodifluoromethane	ND		10	0.52	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Ethylbenzene	ND		5.0	0.67	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Hexachlorobutadiene	ND		5.0	0.55	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Isopropylbenzene	ND		5.0	0.59	ug/Kg		04/12/18 18:00	04/12/18 18:57	1

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-411171/3-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		20	0.34	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Methylene Chloride	ND		5.0	1.6	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
m-Xylene & p-Xylene	ND		2.5	1.0	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Naphthalene	ND		5.0	0.63	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
n-Butylbenzene	ND		5.0	0.56	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
N-Propylbenzene	ND		5.0	0.58	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
o-Xylene	ND		2.5	0.61	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
sec-Butylbenzene	ND		5.0	0.77	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Styrene	ND		5.0	0.63	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
tert-Butylbenzene	ND		5.0	0.50	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Tetrachloroethene	ND		5.0	0.59	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Toluene	ND		5.0	0.69	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
trans-1,2-Dichloroethene	ND		2.5	0.39	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
trans-1,3-Dichloropropene	ND		5.0	0.67	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Trichloroethene	ND		5.0	0.23	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Trichlorofluoromethane	ND		10	1.0	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Vinyl chloride	ND		5.0	1.3	ug/Kg		04/12/18 18:00	04/12/18 18:57	1
Xylenes, Total	ND		5.0	0.61	ug/Kg		04/12/18 18:00	04/12/18 18:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*76*		*58 - 140*	*04/12/18 18:00*	*04/12/18 18:57*	*1*
4-Bromofluorobenzene (Surr)	*95*		*76 - 127*	*04/12/18 18:00*	*04/12/18 18:57*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 121*	*04/12/18 18:00*	*04/12/18 18:57*	*1*
Toluene-d8 (Surr)	*94*		*80 - 126*	*04/12/18 18:00*	*04/12/18 18:57*	*1*

Lab Sample ID: LCS 280-411171/1-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	46.4		ug/Kg		93	76 - 135
1,1,1-Trichloroethane	50.0	43.5		ug/Kg		87	70 - 135
1,1,2,2-Tetrachloroethane	50.0	50.4		ug/Kg		101	65 - 135
1,1,2-Trichloroethane	50.0	56.0		ug/Kg		112	78 - 135
1,1-Dichloroethane	50.0	48.5		ug/Kg		97	70 - 135
1,1-Dichloroethene	50.0	52.0		ug/Kg		104	79 - 135
1,1-Dichloropropene	50.0	51.3		ug/Kg		103	72 - 135
1,2,3-Trichlorobenzene	50.0	57.2		ug/Kg		114	62 - 135
1,2,3-Trichloropropane	50.0	51.6		ug/Kg		103	65 - 135
1,2,4-Trichlorobenzene	50.0	53.8		ug/Kg		108	65 - 135
1,2,4-Trimethylbenzene	50.0	45.7		ug/Kg		91	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	57.1		ug/Kg		114	66 - 150
1,2-Dibromoethane	50.0	49.3		ug/Kg		99	76 - 135
1,2-Dichlorobenzene	50.0	52.0		ug/Kg		104	73 - 135
1,2-Dichloroethane	50.0	44.5		ug/Kg		89	69 - 135
1,2-Dichloroethene, Total	100	111		ug/Kg		111	78 - 135
1,2-Dichloropropane	50.0	51.0		ug/Kg		102	72 - 121
1,3,5-Trimethylbenzene	50.0	46.9		ug/Kg		94	65 - 135

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-411171/1-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	50.0	50.7		ug/Kg		101	69 - 135
1,3-Dichloropropane	50.0	48.7		ug/Kg		97	74 - 135
1,4-Dichlorobenzene	50.0	51.5		ug/Kg		103	73 - 135
2,2-Dichloropropane	50.0	45.6		ug/Kg		91	69 - 135
2-Butanone (MEK)	200	202		ug/Kg		101	45 - 177
2-Chlorotoluene	50.0	48.8		ug/Kg		98	67 - 135
2-Hexanone	200	223		ug/Kg		112	67 - 150
4-Chlorotoluene	50.0	50.3		ug/Kg		101	68 - 135
4-Isopropyltoluene	50.0	48.1		ug/Kg		96	66 - 135
4-Methyl-2-pentanone (MIBK)	200	209		ug/Kg		104	69 - 150
Acetone	200	220		ug/Kg		110	65 - 150
Benzene	50.0	53.9		ug/Kg		108	75 - 135
Bromobenzene	50.0	52.1		ug/Kg		104	72 - 135
Bromoform	50.0	48.0		ug/Kg		96	77 - 135
Bromomethane	50.0	45.9		ug/Kg		92	52 - 135
Carbon tetrachloride	50.0	42.9		ug/Kg		86	69 - 138
Chlorobenzene	50.0	48.7		ug/Kg		97	78 - 135
Chlorobromomethane	50.0	55.5		ug/Kg		111	74 - 135
Chlorodibromomethane	50.0	45.3		ug/Kg		91	77 - 135
Chloroethane	50.0	50.1		ug/Kg		100	51 - 145
Chloroform	50.0	46.8		ug/Kg		94	73 - 123
Chloromethane	50.0	44.5		ug/Kg		89	41 - 138
cis-1,2-Dichloroethene	50.0	55.5		ug/Kg		111	76 - 135
cis-1,3-Dichloropropene	50.0	46.5		ug/Kg		93	71 - 135
Dibromomethane	50.0	50.6		ug/Kg		101	73 - 135
Dichlorobromomethane	50.0	46.7		ug/Kg		93	73 - 135
Dichlorodifluoromethane	50.0	39.7		ug/Kg		79	32 - 152
Ethylbenzene	50.0	49.2		ug/Kg		98	73 - 125
Hexachlorobutadiene	50.0	52.2		ug/Kg		104	52 - 151
Isopropylbenzene	50.0	47.6		ug/Kg		95	74 - 137
Methyl tert-butyl ether	50.0	50.4		ug/Kg		101	71 - 141
Methylene Chloride	50.0	54.9		ug/Kg		110	76 - 136
m-Xylene & p-Xylene	50.0	48.6		ug/Kg		97	77 - 135
Naphthalene	50.0	57.8		ug/Kg		116	65 - 135
n-Butylbenzene	50.0	48.5		ug/Kg		97	68 - 135
N-Propylbenzene	50.0	49.2		ug/Kg		98	67 - 135
o-Xylene	50.0	49.7		ug/Kg		99	75 - 135
sec-Butylbenzene	50.0	49.4		ug/Kg		99	69 - 135
Styrene	50.0	49.2		ug/Kg		98	76 - 135
tert-Butylbenzene	50.0	47.5		ug/Kg		95	66 - 135
Tetrachloroethene	50.0	53.1		ug/Kg		106	76 - 135
Toluene	50.0	53.8		ug/Kg		108	77 - 122
trans-1,2-Dichloroethene	50.0	55.0		ug/Kg		110	77 - 135
trans-1,3-Dichloropropene	50.0	47.0		ug/Kg		94	71 - 135
Trichloroethene	50.0	51.6		ug/Kg		103	77 - 135
Trichlorofluoromethane	50.0	38.2		ug/Kg		76	48 - 150
Vinyl chloride	50.0	43.8		ug/Kg		88	43 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-411171/1-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411171

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*81*		*58 - 140*
4-Bromofluorobenzene (Surr)	*93*		*76 - 127*
Dibromofluoromethane (Surr)	*90*		*75 - 121*
Toluene-d8 (Surr)	*93*		*80 - 126*

Lab Sample ID: LCSD 280-411171/2-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	48.4		ug/Kg		97	76 - 135	4	20
1,1,1-Trichloroethane	50.0	43.5		ug/Kg		87	70 - 135	0	20
1,1,2,2-Tetrachloroethane	50.0	46.9		ug/Kg		94	65 - 135	7	21
1,1,2-Trichloroethane	50.0	53.7		ug/Kg		107	78 - 135	4	20
1,1-Dichloroethane	50.0	48.7		ug/Kg		97	70 - 135	0	20
1,1-Dichloroethene	50.0	52.5		ug/Kg		105	79 - 135	1	20
1,1-Dichloropropene	50.0	51.3		ug/Kg		103	72 - 135	0	20
1,2,3-Trichlorobenzene	50.0	52.1		ug/Kg		104	62 - 135	9	31
1,2,3-Trichloropropane	50.0	48.8		ug/Kg		98	65 - 135	6	21
1,2,4-Trichlorobenzene	50.0	50.2		ug/Kg		100	65 - 135	7	26
1,2,4-Trimethylbenzene	50.0	45.5		ug/Kg		91	67 - 135	0	20
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/Kg		98	66 - 150	15	28
1,2-Dibromoethane	50.0	49.7		ug/Kg		99	76 - 135	1	20
1,2-Dichlorobenzene	50.0	51.1		ug/Kg		102	73 - 135	2	20
1,2-Dichloroethane	50.0	43.2		ug/Kg		86	69 - 135	3	20
1,2-Dichloroethene, Total	100	110		ug/Kg		110	78 - 135	0	20
1,2-Dichloropropane	50.0	51.1		ug/Kg		102	72 - 121	0	20
1,3,5-Trimethylbenzene	50.0	46.9		ug/Kg		94	65 - 135	0	21
1,3-Dichlorobenzene	50.0	51.4		ug/Kg		103	69 - 135	1	20
1,3-Dichloropropane	50.0	48.6		ug/Kg		97	74 - 135	0	20
1,4-Dichlorobenzene	50.0	50.9		ug/Kg		102	73 - 135	1	22
2,2-Dichloropropane	50.0	45.6		ug/Kg		91	69 - 135	0	20
2-Butanone (MEK)	200	174		ug/Kg		87	45 - 177	15	32
2-Chlorotoluene	50.0	48.6		ug/Kg		97	67 - 135	0	22
2-Hexanone	200	203		ug/Kg		101	67 - 150	10	29
4-Chlorotoluene	50.0	50.7		ug/Kg		101	68 - 135	1	20
4-Isopropyltoluene	50.0	47.9		ug/Kg		96	66 - 135	1	20
4-Methyl-2-pentanone (MIBK)	200	187		ug/Kg		93	69 - 150	11	25
Acetone	200	189		ug/Kg		95	65 - 150	15	28
Benzene	50.0	54.1		ug/Kg		108	75 - 135	1	20
Bromobenzene	50.0	52.1		ug/Kg		104	72 - 135	0	22
Bromoform	50.0	46.7		ug/Kg		93	77 - 135	3	20
Bromomethane	50.0	49.5		ug/Kg		99	52 - 135	7	22
Carbon tetrachloride	50.0	42.6		ug/Kg		85	69 - 138	0	20
Chlorobenzene	50.0	49.9		ug/Kg		100	78 - 135	2	20
Chlorobromomethane	50.0	54.9		ug/Kg		110	74 - 135	1	21
Chlorodibromomethane	50.0	45.3		ug/Kg		91	77 - 135	0	20
Chloroethane	50.0	50.8		ug/Kg		102	51 - 145	1	22

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-411171/2-A
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	50.0	46.7		ug/Kg		93	73 - 123	0	20
Chloromethane	50.0	43.5		ug/Kg		87	41 - 138	2	25
cis-1,2-Dichloroethene	50.0	55.5		ug/Kg		111	76 - 135	0	20
cis-1,3-Dichloropropene	50.0	46.8		ug/Kg		94	71 - 135	1	20
Dibromomethane	50.0	48.6		ug/Kg		97	73 - 135	4	20
Dichlorobromomethane	50.0	45.6		ug/Kg		91	73 - 135	2	20
Dichlorodifluoromethane	50.0	38.6		ug/Kg		77	32 - 152	3	28
Ethylbenzene	50.0	51.2		ug/Kg		102	73 - 125	4	20
Hexachlorobutadiene	50.0	49.3		ug/Kg		99	52 - 151	6	25
Isopropylbenzene	50.0	47.9		ug/Kg		96	74 - 137	1	20
Methyl tert-butyl ether	50.0	48.2		ug/Kg		96	71 - 141	4	20
Methylene Chloride	50.0	55.1		ug/Kg		110	76 - 136	0	21
m-Xylene & p-Xylene	50.0	49.3		ug/Kg		99	77 - 135	1	20
Naphthalene	50.0	51.1		ug/Kg		102	65 - 135	12	38
n-Butylbenzene	50.0	47.7		ug/Kg		95	68 - 135	2	21
N-Propylbenzene	50.0	50.0		ug/Kg		100	67 - 135	2	22
o-Xylene	50.0	50.3		ug/Kg		101	75 - 135	1	20
sec-Butylbenzene	50.0	50.4		ug/Kg		101	69 - 135	2	22
Styrene	50.0	49.5		ug/Kg		99	76 - 135	1	20
tert-Butylbenzene	50.0	47.8		ug/Kg		96	66 - 135	1	22
Tetrachloroethene	50.0	54.4		ug/Kg		109	76 - 135	2	20
Toluene	50.0	53.7		ug/Kg		107	77 - 122	0	20
trans-1,2-Dichloroethene	50.0	54.9		ug/Kg		110	77 - 135	0	20
trans-1,3-Dichloropropene	50.0	45.8		ug/Kg		92	71 - 135	3	20
Trichloroethene	50.0	51.7		ug/Kg		103	77 - 135	0	20
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	48 - 150	2	33
Vinyl chloride	50.0	43.8		ug/Kg		88	43 - 145	0	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*74*		*58 - 140*
4-Bromofluorobenzene (Surr)	*91*		*76 - 127*
Dibromofluoromethane (Surr)	*90*		*75 - 121*
Toluene-d8 (Surr)	*94*		*80 - 126*

Lab Sample ID: 280-107960-20 MS
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: PCS AC20
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		57.1	46.4		ug/Kg		81	76 - 135
1,1,1-Trichloroethane	ND		57.1	43.2		ug/Kg		76	70 - 135
1,1,2,2-Tetrachloroethane	ND		57.1	46.8		ug/Kg		82	65 - 135
1,1,2-Trichloroethane	ND		57.1	55.1		ug/Kg		96	78 - 135
1,1-Dichloroethane	ND		57.1	49.3		ug/Kg		86	70 - 135
1,1-Dichloroethene	ND		57.1	51.6		ug/Kg		90	79 - 135
1,1-Dichloropropene	ND		57.1	50.8		ug/Kg		89	72 - 135
1,2,3-Trichlorobenzene	ND		57.1	40.1		ug/Kg		70	62 - 135
1,2,3-Trichloropropane	ND		57.1	50.0		ug/Kg		88	65 - 135

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107960-20 MS
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: PCS AC20
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		57.1	37.9		ug/Kg		66	65 - 135
1,2,4-Trimethylbenzene	ND		57.1	40.8		ug/Kg		71	67 - 135
1,2-Dibromo-3-Chloropropane	ND		57.1	48.0		ug/Kg		84	66 - 150
1,2-Dibromoethane	ND		57.1	48.9		ug/Kg		86	76 - 135
1,2-Dichlorobenzene	ND		57.1	45.3		ug/Kg		79	73 - 135
1,2-Dichloroethane	ND		57.1	44.7		ug/Kg		78	69 - 135
1,2-Dichloroethene, Total	ND		114	106		ug/Kg		93	78 - 135
1,2-Dichloropropane	ND		57.1	51.8		ug/Kg		91	72 - 121
1,3,5-Trimethylbenzene	ND		57.1	41.9		ug/Kg		73	65 - 135
1,3-Dichlorobenzene	ND		57.1	43.8		ug/Kg		77	69 - 135
1,3-Dichloropropane	ND		57.1	48.5		ug/Kg		85	74 - 135
1,4-Dichlorobenzene	ND		57.1	44.1		ug/Kg		77	73 - 135
2,2-Dichloropropane	ND		57.1	42.4		ug/Kg		74	69 - 135
2-Butanone (MEK)	6.6	J	228	229		ug/Kg		97	45 - 177
2-Chlorotoluene	ND		57.1	44.5		ug/Kg		78	67 - 135
2-Hexanone	ND		228	209		ug/Kg		92	67 - 150
4-Chlorotoluene	ND		57.1	45.4		ug/Kg		80	68 - 135
4-Isopropyltoluene	ND		57.1	40.5		ug/Kg		71	66 - 135
4-Methyl-2-pentanone (MIBK)	ND		228	204		ug/Kg		89	69 - 150
Acetone	21	B	228	196		ug/Kg		77	65 - 150
Benzene	ND		57.1	53.8		ug/Kg		94	75 - 135
Bromobenzene	ND		57.1	47.6		ug/Kg		83	72 - 135
Bromoform	ND		57.1	44.7		ug/Kg		78	77 - 135
Bromomethane	ND		57.1	42.8		ug/Kg		75	52 - 135
Carbon tetrachloride	ND		57.1	41.6		ug/Kg		73	69 - 138
Chlorobenzene	ND		57.1	46.0		ug/Kg		81	78 - 135
Chlorobromomethane	ND		57.1	54.2		ug/Kg		95	74 - 135
Chlorodibromomethane	ND		57.1	43.8		ug/Kg		77	77 - 135
Chloroethane	ND		57.1	44.4		ug/Kg		78	51 - 145
Chloroform	ND		57.1	46.6		ug/Kg		82	73 - 123
Chloromethane	ND		57.1	39.8		ug/Kg		70	41 - 138
cis-1,2-Dichloroethene	ND		57.1	52.4		ug/Kg		92	76 - 135
cis-1,3-Dichloropropene	ND		57.1	44.6		ug/Kg		78	71 - 135
Dibromomethane	ND		57.1	49.2		ug/Kg		86	73 - 135
Dichlorobromomethane	ND		57.1	44.9		ug/Kg		79	73 - 135
Dichlorodifluoromethane	ND		57.1	38.4		ug/Kg		67	32 - 152
Ethylbenzene	ND		57.1	46.9		ug/Kg		82	73 - 125
Hexachlorobutadiene	ND		57.1	34.9		ug/Kg		61	52 - 151
Isopropylbenzene	ND		57.1	44.0		ug/Kg		77	74 - 137
Methyl tert-butyl ether	ND		57.1	50.2		ug/Kg		88	71 - 141
Methylene Chloride	ND		57.1	54.0		ug/Kg		95	76 - 136
m-Xylene & p-Xylene	ND		57.1	46.2		ug/Kg		81	77 - 135
Naphthalene	ND		57.1	45.1		ug/Kg		79	65 - 135
n-Butylbenzene	ND		57.1	39.1		ug/Kg		69	68 - 135
N-Propylbenzene	ND		57.1	45.0		ug/Kg		79	67 - 135
o-Xylene	ND		57.1	46.9		ug/Kg		82	75 - 135
sec-Butylbenzene	ND		57.1	43.6		ug/Kg		76	69 - 135
Styrene	ND		57.1	43.6		ug/Kg		76	76 - 135

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107960-20 MS
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: PCS AC20
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	ND		57.1	43.1		ug/Kg		75	66 - 135
Tetrachloroethene	ND		57.1	48.6		ug/Kg		85	76 - 135
Toluene	ND		57.1	51.8		ug/Kg		91	77 - 122
trans-1,2-Dichloroethene	ND		57.1	53.3		ug/Kg		93	77 - 135
trans-1,3-Dichloropropene	ND		57.1	45.0		ug/Kg		79	71 - 135
Trichloroethene	ND		57.1	49.4		ug/Kg		87	77 - 135
Trichlorofluoromethane	ND		57.1	36.9		ug/Kg		65	48 - 150
Vinyl chloride	ND		57.1	37.8		ug/Kg		66	43 - 145

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*58 - 140*
4-Bromofluorobenzene (Surr)	*93*		*76 - 127*
Dibromofluoromethane (Surr)	*90*		*75 - 121*
Toluene-d8 (Surr)	*91*		*80 - 126*

Lab Sample ID: 280-107960-20 MSD
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: PCS AC20
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		56.3	50.5		ug/Kg		90	76 - 135	9	20
1,1,1-Trichloroethane	ND		56.3	47.6		ug/Kg		85	70 - 135	10	20
1,1,2,2-Tetrachloroethane	ND		56.3	54.1		ug/Kg		96	65 - 135	14	21
1,1,2-Trichloroethane	ND		56.3	59.3		ug/Kg		105	78 - 135	7	20
1,1-Dichloroethane	ND		56.3	52.6		ug/Kg		93	70 - 135	7	20
1,1-Dichloroethene	ND		56.3	56.4		ug/Kg		100	79 - 135	9	20
1,1-Dichloropropene	ND		56.3	54.3		ug/Kg		96	72 - 135	7	20
1,2,3-Trichlorobenzene	ND		56.3	40.1		ug/Kg		71	62 - 135	0	31
1,2,3-Trichloropropane	ND		56.3	57.7		ug/Kg		102	65 - 135	14	21
1,2,4-Trichlorobenzene	ND		56.3	38.9		ug/Kg		69	65 - 135	3	26
1,2,4-Trimethylbenzene	ND		56.3	45.2		ug/Kg		80	67 - 135	10	20
1,2-Dibromo-3-Chloropropane	ND		56.3	55.8		ug/Kg		99	66 - 150	15	28
1,2-Dibromoethane	ND		56.3	54.2		ug/Kg		96	76 - 135	10	20
1,2-Dichlorobenzene	ND		56.3	50.2		ug/Kg		89	73 - 135	10	20
1,2-Dichloroethane	ND		56.3	48.7		ug/Kg		86	69 - 135	8	20
1,2-Dichloroethene, Total	ND		113	115		ug/Kg		102	78 - 135	8	20
1,2-Dichloropropane	ND		56.3	55.7		ug/Kg		99	72 - 121	7	20
1,3,5-Trimethylbenzene	ND		56.3	46.7		ug/Kg		83	65 - 135	11	21
1,3-Dichlorobenzene	ND		56.3	48.6		ug/Kg		86	69 - 135	10	20
1,3-Dichloropropane	ND		56.3	53.9		ug/Kg		96	74 - 135	11	20
1,4-Dichlorobenzene	ND		56.3	47.1		ug/Kg		84	73 - 135	7	22
2,2-Dichloropropane	ND		56.3	46.3		ug/Kg		82	69 - 135	9	20
2-Butanone (MEK)	6.6	J	225	281		ug/Kg		122	45 - 177	20	32
2-Chlorotoluene	ND		56.3	49.6		ug/Kg		88	67 - 135	11	22
2-Hexanone	ND		225	219		ug/Kg		97	67 - 150	4	29
4-Chlorotoluene	ND		56.3	49.7		ug/Kg		88	68 - 135	9	20
4-Isopropyltoluene	ND		56.3	44.6		ug/Kg		79	66 - 135	10	20
4-Methyl-2-pentanone (MIBK)	ND		225	209		ug/Kg		93	69 - 150	2	25

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-107960-20 MSD
Matrix: Solid
Analysis Batch: 411164

Client Sample ID: PCS AC20
Prep Type: Total/NA
Prep Batch: 411171

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	21	B	225	213		ug/Kg		85	65 - 150	8	28
Benzene	ND		56.3	57.9		ug/Kg		103	75 - 135	7	20
Bromobenzene	ND		56.3	53.4		ug/Kg		95	72 - 135	12	22
Bromoform	ND		56.3	49.2		ug/Kg		87	77 - 135	10	20
Bromomethane	ND		56.3	43.5		ug/Kg		77	52 - 135	2	22
Carbon tetrachloride	ND		56.3	45.4		ug/Kg		81	69 - 138	9	20
Chlorobenzene	ND		56.3	50.4		ug/Kg		90	78 - 135	9	20
Chlorobromomethane	ND		56.3	59.3		ug/Kg		105	74 - 135	9	21
Chlorodibromomethane	ND		56.3	49.1		ug/Kg		87	77 - 135	11	20
Chloroethane	ND		56.3	44.6		ug/Kg		79	51 - 145	0	22
Chloroform	ND		56.3	50.2		ug/Kg		89	73 - 123	7	20
Chloromethane	ND		56.3	39.5		ug/Kg		70	41 - 138	1	25
cis-1,2-Dichloroethene	ND		56.3	57.3		ug/Kg		102	76 - 135	9	20
cis-1,3-Dichloropropene	ND		56.3	49.0		ug/Kg		87	71 - 135	9	20
Dibromomethane	ND		56.3	53.2		ug/Kg		94	73 - 135	8	20
Dichlorobromomethane	ND		56.3	50.2		ug/Kg		89	73 - 135	11	20
Dichlorodifluoromethane	ND		56.3	40.1		ug/Kg		71	32 - 152	4	28
Ethylbenzene	ND		56.3	51.7		ug/Kg		92	73 - 125	10	20
Hexachlorobutadiene	ND		56.3	37.0		ug/Kg		66	52 - 151	6	25
Isopropylbenzene	ND		56.3	49.6		ug/Kg		88	74 - 137	12	20
Methyl tert-butyl ether	ND		56.3	54.7		ug/Kg		97	71 - 141	9	20
Methylene Chloride	ND		56.3	59.2		ug/Kg		105	76 - 136	9	21
m-Xylene & p-Xylene	ND		56.3	48.7		ug/Kg		87	77 - 135	5	20
Naphthalene	ND		56.3	47.5		ug/Kg		84	65 - 135	5	38
n-Butylbenzene	ND		56.3	42.3		ug/Kg		75	68 - 135	8	21
N-Propylbenzene	ND		56.3	49.4		ug/Kg		88	67 - 135	9	22
o-Xylene	ND		56.3	52.1		ug/Kg		93	75 - 135	11	20
sec-Butylbenzene	ND		56.3	48.2		ug/Kg		86	69 - 135	10	22
Styrene	ND		56.3	48.4		ug/Kg		86	76 - 135	10	20
tert-Butylbenzene	ND		56.3	47.8		ug/Kg		85	66 - 135	10	22
Tetrachloroethene	ND		56.3	54.3		ug/Kg		96	76 - 135	11	20
Toluene	ND		56.3	55.8		ug/Kg		99	77 - 122	7	20
trans-1,2-Dichloroethene	ND		56.3	57.5		ug/Kg		102	77 - 135	8	20
trans-1,3-Dichloropropene	ND		56.3	47.7		ug/Kg		85	71 - 135	6	20
Trichloroethene	ND		56.3	53.8		ug/Kg		95	77 - 135	8	20
Trichlorofluoromethane	ND		56.3	37.7		ug/Kg		67	48 - 150	2	33
Vinyl chloride	ND		56.3	37.7		ug/Kg		67	43 - 145	0	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*76*		*58 - 140*
4-Bromofluorobenzene (Surr)	*95*		*76 - 127*
Dibromofluoromethane (Surr)	*89*		*75 - 121*
Toluene-d8 (Surr)	*94*		*80 - 126*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 280-410039/1-A
Matrix: Solid
Analysis Batch: 410771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410039

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.607	J	1.2	0.33	mg/Kg		04/03/18 13:40	04/10/18 14:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*96*		*77 - 123*	*04/03/18 13:40*	*04/10/18 14:21*	*1*

Lab Sample ID: LCS 280-410039/2-A
Matrix: Solid
Analysis Batch: 410771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	5.50	5.52		mg/Kg		100	85 - 153

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*92*		*77 - 123*

Lab Sample ID: 280-107960-1 MS
Matrix: Solid
Analysis Batch: 410771

Client Sample ID: PCS AC1
Prep Type: Total/NA
Prep Batch: 410039

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	0.50	J B F1	5.51	5.65		mg/Kg		93	85 - 153

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*105*		*77 - 123*

Lab Sample ID: 280-107960-1 MSD
Matrix: Solid
Analysis Batch: 410771

Client Sample ID: PCS AC1
Prep Type: Total/NA
Prep Batch: 410039

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	0.50	J B F1	5.47	4.97	F1	mg/Kg		82	85 - 153	13	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*93*		*77 - 123*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 280-409932/1-A
Matrix: Solid
Analysis Batch: 410664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.01	J	7.9	1.4	mg/Kg		04/03/18 07:33	04/09/18 14:26	1
C10-C36	3.08	J	7.9	2.0	mg/Kg		04/03/18 07:33	04/09/18 14:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*83*		*49 - 115*	*04/03/18 07:33*	*04/09/18 14:26*	*1*

Lab Sample ID: LCS 280-409932/2-A
Matrix: Solid
Analysis Batch: 410664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	119	90.9		mg/Kg		76	53 - 115
C10-C36	119	89.9		mg/Kg		76	57 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	*84*		*49 - 115*

Lab Sample ID: 280-107960-1 MS
Matrix: Solid
Analysis Batch: 410664

Client Sample ID: PCS AC1
Prep Type: Total/NA
Prep Batch: 409932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	19	B	128	117		mg/Kg		77	56 - 115
C10-C36	27	B	128	126		mg/Kg		77	57 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
o-Terphenyl	*85*		*49 - 115*

Lab Sample ID: 280-107960-1 MSD
Matrix: Solid
Analysis Batch: 410664

Client Sample ID: PCS AC1
Prep Type: Total/NA
Prep Batch: 409932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	19	B	133	119		mg/Kg		75	56 - 115	2	23
C10-C36	27	B	133	127		mg/Kg		75	57 - 115	1	23

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	*84*		*49 - 115*

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

GC/MS VOA

Prep Batch: 410881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-1	PCS AC1	Total/NA	Solid	5030B	
280-107960-3	PCS AC3	Total/NA	Solid	5030B	
280-107960-5	PCS AC5	Total/NA	Solid	5030B	
280-107960-8	PCS AC8	Total/NA	Solid	5030B	
280-107960-9	PCS AC9	Total/NA	Solid	5030B	
280-107960-10	PCS AC10	Total/NA	Solid	5030B	
MB 280-410881/3-A	Method Blank	Total/NA	Solid	5030B	
LCS 280-410881/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-410881/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
280-107962-A-1-B MS	Matrix Spike	Total/NA	Solid	5030B	
280-107962-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 410890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-1	PCS AC1	Total/NA	Solid	8260B	410881
280-107960-3	PCS AC3	Total/NA	Solid	8260B	410881
280-107960-5	PCS AC5	Total/NA	Solid	8260B	410881
280-107960-8	PCS AC8	Total/NA	Solid	8260B	410881
280-107960-9	PCS AC9	Total/NA	Solid	8260B	410881
280-107960-10	PCS AC10	Total/NA	Solid	8260B	410881
MB 280-410881/3-A	Method Blank	Total/NA	Solid	8260B	410881
LCS 280-410881/1-A	Lab Control Sample	Total/NA	Solid	8260B	410881
LCSD 280-410881/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	410881
280-107962-A-1-B MS	Matrix Spike	Total/NA	Solid	8260B	410881
280-107962-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	410881

Prep Batch: 411028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-2	PCS AC2	Total/NA	Solid	5030B	
280-107960-4	PCS AC4	Total/NA	Solid	5030B	
280-107960-6	PCS AC6	Total/NA	Solid	5030B	
280-107960-7	PCS AC7	Total/NA	Solid	5030B	
MB 280-411028/3-A	Method Blank	Total/NA	Solid	5030B	
LCS 280-411028/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-411028/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
280-107960-2 MS	PCS AC2	Total/NA	Solid	5030B	
280-107960-2 MSD	PCS AC2	Total/NA	Solid	5030B	

Analysis Batch: 411029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-2	PCS AC2	Total/NA	Solid	8260B	411028
280-107960-4	PCS AC4	Total/NA	Solid	8260B	411028
280-107960-6	PCS AC6	Total/NA	Solid	8260B	411028
280-107960-7	PCS AC7	Total/NA	Solid	8260B	411028
MB 280-411028/3-A	Method Blank	Total/NA	Solid	8260B	411028
LCS 280-411028/1-A	Lab Control Sample	Total/NA	Solid	8260B	411028
LCSD 280-411028/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	411028
280-107960-2 MS	PCS AC2	Total/NA	Solid	8260B	411028
280-107960-2 MSD	PCS AC2	Total/NA	Solid	8260B	411028

GC/MS VOA (Continued)

Analysis Batch: 411164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-11	PCS AC11	Total/NA	Solid	8260B	411171
280-107960-12	PCS AC12	Total/NA	Solid	8260B	411171
280-107960-13	PCS AC13	Total/NA	Solid	8260B	411171
280-107960-14	PCS AC14	Total/NA	Solid	8260B	411171
280-107960-15	PCS AC15	Total/NA	Solid	8260B	411171
280-107960-16	PCS AC16	Total/NA	Solid	8260B	411171
280-107960-17	PCS AC17	Total/NA	Solid	8260B	411171
280-107960-18	PCS AC18	Total/NA	Solid	8260B	411171
280-107960-19	PCS AC19	Total/NA	Solid	8260B	411171
280-107960-20	PCS AC20	Total/NA	Solid	8260B	411171
MB 280-411171/3-A	Method Blank	Total/NA	Solid	8260B	411171
LCS 280-411171/1-A	Lab Control Sample	Total/NA	Solid	8260B	411171
LCSD 280-411171/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	411171
280-107960-20 MS	PCS AC20	Total/NA	Solid	8260B	411171
280-107960-20 MSD	PCS AC20	Total/NA	Solid	8260B	411171

Prep Batch: 411171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-11	PCS AC11	Total/NA	Solid	5030B	
280-107960-12	PCS AC12	Total/NA	Solid	5030B	
280-107960-13	PCS AC13	Total/NA	Solid	5030B	
280-107960-14	PCS AC14	Total/NA	Solid	5030B	
280-107960-15	PCS AC15	Total/NA	Solid	5030B	
280-107960-16	PCS AC16	Total/NA	Solid	5030B	
280-107960-17	PCS AC17	Total/NA	Solid	5030B	
280-107960-18	PCS AC18	Total/NA	Solid	5030B	
280-107960-19	PCS AC19	Total/NA	Solid	5030B	
280-107960-20	PCS AC20	Total/NA	Solid	5030B	
MB 280-411171/3-A	Method Blank	Total/NA	Solid	5030B	
LCS 280-411171/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-411171/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
280-107960-20 MS	PCS AC20	Total/NA	Solid	5030B	
280-107960-20 MSD	PCS AC20	Total/NA	Solid	5030B	

GC VOA

Prep Batch: 410039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-1	PCS AC1	Total/NA	Solid	5030B	
280-107960-2	PCS AC2	Total/NA	Solid	5030B	
280-107960-3	PCS AC3	Total/NA	Solid	5030B	
280-107960-4	PCS AC4	Total/NA	Solid	5030B	
280-107960-5	PCS AC5	Total/NA	Solid	5030B	
280-107960-6	PCS AC6	Total/NA	Solid	5030B	
280-107960-7	PCS AC7	Total/NA	Solid	5030B	
280-107960-8	PCS AC8	Total/NA	Solid	5030B	
280-107960-9	PCS AC9	Total/NA	Solid	5030B	
280-107960-10	PCS AC10	Total/NA	Solid	5030B	
280-107960-11	PCS AC11	Total/NA	Solid	5030B	
280-107960-12	PCS AC12	Total/NA	Solid	5030B	

GC VOA (Continued)

Prep Batch: 410039 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-13	PCS AC13	Total/NA	Solid	5030B	
280-107960-14	PCS AC14	Total/NA	Solid	5030B	
280-107960-15	PCS AC15	Total/NA	Solid	5030B	
280-107960-16	PCS AC16	Total/NA	Solid	5030B	
280-107960-17	PCS AC17	Total/NA	Solid	5030B	
280-107960-18	PCS AC18	Total/NA	Solid	5030B	
280-107960-19	PCS AC19	Total/NA	Solid	5030B	
280-107960-20	PCS AC20	Total/NA	Solid	5030B	
MB 280-410039/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 280-410039/2-A	Lab Control Sample	Total/NA	Solid	5030B	
280-107960-1 MS	PCS AC1	Total/NA	Solid	5030B	
280-107960-1 MSD	PCS AC1	Total/NA	Solid	5030B	

Analysis Batch: 410771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-1	PCS AC1	Total/NA	Solid	8015B	410039
280-107960-2	PCS AC2	Total/NA	Solid	8015B	410039
280-107960-3	PCS AC3	Total/NA	Solid	8015B	410039
280-107960-4	PCS AC4	Total/NA	Solid	8015B	410039
280-107960-5	PCS AC5	Total/NA	Solid	8015B	410039
280-107960-6	PCS AC6	Total/NA	Solid	8015B	410039
280-107960-7	PCS AC7	Total/NA	Solid	8015B	410039
280-107960-8	PCS AC8	Total/NA	Solid	8015B	410039
280-107960-9	PCS AC9	Total/NA	Solid	8015B	410039
280-107960-10	PCS AC10	Total/NA	Solid	8015B	410039
MB 280-410039/1-A	Method Blank	Total/NA	Solid	8015B	410039
LCS 280-410039/2-A	Lab Control Sample	Total/NA	Solid	8015B	410039
280-107960-1 MS	PCS AC1	Total/NA	Solid	8015B	410039
280-107960-1 MSD	PCS AC1	Total/NA	Solid	8015B	410039

Analysis Batch: 410986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-11	PCS AC11	Total/NA	Solid	8015B	410039
280-107960-12	PCS AC12	Total/NA	Solid	8015B	410039
280-107960-13	PCS AC13	Total/NA	Solid	8015B	410039
280-107960-14	PCS AC14	Total/NA	Solid	8015B	410039
280-107960-15	PCS AC15	Total/NA	Solid	8015B	410039
280-107960-16	PCS AC16	Total/NA	Solid	8015B	410039
280-107960-17	PCS AC17	Total/NA	Solid	8015B	410039
280-107960-18	PCS AC18	Total/NA	Solid	8015B	410039
280-107960-19	PCS AC19	Total/NA	Solid	8015B	410039
280-107960-20	PCS AC20	Total/NA	Solid	8015B	410039

GC Semi VOA

Prep Batch: 409932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-1	PCS AC1	Total/NA	Solid	3546	
280-107960-2	PCS AC2	Total/NA	Solid	3546	
280-107960-3	PCS AC3	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 409932 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-4	PCS AC4	Total/NA	Solid	3546	
280-107960-5	PCS AC5	Total/NA	Solid	3546	
280-107960-6	PCS AC6	Total/NA	Solid	3546	
280-107960-7	PCS AC7	Total/NA	Solid	3546	
280-107960-8	PCS AC8	Total/NA	Solid	3546	
280-107960-9	PCS AC9	Total/NA	Solid	3546	
280-107960-10	PCS AC10	Total/NA	Solid	3546	
280-107960-11	PCS AC11	Total/NA	Solid	3546	
280-107960-12	PCS AC12	Total/NA	Solid	3546	
280-107960-13	PCS AC13	Total/NA	Solid	3546	
280-107960-14	PCS AC14	Total/NA	Solid	3546	
280-107960-15	PCS AC15	Total/NA	Solid	3546	
280-107960-16	PCS AC16	Total/NA	Solid	3546	
280-107960-17	PCS AC17	Total/NA	Solid	3546	
280-107960-18	PCS AC18	Total/NA	Solid	3546	
280-107960-19	PCS AC19	Total/NA	Solid	3546	
280-107960-20	PCS AC20	Total/NA	Solid	3546	
MB 280-409932/1-A	Method Blank	Total/NA	Solid	3546	
LCS 280-409932/2-A	Lab Control Sample	Total/NA	Solid	3546	
280-107960-1 MS	PCS AC1	Total/NA	Solid	3546	
280-107960-1 MSD	PCS AC1	Total/NA	Solid	3546	

Analysis Batch: 410664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107960-1	PCS AC1	Total/NA	Solid	8015B	409932
280-107960-2	PCS AC2	Total/NA	Solid	8015B	409932
280-107960-3	PCS AC3	Total/NA	Solid	8015B	409932
280-107960-4	PCS AC4	Total/NA	Solid	8015B	409932
280-107960-5	PCS AC5	Total/NA	Solid	8015B	409932
280-107960-6	PCS AC6	Total/NA	Solid	8015B	409932
280-107960-7	PCS AC7	Total/NA	Solid	8015B	409932
280-107960-8	PCS AC8	Total/NA	Solid	8015B	409932
280-107960-9	PCS AC9	Total/NA	Solid	8015B	409932
280-107960-10	PCS AC10	Total/NA	Solid	8015B	409932
280-107960-11	PCS AC11	Total/NA	Solid	8015B	409932
280-107960-12	PCS AC12	Total/NA	Solid	8015B	409932
280-107960-13	PCS AC13	Total/NA	Solid	8015B	409932
280-107960-14	PCS AC14	Total/NA	Solid	8015B	409932
280-107960-15	PCS AC15	Total/NA	Solid	8015B	409932
280-107960-16	PCS AC16	Total/NA	Solid	8015B	409932
280-107960-17	PCS AC17	Total/NA	Solid	8015B	409932
280-107960-18	PCS AC18	Total/NA	Solid	8015B	409932
280-107960-19	PCS AC19	Total/NA	Solid	8015B	409932
280-107960-20	PCS AC20	Total/NA	Solid	8015B	409932
MB 280-409932/1-A	Method Blank	Total/NA	Solid	8015B	409932
LCS 280-409932/2-A	Lab Control Sample	Total/NA	Solid	8015B	409932
280-107960-1 MS	PCS AC1	Total/NA	Solid	8015B	409932
280-107960-1 MSD	PCS AC1	Total/NA	Solid	8015B	409932

Client Sample ID: PCS AC1

Lab Sample ID: 280-107960-1

Date Collected: 03/29/18 11:35
Date Received: 03/30/18 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.705 g	5 mL	410881	04/10/18 20:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	410890	04/11/18 01:50	RSN	TAL DEN
Total/NA	Prep	5030B			4.997 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 15:10	CAS	TAL DEN
Total/NA	Prep	3546			15.2 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 15:15	TDJ	TAL DEN

Client Sample ID: PCS AC2

Lab Sample ID: 280-107960-2

Date Collected: 03/29/18 11:41
Date Received: 03/30/18 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.343 g	5 mL	411028	04/11/18 19:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411029	04/12/18 03:22	RSN	TAL DEN
Total/NA	Prep	5030B			5.049 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 16:49	CAS	TAL DEN
Total/NA	Prep	3546			15.7 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 16:28	TDJ	TAL DEN

Client Sample ID: PCS AC3

Lab Sample ID: 280-107960-3

Date Collected: 03/29/18 11:46
Date Received: 03/30/18 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.504 g	5 mL	410881	04/10/18 20:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	410890	04/11/18 02:30	RSN	TAL DEN
Total/NA	Prep	5030B			4.963 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 17:13	CAS	TAL DEN
Total/NA	Prep	3546			16.3 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 16:53	TDJ	TAL DEN

Client Sample ID: PCS AC4

Lab Sample ID: 280-107960-4

Date Collected: 03/29/18 11:50
Date Received: 03/30/18 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.371 g	5 mL	411028	04/11/18 19:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411029	04/12/18 04:43	RSN	TAL DEN
Total/NA	Prep	5030B			5.043 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 17:38	CAS	TAL DEN
Total/NA	Prep	3546			15.3 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 17:17	TDJ	TAL DEN

Lab Chronicle

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC5
Lab Sample ID: 280-107960-5
Date Collected: 03/29/18 11:55
Matrix: Solid
Date Received: 03/30/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.197 g	5 mL	410881	04/10/18 20:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	410890	04/11/18 03:11	RSN	TAL DEN
Total/NA	Prep	5030B			4.989 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 18:03	CAS	TAL DEN
Total/NA	Prep	3546			15.3 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 17:42	TDJ	TAL DEN

Client Sample ID: PCS AC6
Lab Sample ID: 280-107960-6
Date Collected: 03/29/18 12:00
Matrix: Solid
Date Received: 03/30/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.386 g	5 mL	411028	04/11/18 19:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411029	04/12/18 05:03	RSN	TAL DEN
Total/NA	Prep	5030B			5.015 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 20:17	CAS	TAL DEN
Total/NA	Prep	3546			15.3 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 18:06	TDJ	TAL DEN

Client Sample ID: PCS AC7
Lab Sample ID: 280-107960-7
Date Collected: 03/29/18 12:05
Matrix: Solid
Date Received: 03/30/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.350 g	5 mL	411028	04/11/18 19:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411029	04/12/18 05:24	RSN	TAL DEN
Total/NA	Prep	5030B			5.001 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 20:41	CAS	TAL DEN
Total/NA	Prep	3546			15.2 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 18:31	TDJ	TAL DEN

Client Sample ID: PCS AC8
Lab Sample ID: 280-107960-8
Date Collected: 03/29/18 12:10
Matrix: Solid
Date Received: 03/30/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.804 g	5 mL	410881	04/10/18 20:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	410890	04/11/18 04:12	RSN	TAL DEN
Total/NA	Prep	5030B			4.979 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 21:06	CAS	TAL DEN
Total/NA	Prep	3546			15.5 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 18:55	TDJ	TAL DEN

Client Sample ID: PCS AC9

Lab Sample ID: 280-107960-9

Date Collected: 03/29/18 12:15
Date Received: 03/30/18 08:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.003 g	5 mL	410881	04/10/18 20:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	410890	04/11/18 04:32	RSN	TAL DEN
Total/NA	Prep	5030B			5.020 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 21:30	CAS	TAL DEN
Total/NA	Prep	3546			15.5 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 19:20	TDJ	TAL DEN

Client Sample ID: PCS AC10

Lab Sample ID: 280-107960-10

Date Collected: 03/29/18 12:20
Date Received: 03/30/18 08:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.457 g	5 mL	410881	04/10/18 20:00	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	410890	04/11/18 04:52	RSN	TAL DEN
Total/NA	Prep	5030B			4.992 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410771	04/10/18 21:55	CAS	TAL DEN
Total/NA	Prep	3546			15.3 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 19:44	TDJ	TAL DEN

Client Sample ID: PCS AC11

Lab Sample ID: 280-107960-11

Date Collected: 03/29/18 12:25
Date Received: 03/30/18 08:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.486 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 19:17	RSN	TAL DEN
Total/NA	Prep	5030B			5.032 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 14:26	CAS	TAL DEN
Total/NA	Prep	3546			15.0 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 20:33	TDJ	TAL DEN

Client Sample ID: PCS AC12

Lab Sample ID: 280-107960-12

Date Collected: 03/29/18 12:30
Date Received: 03/30/18 08:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.456 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 19:38	RSN	TAL DEN
Total/NA	Prep	5030B			4.982 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 14:51	CAS	TAL DEN
Total/NA	Prep	3546			15.1 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 20:57	TDJ	TAL DEN

Lab Chronicle

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC13
Date Collected: 03/29/18 12:36
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.823 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 19:58	RSN	TAL DEN
Total/NA	Prep	5030B			5.009 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 15:16	CAS	TAL DEN
Total/NA	Prep	3546			15.5 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 21:22	TDJ	TAL DEN

Client Sample ID: PCS AC14
Date Collected: 03/29/18 12:41
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.435 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 20:59	RSN	TAL DEN
Total/NA	Prep	5030B			4.983 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 15:41	CAS	TAL DEN
Total/NA	Prep	3546			16.5 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 21:46	TDJ	TAL DEN

Client Sample ID: PCS AC15
Date Collected: 03/29/18 12:46
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.782 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 21:20	RSN	TAL DEN
Total/NA	Prep	5030B			4.963 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 16:06	CAS	TAL DEN
Total/NA	Prep	3546			15.5 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 22:10	TDJ	TAL DEN

Client Sample ID: PCS AC16
Date Collected: 03/29/18 12:51
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.758 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 21:40	RSN	TAL DEN
Total/NA	Prep	5030B			5.030 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 16:31	CAS	TAL DEN
Total/NA	Prep	3546			16.9 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 22:35	TDJ	TAL DEN

Client: Waste Management
Project/Site: 3217|Valencia, NM - Soils

TestAmerica Job ID: 280-107960-1

Client Sample ID: PCS AC17
Date Collected: 03/29/18 12:56
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.726 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 22:00	RSN	TAL DEN
Total/NA	Prep	5030B			5.005 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 16:56	CAS	TAL DEN
Total/NA	Prep	3546			16.8 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 22:59	TDJ	TAL DEN

Client Sample ID: PCS AC18
Date Collected: 03/29/18 13:02
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.853 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 22:20	RSN	TAL DEN
Total/NA	Prep	5030B			5.021 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 17:21	CAS	TAL DEN
Total/NA	Prep	3546			15.0 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 23:24	TDJ	TAL DEN

Client Sample ID: PCS AC19
Date Collected: 03/29/18 13:07
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.339 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 22:41	RSN	TAL DEN
Total/NA	Prep	5030B			5.005 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 17:45	CAS	TAL DEN
Total/NA	Prep	3546			16.2 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/09/18 23:48	TDJ	TAL DEN

Client Sample ID: PCS AC20
Date Collected: 03/29/18 13:14
Date Received: 03/30/18 08:50

Lab Sample ID: 280-107960-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.925 g	5 mL	411171	04/12/18 18:38	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	411164	04/12/18 23:01	RSN	TAL DEN
Total/NA	Prep	5030B			5.040 g	5 mL	410039	04/03/18 13:40	CAS	TAL DEN
Total/NA	Analysis	8015B		1	.1 mL	5 mL	410986	04/11/18 18:10	CAS	TAL DEN
Total/NA	Prep	3546			16.0 g	1 mL	409932	04/03/18 07:33	KI	TAL DEN
Total/NA	Analysis	8015B		1			410664	04/10/18 00:13	TDJ	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC1   Lab Sample ID: 280-107960-1

Matrix: Solid   Lab File ID: G6488.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:35

Sample wt/vol: 4.705(g)   Date Analyzed: 04/11/2018 01:50

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.3	0.60
71-55-6	1,1,1-Trichloroethane	ND		5.3	0.55
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.3	0.65
79-00-5	1,1,2-Trichloroethane	ND		5.3	0.94
75-34-3	1,1-Dichloroethane	ND		5.3	0.22
75-35-4	1,1-Dichloroethene	ND		5.3	0.63
563-58-6	1,1-Dichloropropene	ND		5.3	0.57
87-61-6	1,2,3-Trichlorobenzene	ND		5.3	0.80
96-18-4	1,2,3-Trichloropropane	ND		5.3	0.86
120-82-1	1,2,4-Trichlorobenzene	ND		5.3	0.78
95-63-6	1,2,4-Trimethylbenzene	ND		5.3	0.62
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.64
106-93-4	1,2-Dibromoethane	ND		5.3	0.55
95-50-1	1,2-Dichlorobenzene	ND		5.3	0.48
107-06-2	1,2-Dichloroethane	ND		5.3	0.74
540-59-0	1,2-Dichloroethene, Total	ND		5.3	0.41
78-87-5	1,2-Dichloropropane	ND		5.3	0.58
108-67-8	1,3,5-Trimethylbenzene	ND		5.3	0.61
541-73-1	1,3-Dichlorobenzene	ND		5.3	0.51
142-28-9	1,3-Dichloropropane	ND		5.3	0.54
106-46-7	1,4-Dichlorobenzene	ND		5.3	0.83
594-20-7	2,2-Dichloropropane	ND		5.3	0.47
78-93-3	2-Butanone (MEK)	3.3	J B	21	1.9
95-49-8	2-Chlorotoluene	ND		5.3	0.54
591-78-6	2-Hexanone	ND		21	5.2
106-43-4	4-Chlorotoluene	ND		5.3	0.83
99-87-6	4-Isopropyltoluene	ND		5.3	0.52
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.6
67-64-1	Acetone	ND		21	5.7
71-43-2	Benzene	ND		5.3	0.50
108-86-1	Bromobenzene	ND		5.3	0.52
75-25-2	Bromoform	ND		5.3	0.24
74-83-9	Bromomethane	ND		11	0.53
56-23-5	Carbon tetrachloride	ND		5.3	0.67
108-90-7	Chlorobenzene	ND		5.3	0.57
74-97-5	Chlorobromomethane	ND		5.3	0.32

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC1   Lab Sample ID: 280-107960-1

Matrix: Solid   Lab File ID: G6488.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:35

Sample wt/vol: 4.705(g)   Date Analyzed: 04/11/2018 01:50

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.3	0.61
75-00-3	Chloroethane	ND		11	0.95
67-66-3	Chloroform	ND		11	0.31
74-87-3	Chloromethane	ND		11	0.82
156-59-2	cis-1,2-Dichloroethene	ND		2.7	0.60
10061-01-5	cis-1,3-Dichloropropene	ND		5.3	1.4
74-95-3	Dibromomethane	ND		5.3	0.89
75-27-4	Dichlorobromomethane	ND		5.3	0.23
75-71-8	Dichlorodifluoromethane	ND		11	0.55
100-41-4	Ethylbenzene	ND		5.3	0.71
87-68-3	Hexachlorobutadiene	ND		5.3	0.58
98-82-8	Isopropylbenzene	ND		5.3	0.63
1634-04-4	Methyl tert-butyl ether	ND		21	0.36
75-09-2	Methylene Chloride	ND		5.3	1.7
179601-23-1	m-Xylene & p-Xylene	ND		2.7	1.1
91-20-3	Naphthalene	ND		5.3	0.67
104-51-8	n-Butylbenzene	ND		5.3	0.60
103-65-1	N-Propylbenzene	ND		5.3	0.62
95-47-6	o-Xylene	ND		2.7	0.65
135-98-8	sec-Butylbenzene	ND		5.3	0.82
100-42-5	Styrene	ND		5.3	0.67
98-06-6	tert-Butylbenzene	ND		5.3	0.53
127-18-4	Tetrachloroethene	ND		5.3	0.63
108-88-3	Toluene	ND		5.3	0.73
156-60-5	trans-1,2-Dichloroethene	ND		2.7	0.41
10061-02-6	trans-1,3-Dichloropropene	ND		5.3	0.71
79-01-6	Trichloroethene	ND		5.3	0.24
75-69-4	Trichlorofluoromethane	ND		11	1.1
75-01-4	Vinyl chloride	ND		5.3	1.4
1330-20-7	Xylenes, Total	ND		5.3	0.65

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC1   Lab Sample ID: 280-107960-1

Matrix: Solid   Lab File ID: G6488.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:35

Sample wt/vol: 4.705(g)   Date Analyzed: 04/11/2018 01:50

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	80		58-140
460-00-4	4-Bromofluorobenzene (Surr)	101		76-127
1868-53-7	Dibromofluoromethane (Surr)	90		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC2   Lab Sample ID: 280-107960-2

Matrix: Solid   Lab File ID: G6529.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:41

Sample wt/vol: 4.343(g)   Date Analyzed: 04/12/2018 03:22

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.8	0.64
71-55-6	1,1,1-Trichloroethane	ND		5.8	0.60
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.8	0.70
79-00-5	1,1,2-Trichloroethane	ND		5.8	1.0
75-34-3	1,1-Dichloroethane	ND		5.8	0.24
75-35-4	1,1-Dichloroethene	ND		5.8	0.68
563-58-6	1,1-Dichloropropene	ND		5.8	0.62
87-61-6	1,2,3-Trichlorobenzene	ND	F1	5.8	0.86
96-18-4	1,2,3-Trichloropropane	ND		5.8	0.93
120-82-1	1,2,4-Trichlorobenzene	ND	F1	5.8	0.84
95-63-6	1,2,4-Trimethylbenzene	ND		5.8	0.67
96-12-8	1,2-Dibromo-3-Chloropropane	ND		12	0.69
106-93-4	1,2-Dibromoethane	ND		5.8	0.60
95-50-1	1,2-Dichlorobenzene	0.69	J	5.8	0.52
107-06-2	1,2-Dichloroethane	ND		5.8	0.81
540-59-0	1,2-Dichloroethene, Total	7.4		5.8	0.45
78-87-5	1,2-Dichloropropane	ND		5.8	0.63
108-67-8	1,3,5-Trimethylbenzene	ND		5.8	0.66
541-73-1	1,3-Dichlorobenzene	ND		5.8	0.55
142-28-9	1,3-Dichloropropane	ND		5.8	0.59
106-46-7	1,4-Dichlorobenzene	ND		5.8	0.90
594-20-7	2,2-Dichloropropane	ND		5.8	0.51
78-93-3	2-Butanone (MEK)	ND		23	2.1
95-49-8	2-Chlorotoluene	ND		5.8	0.59
591-78-6	2-Hexanone	ND		23	5.6
106-43-4	4-Chlorotoluene	ND		5.8	0.90
99-87-6	4-Isopropyltoluene	ND		5.8	0.56
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		23	5.0
67-64-1	Acetone	ND		23	6.2
71-43-2	Benzene	ND		5.8	0.54
108-86-1	Bromobenzene	ND		5.8	0.56
75-25-2	Bromoform	ND	F1	5.8	0.26
74-83-9	Bromomethane	ND		12	0.58
56-23-5	Carbon tetrachloride	ND		5.8	0.73
108-90-7	Chlorobenzene	ND	F1	5.8	0.62
74-97-5	Chlorobromomethane	ND		5.8	0.35

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC2   Lab Sample ID: 280-107960-2

Matrix: Solid   Lab File ID: G6529.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:41

Sample wt/vol: 4.343(g)   Date Analyzed: 04/12/2018 03:22

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND	F1	5.8	0.66
75-00-3	Chloroethane	ND		12	1.0
67-66-3	Chloroform	ND		12	0.33
74-87-3	Chloromethane	ND		12	0.89
156-59-2	cis-1,2-Dichloroethene	7.4		2.9	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		5.8	1.5
74-95-3	Dibromomethane	ND		5.8	0.97
75-27-4	Dichlorobromomethane	ND		5.8	0.25
75-71-8	Dichlorodifluoromethane	ND		12	0.60
100-41-4	Ethylbenzene	ND		5.8	0.77
87-68-3	Hexachlorobutadiene	ND		5.8	0.63
98-82-8	Isopropylbenzene	ND	F1	5.8	0.68
1634-04-4	Methyl tert-butyl ether	ND		23	0.39
75-09-2	Methylene Chloride	ND		5.8	1.8
179601-23-1	m-Xylene & p-Xylene	ND	F1	2.9	1.2
91-20-3	Naphthalene	ND		5.8	0.73
104-51-8	n-Butylbenzene	ND	F1	5.8	0.64
103-65-1	N-Propylbenzene	ND		5.8	0.67
95-47-6	o-Xylene	ND		2.9	0.70
135-98-8	sec-Butylbenzene	ND		5.8	0.89
100-42-5	Styrene	ND	F1	5.8	0.73
98-06-6	tert-Butylbenzene	ND		5.8	0.58
127-18-4	Tetrachloroethene	ND		5.8	0.68
108-88-3	Toluene	ND		5.8	0.79
156-60-5	trans-1,2-Dichloroethene	ND		2.9	0.45
10061-02-6	trans-1,3-Dichloropropene	ND		5.8	0.77
79-01-6	Trichloroethene	ND		5.8	0.26
75-69-4	Trichlorofluoromethane	ND		12	1.2
75-01-4	Vinyl chloride	ND		5.8	1.5
1330-20-7	Xylenes, Total	ND		5.8	0.70

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC2   Lab Sample ID: 280-107960-2

Matrix: Solid   Lab File ID: G6529.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:41

Sample wt/vol: 4.343(g)   Date Analyzed: 04/12/2018 03:22

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	78		58-140
460-00-4	4-Bromofluorobenzene (Surr)	98		76-127
1868-53-7	Dibromofluoromethane (Surr)	91		75-121
2037-26-5	Toluene-d8 (Surr)	93		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC3   Lab Sample ID: 280-107960-3

Matrix: Solid   Lab File ID: G6490.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:46

Sample wt/vol: 4.504(g)   Date Analyzed: 04/11/2018 02:30

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.6	0.62
71-55-6	1,1,1-Trichloroethane	ND		5.6	0.58
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.6	0.68
79-00-5	1,1,2-Trichloroethane	ND		5.6	0.98
75-34-3	1,1-Dichloroethane	ND		5.6	0.23
75-35-4	1,1-Dichloroethene	ND		5.6	0.65
563-58-6	1,1-Dichloropropene	ND		5.6	0.60
87-61-6	1,2,3-Trichlorobenzene	ND		5.6	0.83
96-18-4	1,2,3-Trichloropropane	ND		5.6	0.90
120-82-1	1,2,4-Trichlorobenzene	ND		5.6	0.81
95-63-6	1,2,4-Trimethylbenzene	ND		5.6	0.64
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.67
106-93-4	1,2-Dibromoethane	ND		5.6	0.58
95-50-1	1,2-Dichlorobenzene	ND		5.6	0.50
107-06-2	1,2-Dichloroethane	ND		5.6	0.78
540-59-0	1,2-Dichloroethene, Total	ND		5.6	0.43
78-87-5	1,2-Dichloropropane	ND		5.6	0.61
108-67-8	1,3,5-Trimethylbenzene	ND		5.6	0.63
541-73-1	1,3-Dichlorobenzene	ND		5.6	0.53
142-28-9	1,3-Dichloropropane	ND		5.6	0.57
106-46-7	1,4-Dichlorobenzene	ND		5.6	0.87
594-20-7	2,2-Dichloropropane	ND		5.6	0.49
78-93-3	2-Butanone (MEK)	11	J B	22	2.0
95-49-8	2-Chlorotoluene	ND		5.6	0.57
591-78-6	2-Hexanone	ND		22	5.4
106-43-4	4-Chlorotoluene	ND		5.6	0.87
99-87-6	4-Isopropyltoluene	ND		5.6	0.54
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		22	4.8
67-64-1	Acetone	21	J	22	6.0
71-43-2	Benzene	ND		5.6	0.52
108-86-1	Bromobenzene	ND		5.6	0.54
75-25-2	Bromoform	ND		5.6	0.26
74-83-9	Bromomethane	ND		11	0.56
56-23-5	Carbon tetrachloride	ND		5.6	0.70
108-90-7	Chlorobenzene	ND		5.6	0.60
74-97-5	Chlorobromomethane	ND		5.6	0.33

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC3   Lab Sample ID: 280-107960-3

Matrix: Solid   Lab File ID: G6490.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:46

Sample wt/vol: 4.504(g)   Date Analyzed: 04/11/2018 02:30

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.6	0.63
75-00-3	Chloroethane	ND		11	0.99
67-66-3	Chloroform	ND		11	0.32
74-87-3	Chloromethane	ND		11	0.85
156-59-2	cis-1,2-Dichloroethene	ND		2.8	0.62
10061-01-5	cis-1,3-Dichloropropene	ND		5.6	1.4
74-95-3	Dibromomethane	ND		5.6	0.93
75-27-4	Dichlorobromomethane	ND		5.6	0.24
75-71-8	Dichlorodifluoromethane	ND		11	0.58
100-41-4	Ethylbenzene	ND		5.6	0.74
87-68-3	Hexachlorobutadiene	ND		5.6	0.61
98-82-8	Isopropylbenzene	ND		5.6	0.65
1634-04-4	Methyl tert-butyl ether	ND		22	0.38
75-09-2	Methylene Chloride	ND		5.6	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.8	1.2
91-20-3	Naphthalene	ND		5.6	0.70
104-51-8	n-Butylbenzene	ND		5.6	0.62
103-65-1	N-Propylbenzene	ND		5.6	0.64
95-47-6	o-Xylene	ND		2.8	0.68
135-98-8	sec-Butylbenzene	ND		5.6	0.85
100-42-5	Styrene	ND		5.6	0.70
98-06-6	tert-Butylbenzene	ND		5.6	0.56
127-18-4	Tetrachloroethene	ND		5.6	0.65
108-88-3	Toluene	ND		5.6	0.77
156-60-5	trans-1,2-Dichloroethene	ND		2.8	0.43
10061-02-6	trans-1,3-Dichloropropene	ND		5.6	0.74
79-01-6	Trichloroethene	ND		5.6	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.6	1.5
1330-20-7	Xylenes, Total	ND		5.6	0.68

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC3 | Lab Sample ID: 280-107960-3

Matrix: Solid | Lab File ID: G6490.D

Analysis Method: 8260B | Date Collected: 03/29/2018 11:46

Sample wt/vol: 4.504(g) | Date Analyzed: 04/11/2018 02:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 410890 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		58-140
460-00-4	4-Bromofluorobenzene (Surr)	101		76-127
1868-53-7	Dibromofluoromethane (Surr)	91		75-121
2037-26-5	Toluene-d8 (Surr)	92		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC4 Lab Sample ID: 280-107960-4

Matrix: Solid Lab File ID: G6533.D

Analysis Method: 8260B Date Collected: 03/29/2018 11:50

Sample wt/vol: 4.371(g) Date Analyzed: 04/12/2018 04:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.7	0.64
71-55-6	1,1,1-Trichloroethane	ND		5.7	0.59
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.7	0.70
79-00-5	1,1,2-Trichloroethane	ND		5.7	1.0
75-34-3	1,1-Dichloroethane	ND		5.7	0.24
75-35-4	1,1-Dichloroethene	ND		5.7	0.67
563-58-6	1,1-Dichloropropene	ND		5.7	0.62
87-61-6	1,2,3-Trichlorobenzene	ND		5.7	0.86
96-18-4	1,2,3-Trichloropropane	ND		5.7	0.93
120-82-1	1,2,4-Trichlorobenzene	ND		5.7	0.84
95-63-6	1,2,4-Trimethylbenzene	ND		5.7	0.66
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.69
106-93-4	1,2-Dibromoethane	ND		5.7	0.59
95-50-1	1,2-Dichlorobenzene	ND		5.7	0.51
107-06-2	1,2-Dichloroethane	ND		5.7	0.80
540-59-0	1,2-Dichloroethene, Total	4.8	J	5.7	0.45
78-87-5	1,2-Dichloropropane	ND		5.7	0.63
108-67-8	1,3,5-Trimethylbenzene	ND		5.7	0.65
541-73-1	1,3-Dichlorobenzene	ND		5.7	0.55
142-28-9	1,3-Dichloropropane	ND		5.7	0.58
106-46-7	1,4-Dichlorobenzene	ND		5.7	0.89
594-20-7	2,2-Dichloropropane	ND		5.7	0.50
78-93-3	2-Butanone (MEK)	9.0	J B	23	2.1
95-49-8	2-Chlorotoluene	ND		5.7	0.58
591-78-6	2-Hexanone	ND		23	5.6
106-43-4	4-Chlorotoluene	ND		5.7	0.89
99-87-6	4-Isopropyltoluene	ND		5.7	0.56
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		23	5.0
67-64-1	Acetone	20	J B	23	6.2
71-43-2	Benzene	ND		5.7	0.54
108-86-1	Bromobenzene	ND		5.7	0.56
75-25-2	Bromoform	ND		5.7	0.26
74-83-9	Bromomethane	ND		11	0.57
56-23-5	Carbon tetrachloride	ND		5.7	0.72
108-90-7	Chlorobenzene	ND		5.7	0.62
74-97-5	Chlorobromomethane	ND		5.7	0.34

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC4 | Lab Sample ID: 280-107960-4

Matrix: Solid | Lab File ID: G6533.D

Analysis Method: 8260B | Date Collected: 03/29/2018 11:50

Sample wt/vol: 4.371(g) | Date Analyzed: 04/12/2018 04:43

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411029 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.7	0.65
75-00-3	Chloroethane	ND		11	1.0
67-66-3	Chloroform	ND		11	0.33
74-87-3	Chloromethane	ND		11	0.88
156-59-2	cis-1,2-Dichloroethene	4.8		2.9	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		5.7	1.5
74-95-3	Dibromomethane	ND		5.7	0.96
75-27-4	Dichlorobromomethane	ND		5.7	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.59
100-41-4	Ethylbenzene	ND		5.7	0.77
87-68-3	Hexachlorobutadiene	ND		5.7	0.63
98-82-8	Isopropylbenzene	ND		5.7	0.67
1634-04-4	Methyl tert-butyl ether	ND		23	0.39
75-09-2	Methylene Chloride	ND		5.7	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.9	1.2
91-20-3	Naphthalene	ND		5.7	0.72
104-51-8	n-Butylbenzene	ND		5.7	0.64
103-65-1	N-Propylbenzene	ND		5.7	0.66
95-47-6	o-Xylene	ND		2.9	0.70
135-98-8	sec-Butylbenzene	ND		5.7	0.88
100-42-5	Styrene	ND		5.7	0.72
98-06-6	tert-Butylbenzene	ND		5.7	0.57
127-18-4	Tetrachloroethene	ND		5.7	0.67
108-88-3	Toluene	ND		5.7	0.79
156-60-5	trans-1,2-Dichloroethene	ND		2.9	0.45
10061-02-6	trans-1,3-Dichloropropene	ND		5.7	0.77
79-01-6	Trichloroethene	ND		5.7	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.7	1.5
1330-20-7	Xylenes, Total	ND		5.7	0.70

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC4   Lab Sample ID: 280-107960-4

Matrix: Solid   Lab File ID: G6533.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:50

Sample wt/vol: 4.371(g)   Date Analyzed: 04/12/2018 04:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	77		58-140
460-00-4	4-Bromofluorobenzene (Surr)	99		76-127
1868-53-7	Dibromofluoromethane (Surr)	89		75-121
2037-26-5	Toluene-d8 (Surr)	92		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC5 Lab Sample ID: 280-107960-5

Matrix: Solid Lab File ID: G6492.D

Analysis Method: 8260B Date Collected: 03/29/2018 11:55

Sample wt/vol: 4.197(g) Date Analyzed: 04/11/2018 03:11

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		6.0	0.67
71-55-6	1,1,1-Trichloroethane	ND		6.0	0.62
79-34-5	1,1,2,2-Tetrachloroethane	ND		6.0	0.73
79-00-5	1,1,2-Trichloroethane	ND		6.0	1.0
75-34-3	1,1-Dichloroethane	ND		6.0	0.25
75-35-4	1,1-Dichloroethene	ND		6.0	0.70
563-58-6	1,1-Dichloropropene	ND		6.0	0.64
87-61-6	1,2,3-Trichlorobenzene	ND		6.0	0.89
96-18-4	1,2,3-Trichloropropane	ND		6.0	0.96
120-82-1	1,2,4-Trichlorobenzene	ND		6.0	0.87
95-63-6	1,2,4-Trimethylbenzene	ND		6.0	0.69
96-12-8	1,2-Dibromo-3-Chloropropane	ND		12	0.71
106-93-4	1,2-Dibromoethane	ND		6.0	0.62
95-50-1	1,2-Dichlorobenzene	ND		6.0	0.54
107-06-2	1,2-Dichloroethane	ND		6.0	0.83
540-59-0	1,2-Dichloroethene, Total	ND		6.0	0.46
78-87-5	1,2-Dichloropropane	ND		6.0	0.66
108-67-8	1,3,5-Trimethylbenzene	ND		6.0	0.68
541-73-1	1,3-Dichlorobenzene	ND		6.0	0.57
142-28-9	1,3-Dichloropropane	ND		6.0	0.61
106-46-7	1,4-Dichlorobenzene	ND		6.0	0.93
594-20-7	2,2-Dichloropropane	ND		6.0	0.52
78-93-3	2-Butanone (MEK)	7.8	J B	24	2.2
95-49-8	2-Chlorotoluene	ND		6.0	0.61
591-78-6	2-Hexanone	ND		24	5.8
106-43-4	4-Chlorotoluene	ND		6.0	0.93
99-87-6	4-Isopropyltoluene	ND		6.0	0.58
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		24	5.2
67-64-1	Acetone	12	J	24	6.4
71-43-2	Benzene	ND		6.0	0.56
108-86-1	Bromobenzene	ND		6.0	0.58
75-25-2	Bromoform	ND		6.0	0.27
74-83-9	Bromomethane	ND		12	0.60
56-23-5	Carbon tetrachloride	ND		6.0	0.75
108-90-7	Chlorobenzene	ND		6.0	0.64
74-97-5	Chlorobromomethane	ND		6.0	0.36

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC5 Lab Sample ID: 280-107960-5

Matrix: Solid Lab File ID: G6492.D

Analysis Method: 8260B Date Collected: 03/29/2018 11:55

Sample wt/vol: 4.197(g) Date Analyzed: 04/11/2018 03:11

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		6.0	0.68
75-00-3	Chloroethane	ND		12	1.1
67-66-3	Chloroform	ND		12	0.35
74-87-3	Chloromethane	ND		12	0.92
156-59-2	cis-1,2-Dichloroethene	ND		3.0	0.67
10061-01-5	cis-1,3-Dichloropropene	ND		6.0	1.5
74-95-3	Dibromomethane	ND		6.0	1.0
75-27-4	Dichlorobromomethane	ND		6.0	0.26
75-71-8	Dichlorodifluoromethane	ND		12	0.62
100-41-4	Ethylbenzene	ND		6.0	0.80
87-68-3	Hexachlorobutadiene	ND		6.0	0.66
98-82-8	Isopropylbenzene	ND		6.0	0.70
1634-04-4	Methyl tert-butyl ether	ND		24	0.41
75-09-2	Methylene Chloride	ND		6.0	1.9
179601-23-1	m-Xylene & p-Xylene	ND		3.0	1.2
91-20-3	Naphthalene	ND		6.0	0.75
104-51-8	n-Butylbenzene	ND		6.0	0.67
103-65-1	N-Propylbenzene	ND		6.0	0.69
95-47-6	o-Xylene	ND		3.0	0.73
135-98-8	sec-Butylbenzene	ND		6.0	0.92
100-42-5	Styrene	ND		6.0	0.75
98-06-6	tert-Butylbenzene	ND		6.0	0.60
127-18-4	Tetrachloroethene	ND		6.0	0.70
108-88-3	Toluene	ND		6.0	0.82
156-60-5	trans-1,2-Dichloroethene	ND		3.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND		6.0	0.80
79-01-6	Trichloroethene	ND		6.0	0.27
75-69-4	Trichlorofluoromethane	ND		12	1.2
75-01-4	Vinyl chloride	ND		6.0	1.6
1330-20-7	Xylenes, Total	ND		6.0	0.73

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC5   Lab Sample ID: 280-107960-5

Matrix: Solid   Lab File ID: G6492.D

Analysis Method: 8260B   Date Collected: 03/29/2018 11:55

Sample wt/vol: 4.197(g)   Date Analyzed: 04/11/2018 03:11

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	83		58-140
460-00-4	4-Bromofluorobenzene (Surr)	101		76-127
1868-53-7	Dibromofluoromethane (Surr)	91		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

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FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC6 Lab Sample ID: 280-107960-6

Matrix: Solid Lab File ID: G6534.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:00

Sample wt/vol: 4.386(g) Date Analyzed: 04/12/2018 05:03

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.7	0.64
71-55-6	1,1,1-Trichloroethane	ND		5.7	0.59
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.7	0.70
79-00-5	1,1,2-Trichloroethane	ND		5.7	1.0
75-34-3	1,1-Dichloroethane	ND		5.7	0.24
75-35-4	1,1-Dichloroethene	ND		5.7	0.67
563-58-6	1,1-Dichloropropene	ND		5.7	0.62
87-61-6	1,2,3-Trichlorobenzene	ND		5.7	0.85
96-18-4	1,2,3-Trichloropropane	ND		5.7	0.92
120-82-1	1,2,4-Trichlorobenzene	ND		5.7	0.83
95-63-6	1,2,4-Trimethylbenzene	ND		5.7	0.66
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.68
106-93-4	1,2-Dibromoethane	ND		5.7	0.59
95-50-1	1,2-Dichlorobenzene	ND		5.7	0.51
107-06-2	1,2-Dichloroethane	ND		5.7	0.80
540-59-0	1,2-Dichloroethene, Total	4.6	J	5.7	0.44
78-87-5	1,2-Dichloropropane	ND		5.7	0.63
108-67-8	1,3,5-Trimethylbenzene	ND		5.7	0.65
541-73-1	1,3-Dichlorobenzene	ND		5.7	0.55
142-28-9	1,3-Dichloropropane	ND		5.7	0.58
106-46-7	1,4-Dichlorobenzene	ND		5.7	0.89
594-20-7	2,2-Dichloropropane	ND		5.7	0.50
78-93-3	2-Butanone (MEK)	7.1	J B	23	2.1
95-49-8	2-Chlorotoluene	ND		5.7	0.58
591-78-6	2-Hexanone	ND		23	5.6
106-43-4	4-Chlorotoluene	ND		5.7	0.89
99-87-6	4-Isopropyltoluene	ND		5.7	0.56
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		23	5.0
67-64-1	Acetone	15	J B	23	6.1
71-43-2	Benzene	ND		5.7	0.54
108-86-1	Bromobenzene	ND		5.7	0.56
75-25-2	Bromoform	ND		5.7	0.26
74-83-9	Bromomethane	ND		11	0.57
56-23-5	Carbon tetrachloride	ND		5.7	0.72
108-90-7	Chlorobenzene	ND		5.7	0.62
74-97-5	Chlorobromomethane	ND		5.7	0.34

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC6 | Lab Sample ID: 280-107960-6

Matrix: Solid | Lab File ID: G6534.D

Analysis Method: 8260B | Date Collected: 03/29/2018 12:00

Sample wt/vol: 4.386(g) | Date Analyzed: 04/12/2018 05:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411029 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.7	0.65
75-00-3	Chloroethane	ND		11	1.0
67-66-3	Chloroform	ND		11	0.33
74-87-3	Chloromethane	ND		11	0.88
156-59-2	cis-1,2-Dichloroethene	4.6		2.8	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		5.7	1.5
74-95-3	Dibromomethane	ND		5.7	0.96
75-27-4	Dichlorobromomethane	ND		5.7	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.59
100-41-4	Ethylbenzene	ND		5.7	0.76
87-68-3	Hexachlorobutadiene	ND		5.7	0.63
98-82-8	Isopropylbenzene	ND		5.7	0.67
1634-04-4	Methyl tert-butyl ether	ND		23	0.39
75-09-2	Methylene Chloride	ND		5.7	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.8	1.2
91-20-3	Naphthalene	ND		5.7	0.72
104-51-8	n-Butylbenzene	ND		5.7	0.64
103-65-1	N-Propylbenzene	ND		5.7	0.66
95-47-6	o-Xylene	ND		2.8	0.70
135-98-8	sec-Butylbenzene	ND		5.7	0.88
100-42-5	Styrene	ND		5.7	0.72
98-06-6	tert-Butylbenzene	ND		5.7	0.57
127-18-4	Tetrachloroethene	ND		5.7	0.67
108-88-3	Toluene	ND		5.7	0.79
156-60-5	trans-1,2-Dichloroethene	ND		2.8	0.44
10061-02-6	trans-1,3-Dichloropropene	ND		5.7	0.76
79-01-6	Trichloroethene	ND		5.7	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.7	1.5
1330-20-7	Xylenes, Total	ND		5.7	0.70

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC6 Lab Sample ID: 280-107960-6

Matrix: Solid Lab File ID: G6534.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:00

Sample wt/vol: 4.386(g) Date Analyzed: 04/12/2018 05:03

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029 Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	75		58-140
460-00-4	4-Bromofluorobenzene (Surr)	96		76-127
1868-53-7	Dibromofluoromethane (Surr)	88		75-121
2037-26-5	Toluene-d8 (Surr)	90		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC7 Lab Sample ID: 280-107960-7

Matrix: Solid Lab File ID: G6535.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:05

Sample wt/vol: 4.350(g) Date Analyzed: 04/12/2018 05:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.7	0.64
71-55-6	1,1,1-Trichloroethane	ND		5.7	0.60
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.7	0.70
79-00-5	1,1,2-Trichloroethane	ND		5.7	1.0
75-34-3	1,1-Dichloroethane	ND		5.7	0.24
75-35-4	1,1-Dichloroethene	ND		5.7	0.68
563-58-6	1,1-Dichloropropene	ND		5.7	0.62
87-61-6	1,2,3-Trichlorobenzene	ND		5.7	0.86
96-18-4	1,2,3-Trichloropropane	ND		5.7	0.93
120-82-1	1,2,4-Trichlorobenzene	ND		5.7	0.84
95-63-6	1,2,4-Trimethylbenzene	ND		5.7	0.67
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.69
106-93-4	1,2-Dibromoethane	ND		5.7	0.60
95-50-1	1,2-Dichlorobenzene	ND		5.7	0.52
107-06-2	1,2-Dichloroethane	ND		5.7	0.80
540-59-0	1,2-Dichloroethene, Total	4.1	J	5.7	0.45
78-87-5	1,2-Dichloropropane	ND		5.7	0.63
108-67-8	1,3,5-Trimethylbenzene	ND		5.7	0.66
541-73-1	1,3-Dichlorobenzene	ND		5.7	0.55
142-28-9	1,3-Dichloropropane	ND		5.7	0.59
106-46-7	1,4-Dichlorobenzene	ND		5.7	0.90
594-20-7	2,2-Dichloropropane	ND		5.7	0.51
78-93-3	2-Butanone (MEK)	6.0	J B	23	2.1
95-49-8	2-Chlorotoluene	ND		5.7	0.59
591-78-6	2-Hexanone	ND		23	5.6
106-43-4	4-Chlorotoluene	ND		5.7	0.90
99-87-6	4-Isopropyltoluene	ND		5.7	0.56
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		23	5.0
67-64-1	Acetone	12	J B	23	6.2
71-43-2	Benzene	ND		5.7	0.54
108-86-1	Bromobenzene	ND		5.7	0.56
75-25-2	Bromoform	ND		5.7	0.26
74-83-9	Bromomethane	ND		11	0.57
56-23-5	Carbon tetrachloride	ND		5.7	0.72
108-90-7	Chlorobenzene	ND		5.7	0.62
74-97-5	Chlorobromomethane	ND		5.7	0.34

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC7   Lab Sample ID: 280-107960-7

Matrix: Solid   Lab File ID: G6535.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:05

Sample wt/vol: 4.350(g)   Date Analyzed: 04/12/2018 05:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.7	0.66
75-00-3	Chloroethane	ND		11	1.0
67-66-3	Chloroform	ND		11	0.33
74-87-3	Chloromethane	ND		11	0.89
156-59-2	cis-1,2-Dichloroethene	4.1		2.9	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		5.7	1.5
74-95-3	Dibromomethane	ND		5.7	0.97
75-27-4	Dichlorobromomethane	ND		5.7	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.60
100-41-4	Ethylbenzene	ND		5.7	0.77
87-68-3	Hexachlorobutadiene	ND		5.7	0.63
98-82-8	Isopropylbenzene	ND		5.7	0.68
1634-04-4	Methyl tert-butyl ether	ND		23	0.39
75-09-2	Methylene Chloride	ND		5.7	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.9	1.2
91-20-3	Naphthalene	ND		5.7	0.72
104-51-8	n-Butylbenzene	ND		5.7	0.64
103-65-1	N-Propylbenzene	ND		5.7	0.67
95-47-6	o-Xylene	ND		2.9	0.70
135-98-8	sec-Butylbenzene	ND		5.7	0.89
100-42-5	Styrene	ND		5.7	0.72
98-06-6	tert-Butylbenzene	ND		5.7	0.57
127-18-4	Tetrachloroethene	ND		5.7	0.68
108-88-3	Toluene	ND		5.7	0.79
156-60-5	trans-1,2-Dichloroethene	ND		2.9	0.45
10061-02-6	trans-1,3-Dichloropropene	ND		5.7	0.77
79-01-6	Trichloroethene	ND		5.7	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.7	1.5
1330-20-7	Xylenes, Total	ND		5.7	0.70

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC7   Lab Sample ID: 280-107960-7

Matrix: Solid   Lab File ID: G6535.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:05

Sample wt/vol: 4.350(g)   Date Analyzed: 04/12/2018 05:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411029   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	77		58-140
460-00-4	4-Bromofluorobenzene (Surr)	96		76-127
1868-53-7	Dibromofluoromethane (Surr)	90		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC8   Lab Sample ID: 280-107960-8

Matrix: Solid   Lab File ID: G6495.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:10

Sample wt/vol: 4.804(g)   Date Analyzed: 04/11/2018 04:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.2	0.58
71-55-6	1,1,1-Trichloroethane	ND		5.2	0.54
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.2	0.63
79-00-5	1,1,2-Trichloroethane	ND		5.2	0.92
75-34-3	1,1-Dichloroethane	ND		5.2	0.22
75-35-4	1,1-Dichloroethene	ND		5.2	0.61
563-58-6	1,1-Dichloropropene	ND		5.2	0.56
87-61-6	1,2,3-Trichlorobenzene	ND		5.2	0.78
96-18-4	1,2,3-Trichloropropane	ND		5.2	0.84
120-82-1	1,2,4-Trichlorobenzene	ND		5.2	0.76
95-63-6	1,2,4-Trimethylbenzene	ND		5.2	0.60
96-12-8	1,2-Dibromo-3-Chloropropane	ND		10	0.62
106-93-4	1,2-Dibromoethane	ND		5.2	0.54
95-50-1	1,2-Dichlorobenzene	ND		5.2	0.47
107-06-2	1,2-Dichloroethane	ND		5.2	0.73
540-59-0	1,2-Dichloroethene, Total	ND		5.2	0.41
78-87-5	1,2-Dichloropropane	ND		5.2	0.57
108-67-8	1,3,5-Trimethylbenzene	ND		5.2	0.59
541-73-1	1,3-Dichlorobenzene	ND		5.2	0.50
142-28-9	1,3-Dichloropropane	ND		5.2	0.53
106-46-7	1,4-Dichlorobenzene	ND		5.2	0.81
594-20-7	2,2-Dichloropropane	ND		5.2	0.46
78-93-3	2-Butanone (MEK)	9.2	J B	21	1.9
95-49-8	2-Chlorotoluene	ND		5.2	0.53
591-78-6	2-Hexanone	ND		21	5.1
106-43-4	4-Chlorotoluene	ND		5.2	0.81
99-87-6	4-Isopropyltoluene	ND		5.2	0.51
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.5
67-64-1	Acetone	18	J	21	5.6
71-43-2	Benzene	ND		5.2	0.49
108-86-1	Bromobenzene	ND		5.2	0.51
75-25-2	Bromoform	ND		5.2	0.24
74-83-9	Bromomethane	ND		10	0.52
56-23-5	Carbon tetrachloride	ND		5.2	0.66
108-90-7	Chlorobenzene	ND		5.2	0.56
74-97-5	Chlorobromomethane	ND		5.2	0.31

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC8 Lab Sample ID: 280-107960-8

Matrix: Solid Lab File ID: G6495.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:10

Sample wt/vol: 4.804(g) Date Analyzed: 04/11/2018 04:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.2	0.59
75-00-3	Chloroethane	ND		10	0.93
67-66-3	Chloroform	ND		10	0.30
74-87-3	Chloromethane	ND		10	0.80
156-59-2	cis-1,2-Dichloroethene	ND		2.6	0.58
10061-01-5	cis-1,3-Dichloropropene	ND		5.2	1.3
74-95-3	Dibromomethane	ND		5.2	0.87
75-27-4	Dichlorobromomethane	ND		5.2	0.23
75-71-8	Dichlorodifluoromethane	ND		10	0.54
100-41-4	Ethylbenzene	ND		5.2	0.70
87-68-3	Hexachlorobutadiene	ND		5.2	0.57
98-82-8	Isopropylbenzene	ND		5.2	0.61
1634-04-4	Methyl tert-butyl ether	ND		21	0.35
75-09-2	Methylene Chloride	ND		5.2	1.7
179601-23-1	m-Xylene & p-Xylene	ND		2.6	1.1
91-20-3	Naphthalene	ND		5.2	0.66
104-51-8	n-Butylbenzene	ND		5.2	0.58
103-65-1	N-Propylbenzene	ND		5.2	0.60
95-47-6	o-Xylene	ND		2.6	0.63
135-98-8	sec-Butylbenzene	ND		5.2	0.80
100-42-5	Styrene	ND		5.2	0.66
98-06-6	tert-Butylbenzene	ND		5.2	0.52
127-18-4	Tetrachloroethene	ND		5.2	0.61
108-88-3	Toluene	ND		5.2	0.72
156-60-5	trans-1,2-Dichloroethene	ND		2.6	0.41
10061-02-6	trans-1,3-Dichloropropene	ND		5.2	0.70
79-01-6	Trichloroethene	ND		5.2	0.24
75-69-4	Trichlorofluoromethane	ND		10	1.1
75-01-4	Vinyl chloride	ND		5.2	1.4
1330-20-7	Xylenes, Total	ND		5.2	0.63

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC8   Lab Sample ID: 280-107960-8

Matrix: Solid   Lab File ID: G6495.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:10

Sample wt/vol: 4.804(g)   Date Analyzed: 04/11/2018 04:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		58-140
460-00-4	4-Bromofluorobenzene (Surr)	106		76-127
1868-53-7	Dibromofluoromethane (Surr)	91		75-121
2037-26-5	Toluene-d8 (Surr)	93		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver　　Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC9　　Lab Sample ID: 280-107960-9

Matrix: Solid　　Lab File ID: G6496.D

Analysis Method: 8260B　　Date Collected: 03/29/2018 12:15

Sample wt/vol: 5.003(g)　　Date Analyzed: 04/11/2018 04:32

Soil Aliquot Vol:　　Dilution Factor: 1

Soil Extract Vol.:　　GC Column: DB-624 v1　ID: 32(um)

% Moisture:　　Level: (low/med) Low

Analysis Batch No.: 410890　　Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.0	0.56
71-55-6	1,1,1-Trichloroethane	ND		5.0	0.52
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.0	0.61
79-00-5	1,1,2-Trichloroethane	ND		5.0	0.88
75-34-3	1,1-Dichloroethane	ND		5.0	0.21
75-35-4	1,1-Dichloroethene	ND		5.0	0.59
563-58-6	1,1-Dichloropropene	ND		5.0	0.54
87-61-6	1,2,3-Trichlorobenzene	ND		5.0	0.75
96-18-4	1,2,3-Trichloropropane	ND		5.0	0.81
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.73
95-63-6	1,2,4-Trimethylbenzene	ND		5.0	0.58
96-12-8	1,2-Dibromo-3-Chloropropane	ND		10	0.60
106-93-4	1,2-Dibromoethane	ND		5.0	0.52
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.45
107-06-2	1,2-Dichloroethane	ND		5.0	0.70
540-59-0	1,2-Dichloroethene, Total	ND		5.0	0.39
78-87-5	1,2-Dichloropropane	ND		5.0	0.55
108-67-8	1,3,5-Trimethylbenzene	ND		5.0	0.57
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.48
142-28-9	1,3-Dichloropropane	ND		5.0	0.51
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.78
594-20-7	2,2-Dichloropropane	ND		5.0	0.44
78-93-3	2-Butanone (MEK)	7.5	J B	20	1.8
95-49-8	2-Chlorotoluene	ND		5.0	0.51
591-78-6	2-Hexanone	ND		20	4.9
106-43-4	4-Chlorotoluene	ND		5.0	0.78
99-87-6	4-Isopropyltoluene	ND		5.0	0.49
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		20	4.4
67-64-1	Acetone	20		20	5.4
71-43-2	Benzene	ND		5.0	0.47
108-86-1	Bromobenzene	ND		5.0	0.49
75-25-2	Bromoform	ND		5.0	0.23
74-83-9	Bromomethane	ND		10	0.50
56-23-5	Carbon tetrachloride	ND		5.0	0.63
108-90-7	Chlorobenzene	ND		5.0	0.54
74-97-5	Chlorobromomethane	ND		5.0	0.30

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver　　Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC9　　Lab Sample ID: 280-107960-9

Matrix: Solid　　Lab File ID: G6496.D

Analysis Method: 8260B　　Date Collected: 03/29/2018 12:15

Sample wt/vol: 5.003(g)　　Date Analyzed: 04/11/2018 04:32

Soil Aliquot Vol:　　Dilution Factor: 1

Soil Extract Vol.:　　GC Column: DB-624 v1　　ID: 32(um)

% Moisture:　　Level: (low/med) Low

Analysis Batch No.: 410890　　Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.0	0.57
75-00-3	Chloroethane	ND		10	0.89
67-66-3	Chloroform	ND		10	0.29
74-87-3	Chloromethane	ND		10	0.77
156-59-2	cis-1,2-Dichloroethene	ND		2.5	0.56
10061-01-5	cis-1,3-Dichloropropene	ND		5.0	1.3
74-95-3	Dibromomethane	ND		5.0	0.84
75-27-4	Dichlorobromomethane	ND		5.0	0.22
75-71-8	Dichlorodifluoromethane	ND		10	0.52
100-41-4	Ethylbenzene	ND		5.0	0.67
87-68-3	Hexachlorobutadiene	ND		5.0	0.55
98-82-8	Isopropylbenzene	ND		5.0	0.59
1634-04-4	Methyl tert-butyl ether	ND		20	0.34
75-09-2	Methylene Chloride	ND		5.0	1.6
179601-23-1	m-Xylene & p-Xylene	ND		2.5	1.0
91-20-3	Naphthalene	ND		5.0	0.63
104-51-8	n-Butylbenzene	ND		5.0	0.56
103-65-1	N-Propylbenzene	ND		5.0	0.58
95-47-6	o-Xylene	ND		2.5	0.61
135-98-8	sec-Butylbenzene	ND		5.0	0.77
100-42-5	Styrene	ND		5.0	0.63
98-06-6	tert-Butylbenzene	ND		5.0	0.50
127-18-4	Tetrachloroethene	ND		5.0	0.59
108-88-3	Toluene	ND		5.0	0.69
156-60-5	trans-1,2-Dichloroethene	ND		2.5	0.39
10061-02-6	trans-1,3-Dichloropropene	ND		5.0	0.67
79-01-6	Trichloroethene	ND		5.0	0.23
75-69-4	Trichlorofluoromethane	ND		10	1.0
75-01-4	Vinyl chloride	ND		5.0	1.3
1330-20-7	Xylenes, Total	ND		5.0	0.61

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC9   Lab Sample ID: 280-107960-9

Matrix: Solid   Lab File ID: G6496.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:15

Sample wt/vol: 5.003(g)   Date Analyzed: 04/11/2018 04:32

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	84		58-140
460-00-4	4-Bromofluorobenzene (Surr)	105		76-127
1868-53-7	Dibromofluoromethane (Surr)	92		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver　　Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC10　　Lab Sample ID: 280-107960-10

Matrix: Solid　　Lab File ID: G6497.D

Analysis Method: 8260B　　Date Collected: 03/29/2018 12:20

Sample wt/vol: 4.457(g)　　Date Analyzed: 04/11/2018 04:52

Soil Aliquot Vol:　　Dilution Factor: 1

Soil Extract Vol.:　　GC Column: DB-624 v1　　ID: 32(um)

% Moisture:　　Level: (low/med) Low

Analysis Batch No.: 410890　　Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.6	0.63
71-55-6	1,1,1-Trichloroethane	ND		5.6	0.58
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.6	0.68
79-00-5	1,1,2-Trichloroethane	ND		5.6	0.99
75-34-3	1,1-Dichloroethane	ND		5.6	0.24
75-35-4	1,1-Dichloroethene	ND		5.6	0.66
563-58-6	1,1-Dichloropropene	ND		5.6	0.61
87-61-6	1,2,3-Trichlorobenzene	ND		5.6	0.84
96-18-4	1,2,3-Trichloropropane	ND		5.6	0.91
120-82-1	1,2,4-Trichlorobenzene	ND		5.6	0.82
95-63-6	1,2,4-Trimethylbenzene	ND		5.6	0.65
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.67
106-93-4	1,2-Dibromoethane	ND		5.6	0.58
95-50-1	1,2-Dichlorobenzene	ND		5.6	0.50
107-06-2	1,2-Dichloroethane	ND		5.6	0.79
540-59-0	1,2-Dichloroethene, Total	ND		5.6	0.44
78-87-5	1,2-Dichloropropane	ND		5.6	0.62
108-67-8	1,3,5-Trimethylbenzene	ND		5.6	0.64
541-73-1	1,3-Dichlorobenzene	ND		5.6	0.54
142-28-9	1,3-Dichloropropane	ND		5.6	0.57
106-46-7	1,4-Dichlorobenzene	ND		5.6	0.88
594-20-7	2,2-Dichloropropane	ND		5.6	0.49
78-93-3	2-Butanone (MEK)	6.1	J B	22	2.1
95-49-8	2-Chlorotoluene	ND		5.6	0.57
591-78-6	2-Hexanone	ND		22	5.5
106-43-4	4-Chlorotoluene	ND		5.6	0.88
99-87-6	4-Isopropyltoluene	ND		5.6	0.55
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		22	4.9
67-64-1	Acetone	12	J	22	6.0
71-43-2	Benzene	ND		5.6	0.53
108-86-1	Bromobenzene	ND		5.6	0.55
75-25-2	Bromoform	ND		5.6	0.26
74-83-9	Bromomethane	ND		11	0.56
56-23-5	Carbon tetrachloride	ND		5.6	0.71
108-90-7	Chlorobenzene	ND		5.6	0.61
74-97-5	Chlorobromomethane	ND		5.6	0.34

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC10   Lab Sample ID: 280-107960-10

Matrix: Solid   Lab File ID: G6497.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:20

Sample wt/vol: 4.457(g)   Date Analyzed: 04/11/2018 04:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.6	0.64
75-00-3	Chloroethane	ND		11	1.0
67-66-3	Chloroform	ND		11	0.33
74-87-3	Chloromethane	ND		11	0.86
156-59-2	cis-1,2-Dichloroethene	ND		2.8	0.63
10061-01-5	cis-1,3-Dichloropropene	ND		5.6	1.4
74-95-3	Dibromomethane	ND		5.6	0.94
75-27-4	Dichlorobromomethane	ND		5.6	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.58
100-41-4	Ethylbenzene	ND		5.6	0.75
87-68-3	Hexachlorobutadiene	ND		5.6	0.62
98-82-8	Isopropylbenzene	ND		5.6	0.66
1634-04-4	Methyl tert-butyl ether	ND		22	0.38
75-09-2	Methylene Chloride	ND		5.6	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.8	1.2
91-20-3	Naphthalene	ND		5.6	0.71
104-51-8	n-Butylbenzene	ND		5.6	0.63
103-65-1	N-Propylbenzene	ND		5.6	0.65
95-47-6	o-Xylene	ND		2.8	0.68
135-98-8	sec-Butylbenzene	ND		5.6	0.86
100-42-5	Styrene	ND		5.6	0.71
98-06-6	tert-Butylbenzene	ND		5.6	0.56
127-18-4	Tetrachloroethene	ND		5.6	0.66
108-88-3	Toluene	ND		5.6	0.77
156-60-5	trans-1,2-Dichloroethene	ND		2.8	0.44
10061-02-6	trans-1,3-Dichloropropene	ND		5.6	0.75
79-01-6	Trichloroethene	ND		5.6	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.6	1.5
1330-20-7	Xylenes, Total	ND		5.6	0.68

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC10   Lab Sample ID: 280-107960-10

Matrix: Solid   Lab File ID: G6497.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:20

Sample wt/vol: 4.457(g)   Date Analyzed: 04/11/2018 04:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 410890   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	83		58-140
460-00-4	4-Bromofluorobenzene (Surr)	101		76-127
1868-53-7	Dibromofluoromethane (Surr)	90		75-121
2037-26-5	Toluene-d8 (Surr)	93		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC11   Lab Sample ID: 280-107960-11

Matrix: Solid   Lab File ID: G6547.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:25

Sample wt/vol: 4.486(g)   Date Analyzed: 04/12/2018 19:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.6	0.62
71-55-6	1,1,1-Trichloroethane	ND		5.6	0.58
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.6	0.68
79-00-5	1,1,2-Trichloroethane	ND		5.6	0.98
75-34-3	1,1-Dichloroethane	ND		5.6	0.23
75-35-4	1,1-Dichloroethene	ND		5.6	0.66
563-58-6	1,1-Dichloropropene	ND		5.6	0.60
87-61-6	1,2,3-Trichlorobenzene	ND		5.6	0.84
96-18-4	1,2,3-Trichloropropane	ND		5.6	0.90
120-82-1	1,2,4-Trichlorobenzene	ND		5.6	0.81
95-63-6	1,2,4-Trimethylbenzene	ND		5.6	0.65
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.67
106-93-4	1,2-Dibromoethane	ND		5.6	0.58
95-50-1	1,2-Dichlorobenzene	ND		5.6	0.50
107-06-2	1,2-Dichloroethane	ND		5.6	0.78
540-59-0	1,2-Dichloroethene, Total	ND		5.6	0.43
78-87-5	1,2-Dichloropropane	ND		5.6	0.61
108-67-8	1,3,5-Trimethylbenzene	ND		5.6	0.64
541-73-1	1,3-Dichlorobenzene	ND		5.6	0.53
142-28-9	1,3-Dichloropropane	ND		5.6	0.57
106-46-7	1,4-Dichlorobenzene	ND		5.6	0.87
594-20-7	2,2-Dichloropropane	ND		5.6	0.49
78-93-3	2-Butanone (MEK)	9.7	J	22	2.0
95-49-8	2-Chlorotoluene	ND		5.6	0.57
591-78-6	2-Hexanone	ND		22	5.5
106-43-4	4-Chlorotoluene	ND		5.6	0.87
99-87-6	4-Isopropyltoluene	ND		5.6	0.55
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		22	4.9
67-64-1	Acetone	29	B	22	6.0
71-43-2	Benzene	ND		5.6	0.52
108-86-1	Bromobenzene	ND		5.6	0.55
75-25-2	Bromoform	ND		5.6	0.26
74-83-9	Bromomethane	ND		11	0.56
56-23-5	Carbon tetrachloride	ND		5.6	0.70
108-90-7	Chlorobenzene	ND		5.6	0.60
74-97-5	Chlorobromomethane	ND		5.6	0.33

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC11   Lab Sample ID: 280-107960-11

Matrix: Solid   Lab File ID: G6547.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:25

Sample wt/vol: 4.486(g)   Date Analyzed: 04/12/2018 19:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.6	0.64
75-00-3	Chloroethane	ND		11	0.99
67-66-3	Chloroform	ND		11	0.32
74-87-3	Chloromethane	ND		11	0.86
156-59-2	cis-1,2-Dichloroethene	ND		2.8	0.62
10061-01-5	cis-1,3-Dichloropropene	ND		5.6	1.4
74-95-3	Dibromomethane	ND		5.6	0.94
75-27-4	Dichlorobromomethane	ND		5.6	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.58
100-41-4	Ethylbenzene	ND		5.6	0.75
87-68-3	Hexachlorobutadiene	ND		5.6	0.61
98-82-8	Isopropylbenzene	ND		5.6	0.66
1634-04-4	Methyl tert-butyl ether	ND		22	0.38
75-09-2	Methylene Chloride	1.8	J	5.6	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.8	1.2
91-20-3	Naphthalene	ND		5.6	0.70
104-51-8	n-Butylbenzene	ND		5.6	0.62
103-65-1	N-Propylbenzene	ND		5.6	0.65
95-47-6	o-Xylene	ND		2.8	0.68
135-98-8	sec-Butylbenzene	ND		5.6	0.86
100-42-5	Styrene	ND		5.6	0.70
98-06-6	tert-Butylbenzene	ND		5.6	0.56
127-18-4	Tetrachloroethene	ND		5.6	0.66
108-88-3	Toluene	ND		5.6	0.77
156-60-5	trans-1,2-Dichloroethene	ND		2.8	0.43
10061-02-6	trans-1,3-Dichloropropene	ND		5.6	0.75
79-01-6	Trichloroethene	ND		5.6	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.6	1.5
1330-20-7	Xylenes, Total	ND		5.6	0.68

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC11   Lab Sample ID: 280-107960-11

Matrix: Solid   Lab File ID: G6547.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:25

Sample wt/vol: 4.486(g)   Date Analyzed: 04/12/2018 19:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	81		58-140
460-00-4	4-Bromofluorobenzene (Surr)	100		76-127
1868-53-7	Dibromofluoromethane (Surr)	94		75-121
2037-26-5	Toluene-d8 (Surr)	98		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC12   Lab Sample ID: 280-107960-12

Matrix: Solid   Lab File ID: G6548.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:30

Sample wt/vol: 4.456(g)   Date Analyzed: 04/12/2018 19:38

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.6	0.63
71-55-6	1,1,1-Trichloroethane	ND		5.6	0.58
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.6	0.68
79-00-5	1,1,2-Trichloroethane	ND		5.6	0.99
75-34-3	1,1-Dichloroethane	ND		5.6	0.24
75-35-4	1,1-Dichloroethene	ND		5.6	0.66
563-58-6	1,1-Dichloropropene	ND		5.6	0.61
87-61-6	1,2,3-Trichlorobenzene	ND		5.6	0.84
96-18-4	1,2,3-Trichloropropane	ND		5.6	0.91
120-82-1	1,2,4-Trichlorobenzene	ND		5.6	0.82
95-63-6	1,2,4-Trimethylbenzene	ND		5.6	0.65
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.67
106-93-4	1,2-Dibromoethane	ND		5.6	0.58
95-50-1	1,2-Dichlorobenzene	ND		5.6	0.50
107-06-2	1,2-Dichloroethane	ND		5.6	0.79
540-59-0	1,2-Dichloroethene, Total	ND		5.6	0.44
78-87-5	1,2-Dichloropropane	ND		5.6	0.62
108-67-8	1,3,5-Trimethylbenzene	ND		5.6	0.64
541-73-1	1,3-Dichlorobenzene	ND		5.6	0.54
142-28-9	1,3-Dichloropropane	ND		5.6	0.57
106-46-7	1,4-Dichlorobenzene	ND		5.6	0.88
594-20-7	2,2-Dichloropropane	ND		5.6	0.49
78-93-3	2-Butanone (MEK)	3.8	J	22	2.1
95-49-8	2-Chlorotoluene	ND		5.6	0.57
591-78-6	2-Hexanone	ND		22	5.5
106-43-4	4-Chlorotoluene	ND		5.6	0.88
99-87-6	4-Isopropyltoluene	ND		5.6	0.55
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		22	4.9
67-64-1	Acetone	12	J B	22	6.0
71-43-2	Benzene	ND		5.6	0.53
108-86-1	Bromobenzene	ND		5.6	0.55
75-25-2	Bromoform	ND		5.6	0.26
74-83-9	Bromomethane	ND		11	0.56
56-23-5	Carbon tetrachloride	ND		5.6	0.71
108-90-7	Chlorobenzene	ND		5.6	0.61
74-97-5	Chlorobromomethane	ND		5.6	0.34

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC12 Lab Sample ID: 280-107960-12

Matrix: Solid Lab File ID: G6548.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:30

Sample wt/vol: 4.456(g) Date Analyzed: 04/12/2018 19:38

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.6	0.64
75-00-3	Chloroethane	ND		11	1.0
67-66-3	Chloroform	ND		11	0.33
74-87-3	Chloromethane	ND		11	0.86
156-59-2	cis-1,2-Dichloroethene	ND		2.8	0.63
10061-01-5	cis-1,3-Dichloropropene	ND		5.6	1.4
74-95-3	Dibromomethane	ND		5.6	0.94
75-27-4	Dichlorobromomethane	ND		5.6	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.58
100-41-4	Ethylbenzene	ND		5.6	0.75
87-68-3	Hexachlorobutadiene	ND		5.6	0.62
98-82-8	Isopropylbenzene	ND		5.6	0.66
1634-04-4	Methyl tert-butyl ether	ND		22	0.38
75-09-2	Methylene Chloride	ND		5.6	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.8	1.2
91-20-3	Naphthalene	ND		5.6	0.71
104-51-8	n-Butylbenzene	ND		5.6	0.63
103-65-1	N-Propylbenzene	ND		5.6	0.65
95-47-6	o-Xylene	ND		2.8	0.68
135-98-8	sec-Butylbenzene	ND		5.6	0.86
100-42-5	Styrene	ND		5.6	0.71
98-06-6	tert-Butylbenzene	ND		5.6	0.56
127-18-4	Tetrachloroethene	ND		5.6	0.66
108-88-3	Toluene	ND		5.6	0.77
156-60-5	trans-1,2-Dichloroethene	ND		2.8	0.44
10061-02-6	trans-1,3-Dichloropropene	ND		5.6	0.75
79-01-6	Trichloroethene	ND		5.6	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.6	1.5
1330-20-7	Xylenes, Total	ND		5.6	0.68

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC12 | Lab Sample ID: 280-107960-12

Matrix: Solid | Lab File ID: G6548.D

Analysis Method: 8260B | Date Collected: 03/29/2018 12:30

Sample wt/vol: 4.456(g) | Date Analyzed: 04/12/2018 19:38

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	76		58-140
460-00-4	4-Bromofluorobenzene (Surr)	97		76-127
1868-53-7	Dibromofluoromethane (Surr)	88		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC13   Lab Sample ID: 280-107960-13

Matrix: Solid   Lab File ID: G6549.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:36

Sample wt/vol: 4.823(g)   Date Analyzed: 04/12/2018 19:58

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.2	0.58
71-55-6	1,1,1-Trichloroethane	ND		5.2	0.54
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.2	0.63
79-00-5	1,1,2-Trichloroethane	ND		5.2	0.91
75-34-3	1,1-Dichloroethane	ND		5.2	0.22
75-35-4	1,1-Dichloroethene	ND		5.2	0.61
563-58-6	1,1-Dichloropropene	ND		5.2	0.56
87-61-6	1,2,3-Trichlorobenzene	ND		5.2	0.78
96-18-4	1,2,3-Trichloropropane	ND		5.2	0.84
120-82-1	1,2,4-Trichlorobenzene	ND		5.2	0.76
95-63-6	1,2,4-Trimethylbenzene	ND		5.2	0.60
96-12-8	1,2-Dibromo-3-Chloropropane	ND		10	0.62
106-93-4	1,2-Dibromoethane	ND		5.2	0.54
95-50-1	1,2-Dichlorobenzene	ND		5.2	0.47
107-06-2	1,2-Dichloroethane	ND		5.2	0.73
540-59-0	1,2-Dichloroethene, Total	ND		5.2	0.40
78-87-5	1,2-Dichloropropane	ND		5.2	0.57
108-67-8	1,3,5-Trimethylbenzene	ND		5.2	0.59
541-73-1	1,3-Dichlorobenzene	ND		5.2	0.50
142-28-9	1,3-Dichloropropane	ND		5.2	0.53
106-46-7	1,4-Dichlorobenzene	ND		5.2	0.81
594-20-7	2,2-Dichloropropane	ND		5.2	0.46
78-93-3	2-Butanone (MEK)	1.9	J	21	1.9
95-49-8	2-Chlorotoluene	ND		5.2	0.53
591-78-6	2-Hexanone	ND		21	5.1
106-43-4	4-Chlorotoluene	ND		5.2	0.81
99-87-6	4-Isopropyltoluene	ND		5.2	0.51
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.5
67-64-1	Acetone	6.0	J B	21	5.6
71-43-2	Benzene	ND		5.2	0.49
108-86-1	Bromobenzene	ND		5.2	0.51
75-25-2	Bromoform	ND		5.2	0.24
74-83-9	Bromomethane	ND		10	0.52
56-23-5	Carbon tetrachloride	ND		5.2	0.65
108-90-7	Chlorobenzene	ND		5.2	0.56
74-97-5	Chlorobromomethane	ND		5.2	0.31

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC13 | Lab Sample ID: 280-107960-13

Matrix: Solid | Lab File ID: G6549.D

Analysis Method: 8260B | Date Collected: 03/29/2018 12:36

Sample wt/vol: 4.823(g) | Date Analyzed: 04/12/2018 19:58

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.2	0.59
75-00-3	Chloroethane	ND		10	0.92
67-66-3	Chloroform	ND		10	0.30
74-87-3	Chloromethane	ND		10	0.80
156-59-2	cis-1,2-Dichloroethene	ND		2.6	0.58
10061-01-5	cis-1,3-Dichloropropene	ND		5.2	1.3
74-95-3	Dibromomethane	ND		5.2	0.87
75-27-4	Dichlorobromomethane	ND		5.2	0.23
75-71-8	Dichlorodifluoromethane	ND		10	0.54
100-41-4	Ethylbenzene	ND		5.2	0.69
87-68-3	Hexachlorobutadiene	ND		5.2	0.57
98-82-8	Isopropylbenzene	ND		5.2	0.61
1634-04-4	Methyl tert-butyl ether	ND		21	0.35
75-09-2	Methylene Chloride	ND		5.2	1.7
179601-23-1	m-Xylene & p-Xylene	ND		2.6	1.1
91-20-3	Naphthalene	ND		5.2	0.65
104-51-8	n-Butylbenzene	ND		5.2	0.58
103-65-1	N-Propylbenzene	ND		5.2	0.60
95-47-6	o-Xylene	ND		2.6	0.63
135-98-8	sec-Butylbenzene	ND		5.2	0.80
100-42-5	Styrene	ND		5.2	0.65
98-06-6	tert-Butylbenzene	ND		5.2	0.52
127-18-4	Tetrachloroethene	ND		5.2	0.61
108-88-3	Toluene	ND		5.2	0.72
156-60-5	trans-1,2-Dichloroethene	ND		2.6	0.40
10061-02-6	trans-1,3-Dichloropropene	ND		5.2	0.69
79-01-6	Trichloroethene	ND		5.2	0.24
75-69-4	Trichlorofluoromethane	ND		10	1.1
75-01-4	Vinyl chloride	ND		5.2	1.4
1330-20-7	Xylenes, Total	ND		5.2	0.63

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC13 Lab Sample ID: 280-107960-13

Matrix: Solid Lab File ID: G6549.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:36

Sample wt/vol: 4.823(g) Date Analyzed: 04/12/2018 19:58

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	81		58-140
460-00-4	4-Bromofluorobenzene (Surr)	95		76-127
1868-53-7	Dibromofluoromethane (Surr)	92		75-121
2037-26-5	Toluene-d8 (Surr)	92		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC14 Lab Sample ID: 280-107960-14

Matrix: Solid Lab File ID: G6552.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:41

Sample wt/vol: 4.435(g) Date Analyzed: 04/12/2018 20:59

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.6	0.63
71-55-6	1,1,1-Trichloroethane	ND		5.6	0.59
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.6	0.69
79-00-5	1,1,2-Trichloroethane	ND		5.6	0.99
75-34-3	1,1-Dichloroethane	ND		5.6	0.24
75-35-4	1,1-Dichloroethene	ND		5.6	0.67
563-58-6	1,1-Dichloropropene	ND		5.6	0.61
87-61-6	1,2,3-Trichlorobenzene	ND		5.6	0.85
96-18-4	1,2,3-Trichloropropane	ND		5.6	0.91
120-82-1	1,2,4-Trichlorobenzene	ND		5.6	0.82
95-63-6	1,2,4-Trimethylbenzene	ND		5.6	0.65
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.68
106-93-4	1,2-Dibromoethane	ND		5.6	0.59
95-50-1	1,2-Dichlorobenzene	ND		5.6	0.51
107-06-2	1,2-Dichloroethane	ND		5.6	0.79
540-59-0	1,2-Dichloroethene, Total	ND		5.6	0.44
78-87-5	1,2-Dichloropropane	ND		5.6	0.62
108-67-8	1,3,5-Trimethylbenzene	ND		5.6	0.64
541-73-1	1,3-Dichlorobenzene	ND		5.6	0.54
142-28-9	1,3-Dichloropropane	ND		5.6	0.57
106-46-7	1,4-Dichlorobenzene	ND		5.6	0.88
594-20-7	2,2-Dichloropropane	ND		5.6	0.50
78-93-3	2-Butanone (MEK)	6.7	J	23	2.1
95-49-8	2-Chlorotoluene	ND		5.6	0.57
591-78-6	2-Hexanone	ND		23	5.5
106-43-4	4-Chlorotoluene	ND		5.6	0.88
99-87-6	4-Isopropyltoluene	ND		5.6	0.55
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		23	4.9
67-64-1	Acetone	19	J B	23	6.1
71-43-2	Benzene	ND		5.6	0.53
108-86-1	Bromobenzene	ND		5.6	0.55
75-25-2	Bromoform	ND		5.6	0.26
74-83-9	Bromomethane	ND		11	0.56
56-23-5	Carbon tetrachloride	ND		5.6	0.71
108-90-7	Chlorobenzene	ND		5.6	0.61
74-97-5	Chlorobromomethane	ND		5.6	0.34

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC14 | Lab Sample ID: 280-107960-14

Matrix: Solid | Lab File ID: G6552.D

Analysis Method: 8260B | Date Collected: 03/29/2018 12:41

Sample wt/vol: 4.435(g) | Date Analyzed: 04/12/2018 20:59

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.6	0.64
75-00-3	Chloroethane	ND		11	1.0
67-66-3	Chloroform	ND		11	0.33
74-87-3	Chloromethane	ND		11	0.87
156-59-2	cis-1,2-Dichloroethene	ND		2.8	0.63
10061-01-5	cis-1,3-Dichloropropene	ND		5.6	1.5
74-95-3	Dibromomethane	ND		5.6	0.95
75-27-4	Dichlorobromomethane	ND		5.6	0.25
75-71-8	Dichlorodifluoromethane	ND		11	0.59
100-41-4	Ethylbenzene	ND		5.6	0.76
87-68-3	Hexachlorobutadiene	ND		5.6	0.62
98-82-8	Isopropylbenzene	ND		5.6	0.67
1634-04-4	Methyl tert-butyl ether	ND		23	0.38
75-09-2	Methylene Chloride	ND		5.6	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.8	1.2
91-20-3	Naphthalene	ND		5.6	0.71
104-51-8	n-Butylbenzene	ND		5.6	0.63
103-65-1	N-Propylbenzene	ND		5.6	0.65
95-47-6	o-Xylene	ND		2.8	0.69
135-98-8	sec-Butylbenzene	ND		5.6	0.87
100-42-5	Styrene	ND		5.6	0.71
98-06-6	tert-Butylbenzene	ND		5.6	0.56
127-18-4	Tetrachloroethene	ND		5.6	0.67
108-88-3	Toluene	ND		5.6	0.78
156-60-5	trans-1,2-Dichloroethene	ND		2.8	0.44
10061-02-6	trans-1,3-Dichloropropene	ND		5.6	0.76
79-01-6	Trichloroethene	ND		5.6	0.26
75-69-4	Trichlorofluoromethane	ND		11	1.2
75-01-4	Vinyl chloride	ND		5.6	1.5
1330-20-7	Xylenes, Total	ND		5.6	0.69

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC14   Lab Sample ID: 280-107960-14

Matrix: Solid   Lab File ID: G6552.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:41

Sample wt/vol: 4.435(g)   Date Analyzed: 04/12/2018 20:59

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	78		58-140
460-00-4	4-Bromofluorobenzene (Surr)	99		76-127
1868-53-7	Dibromofluoromethane (Surr)	90		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC15   Lab Sample ID: 280-107960-15

Matrix: Solid   Lab File ID: G6553.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:46

Sample wt/vol: 4.782(g)   Date Analyzed: 04/12/2018 21:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.2	0.59
71-55-6	1,1,1-Trichloroethane	ND		5.2	0.54
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.2	0.64
79-00-5	1,1,2-Trichloroethane	ND		5.2	0.92
75-34-3	1,1-Dichloroethane	ND		5.2	0.22
75-35-4	1,1-Dichloroethene	ND		5.2	0.62
563-58-6	1,1-Dichloropropene	ND		5.2	0.56
87-61-6	1,2,3-Trichlorobenzene	ND		5.2	0.78
96-18-4	1,2,3-Trichloropropane	ND		5.2	0.85
120-82-1	1,2,4-Trichlorobenzene	ND		5.2	0.76
95-63-6	1,2,4-Trimethylbenzene	ND		5.2	0.61
96-12-8	1,2-Dibromo-3-Chloropropane	ND		10	0.63
106-93-4	1,2-Dibromoethane	ND		5.2	0.54
95-50-1	1,2-Dichlorobenzene	ND		5.2	0.47
107-06-2	1,2-Dichloroethane	ND		5.2	0.73
540-59-0	1,2-Dichloroethene, Total	ND		5.2	0.41
78-87-5	1,2-Dichloropropane	ND		5.2	0.58
108-67-8	1,3,5-Trimethylbenzene	ND		5.2	0.60
541-73-1	1,3-Dichlorobenzene	ND		5.2	0.50
142-28-9	1,3-Dichloropropane	ND		5.2	0.53
106-46-7	1,4-Dichlorobenzene	ND		5.2	0.82
594-20-7	2,2-Dichloropropane	ND		5.2	0.46
78-93-3	2-Butanone (MEK)	8.8	J	21	1.9
95-49-8	2-Chlorotoluene	ND		5.2	0.53
591-78-6	2-Hexanone	ND		21	5.1
106-43-4	4-Chlorotoluene	ND		5.2	0.82
99-87-6	4-Isopropyltoluene	ND		5.2	0.51
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.6
67-64-1	Acetone	27	B	21	5.6
71-43-2	Benzene	ND		5.2	0.49
108-86-1	Bromobenzene	ND		5.2	0.51
75-25-2	Bromoform	ND		5.2	0.24
74-83-9	Bromomethane	ND		10	0.52
56-23-5	Carbon tetrachloride	ND		5.2	0.66
108-90-7	Chlorobenzene	ND		5.2	0.56
74-97-5	Chlorobromomethane	ND		5.2	0.31

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC15   Lab Sample ID: 280-107960-15

Matrix: Solid   Lab File ID: G6553.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:46

Sample wt/vol: 4.782(g)   Date Analyzed: 04/12/2018 21:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.2	0.60
75-00-3	Chloroethane	ND		10	0.93
67-66-3	Chloroform	ND		10	0.30
74-87-3	Chloromethane	ND		10	0.81
156-59-2	cis-1,2-Dichloroethene	ND		2.6	0.59
10061-01-5	cis-1,3-Dichloropropene	ND		5.2	1.3
74-95-3	Dibromomethane	ND		5.2	0.88
75-27-4	Dichlorobromomethane	ND		5.2	0.23
75-71-8	Dichlorodifluoromethane	ND		10	0.54
100-41-4	Ethylbenzene	ND		5.2	0.70
87-68-3	Hexachlorobutadiene	ND		5.2	0.58
98-82-8	Isopropylbenzene	ND		5.2	0.62
1634-04-4	Methyl tert-butyl ether	ND		21	0.36
75-09-2	Methylene Chloride	1.9	J	5.2	1.7
179601-23-1	m-Xylene & p-Xylene	ND		2.6	1.1
91-20-3	Naphthalene	ND		5.2	0.66
104-51-8	n-Butylbenzene	ND		5.2	0.59
103-65-1	N-Propylbenzene	ND		5.2	0.61
95-47-6	o-Xylene	ND		2.6	0.64
135-98-8	sec-Butylbenzene	ND		5.2	0.81
100-42-5	Styrene	ND		5.2	0.66
98-06-6	tert-Butylbenzene	ND		5.2	0.52
127-18-4	Tetrachloroethene	ND		5.2	0.62
108-88-3	Toluene	ND		5.2	0.72
156-60-5	trans-1,2-Dichloroethene	ND		2.6	0.41
10061-02-6	trans-1,3-Dichloropropene	ND		5.2	0.70
79-01-6	Trichloroethene	ND		5.2	0.24
75-69-4	Trichlorofluoromethane	ND		10	1.1
75-01-4	Vinyl chloride	ND		5.2	1.4
1330-20-7	Xylenes, Total	ND		5.2	0.64

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC15   Lab Sample ID: 280-107960-15

Matrix: Solid   Lab File ID: G6553.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:46

Sample wt/vol: 4.782(g)   Date Analyzed: 04/12/2018 21:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	76		58-140
460-00-4	4-Bromofluorobenzene (Surr)	104		76-127
1868-53-7	Dibromofluoromethane (Surr)	91		75-121
2037-26-5	Toluene-d8 (Surr)	96		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC16 Lab Sample ID: 280-107960-16

Matrix: Solid Lab File ID: G6554.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:51

Sample wt/vol: 4.758(g) Date Analyzed: 04/12/2018 21:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.3	0.59
71-55-6	1,1,1-Trichloroethane	ND		5.3	0.55
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.3	0.64
79-00-5	1,1,2-Trichloroethane	ND		5.3	0.92
75-34-3	1,1-Dichloroethane	ND		5.3	0.22
75-35-4	1,1-Dichloroethene	ND		5.3	0.62
563-58-6	1,1-Dichloropropene	ND		5.3	0.57
87-61-6	1,2,3-Trichlorobenzene	ND		5.3	0.79
96-18-4	1,2,3-Trichloropropane	ND		5.3	0.85
120-82-1	1,2,4-Trichlorobenzene	ND		5.3	0.77
95-63-6	1,2,4-Trimethylbenzene	ND		5.3	0.61
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.63
106-93-4	1,2-Dibromoethane	ND		5.3	0.55
95-50-1	1,2-Dichlorobenzene	ND		5.3	0.47
107-06-2	1,2-Dichloroethane	ND		5.3	0.74
540-59-0	1,2-Dichloroethene, Total	ND		5.3	0.41
78-87-5	1,2-Dichloropropane	ND		5.3	0.58
108-67-8	1,3,5-Trimethylbenzene	ND		5.3	0.60
541-73-1	1,3-Dichlorobenzene	ND		5.3	0.50
142-28-9	1,3-Dichloropropane	ND		5.3	0.54
106-46-7	1,4-Dichlorobenzene	ND		5.3	0.82
594-20-7	2,2-Dichloropropane	ND		5.3	0.46
78-93-3	2-Butanone (MEK)	7.4	J	21	1.9
95-49-8	2-Chlorotoluene	ND		5.3	0.54
591-78-6	2-Hexanone	ND		21	5.1
106-43-4	4-Chlorotoluene	ND		5.3	0.82
99-87-6	4-Isopropyltoluene	ND		5.3	0.51
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.6
67-64-1	Acetone	22	B	21	5.7
71-43-2	Benzene	ND		5.3	0.49
108-86-1	Bromobenzene	ND		5.3	0.51
75-25-2	Bromoform	ND		5.3	0.24
74-83-9	Bromomethane	ND		11	0.53
56-23-5	Carbon tetrachloride	ND		5.3	0.66
108-90-7	Chlorobenzene	ND		5.3	0.57
74-97-5	Chlorobromomethane	ND		5.3	0.32

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC16 Lab Sample ID: 280-107960-16

Matrix: Solid Lab File ID: G6554.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:51

Sample wt/vol: 4.758(g) Date Analyzed: 04/12/2018 21:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.3	0.60
75-00-3	Chloroethane	ND		11	0.94
67-66-3	Chloroform	ND		11	0.30
74-87-3	Chloromethane	ND		11	0.81
156-59-2	cis-1,2-Dichloroethene	ND		2.6	0.59
10061-01-5	cis-1,3-Dichloropropene	ND		5.3	1.4
74-95-3	Dibromomethane	ND		5.3	0.88
75-27-4	Dichlorobromomethane	ND		5.3	0.23
75-71-8	Dichlorodifluoromethane	ND		11	0.55
100-41-4	Ethylbenzene	ND		5.3	0.70
87-68-3	Hexachlorobutadiene	ND		5.3	0.58
98-82-8	Isopropylbenzene	ND		5.3	0.62
1634-04-4	Methyl tert-butyl ether	ND		21	0.36
75-09-2	Methylene Chloride	ND		5.3	1.7
179601-23-1	m-Xylene & p-Xylene	ND		2.6	1.1
91-20-3	Naphthalene	ND		5.3	0.66
104-51-8	n-Butylbenzene	ND		5.3	0.59
103-65-1	N-Propylbenzene	ND		5.3	0.61
95-47-6	o-Xylene	ND		2.6	0.64
135-98-8	sec-Butylbenzene	ND		5.3	0.81
100-42-5	Styrene	ND		5.3	0.66
98-06-6	tert-Butylbenzene	ND		5.3	0.53
127-18-4	Tetrachloroethene	ND		5.3	0.62
108-88-3	Toluene	ND		5.3	0.73
156-60-5	trans-1,2-Dichloroethene	ND		2.6	0.41
10061-02-6	trans-1,3-Dichloropropene	ND		5.3	0.70
79-01-6	Trichloroethene	ND		5.3	0.24
75-69-4	Trichlorofluoromethane	ND		11	1.1
75-01-4	Vinyl chloride	ND		5.3	1.4
1330-20-7	Xylenes, Total	ND		5.3	0.64

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC16 | Lab Sample ID: 280-107960-16

Matrix: Solid | Lab File ID: G6554.D

Analysis Method: 8260B | Date Collected: 03/29/2018 12:51

Sample wt/vol: 4.758(g) | Date Analyzed: 04/12/2018 21:40

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	80		58-140
460-00-4	4-Bromofluorobenzene (Surr)	104		76-127
1868-53-7	Dibromofluoromethane (Surr)	93		75-121
2037-26-5	Toluene-d8 (Surr)	96		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC17 Lab Sample ID: 280-107960-17

Matrix: Solid Lab File ID: G6555.D

Analysis Method: 8260B Date Collected: 03/29/2018 12:56

Sample wt/vol: 4.726(g) Date Analyzed: 04/12/2018 22:00

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.3	0.59
71-55-6	1,1,1-Trichloroethane	ND		5.3	0.55
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.3	0.65
79-00-5	1,1,2-Trichloroethane	ND		5.3	0.93
75-34-3	1,1-Dichloroethane	ND		5.3	0.22
75-35-4	1,1-Dichloroethene	ND		5.3	0.62
563-58-6	1,1-Dichloropropene	ND		5.3	0.57
87-61-6	1,2,3-Trichlorobenzene	ND		5.3	0.79
96-18-4	1,2,3-Trichloropropane	ND		5.3	0.86
120-82-1	1,2,4-Trichlorobenzene	ND		5.3	0.77
95-63-6	1,2,4-Trimethylbenzene	ND		5.3	0.61
96-12-8	1,2-Dibromo-3-Chloropropane	ND		11	0.63
106-93-4	1,2-Dibromoethane	ND		5.3	0.55
95-50-1	1,2-Dichlorobenzene	ND		5.3	0.48
107-06-2	1,2-Dichloroethane	ND		5.3	0.74
540-59-0	1,2-Dichloroethene, Total	ND		5.3	0.41
78-87-5	1,2-Dichloropropane	ND		5.3	0.58
108-67-8	1,3,5-Trimethylbenzene	ND		5.3	0.60
541-73-1	1,3-Dichlorobenzene	ND		5.3	0.51
142-28-9	1,3-Dichloropropane	ND		5.3	0.54
106-46-7	1,4-Dichlorobenzene	ND		5.3	0.83
594-20-7	2,2-Dichloropropane	ND		5.3	0.47
78-93-3	2-Butanone (MEK)	5.1	J	21	1.9
95-49-8	2-Chlorotoluene	ND		5.3	0.54
591-78-6	2-Hexanone	ND		21	5.2
106-43-4	4-Chlorotoluene	ND		5.3	0.83
99-87-6	4-Isopropyltoluene	ND		5.3	0.52
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.6
67-64-1	Acetone	11	J B	21	5.7
71-43-2	Benzene	ND		5.3	0.50
108-86-1	Bromobenzene	ND		5.3	0.52
75-25-2	Bromoform	ND		5.3	0.24
74-83-9	Bromomethane	ND		11	0.53
56-23-5	Carbon tetrachloride	ND		5.3	0.67
108-90-7	Chlorobenzene	ND		5.3	0.57
74-97-5	Chlorobromomethane	ND		5.3	0.32

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver　Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC17　Lab Sample ID: 280-107960-17

Matrix: Solid　Lab File ID: G6555.D

Analysis Method: 8260B　Date Collected: 03/29/2018 12:56

Sample wt/vol: 4.726(g)　Date Analyzed: 04/12/2018 22:00

Soil Aliquot Vol:　Dilution Factor: 1

Soil Extract Vol.:　GC Column: DB-624 v1　ID: 32(um)

% Moisture:　Level: (low/med) Low

Analysis Batch No.: 411164　Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.3	0.60
75-00-3	Chloroethane	ND		11	0.94
67-66-3	Chloroform	ND		11	0.31
74-87-3	Chloromethane	ND		11	0.81
156-59-2	cis-1,2-Dichloroethene	ND		2.6	0.59
10061-01-5	cis-1,3-Dichloropropene	ND		5.3	1.4
74-95-3	Dibromomethane	ND		5.3	0.89
75-27-4	Dichlorobromomethane	ND		5.3	0.23
75-71-8	Dichlorodifluoromethane	ND		11	0.55
100-41-4	Ethylbenzene	ND		5.3	0.71
87-68-3	Hexachlorobutadiene	ND		5.3	0.58
98-82-8	Isopropylbenzene	ND		5.3	0.62
1634-04-4	Methyl tert-butyl ether	ND		21	0.36
75-09-2	Methylene Chloride	ND		5.3	1.7
179601-23-1	m-Xylene & p-Xylene	ND		2.6	1.1
91-20-3	Naphthalene	ND		5.3	0.67
104-51-8	n-Butylbenzene	ND		5.3	0.59
103-65-1	N-Propylbenzene	ND		5.3	0.61
95-47-6	o-Xylene	ND		2.6	0.65
135-98-8	sec-Butylbenzene	ND		5.3	0.81
100-42-5	Styrene	ND		5.3	0.67
98-06-6	tert-Butylbenzene	ND		5.3	0.53
127-18-4	Tetrachloroethene	ND		5.3	0.62
108-88-3	Toluene	ND		5.3	0.73
156-60-5	trans-1,2-Dichloroethene	ND		2.6	0.41
10061-02-6	trans-1,3-Dichloropropene	ND		5.3	0.71
79-01-6	Trichloroethene	ND		5.3	0.24
75-69-4	Trichlorofluoromethane	ND		11	1.1
75-01-4	Vinyl chloride	ND		5.3	1.4
1330-20-7	Xylenes, Total	ND		5.3	0.65

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC17   Lab Sample ID: 280-107960-17

Matrix: Solid   Lab File ID: G6555.D

Analysis Method: 8260B   Date Collected: 03/29/2018 12:56

Sample wt/vol: 4.726(g)   Date Analyzed: 04/12/2018 22:00

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	81		58-140
460-00-4	4-Bromofluorobenzene (Surr)	101		76-127
1868-53-7	Dibromofluoromethane (Surr)	92		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC18 Lab Sample ID: 280-107960-18

Matrix: Solid Lab File ID: G6556.D

Analysis Method: 8260B Date Collected: 03/29/2018 13:02

Sample wt/vol: 4.853(g) Date Analyzed: 04/12/2018 22:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.2	0.58
71-55-6	1,1,1-Trichloroethane	ND		5.2	0.54
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.2	0.63
79-00-5	1,1,2-Trichloroethane	ND		5.2	0.91
75-34-3	1,1-Dichloroethane	ND		5.2	0.22
75-35-4	1,1-Dichloroethene	ND		5.2	0.61
563-58-6	1,1-Dichloropropene	ND		5.2	0.56
87-61-6	1,2,3-Trichlorobenzene	ND		5.2	0.77
96-18-4	1,2,3-Trichloropropane	ND		5.2	0.83
120-82-1	1,2,4-Trichlorobenzene	ND		5.2	0.75
95-63-6	1,2,4-Trimethylbenzene	ND		5.2	0.60
96-12-8	1,2-Dibromo-3-Chloropropane	ND		10	0.62
106-93-4	1,2-Dibromoethane	ND		5.2	0.54
95-50-1	1,2-Dichlorobenzene	ND		5.2	0.46
107-06-2	1,2-Dichloroethane	ND		5.2	0.72
540-59-0	1,2-Dichloroethene, Total	ND		5.2	0.40
78-87-5	1,2-Dichloropropane	ND		5.2	0.57
108-67-8	1,3,5-Trimethylbenzene	ND		5.2	0.59
541-73-1	1,3-Dichlorobenzene	ND		5.2	0.49
142-28-9	1,3-Dichloropropane	ND		5.2	0.53
106-46-7	1,4-Dichlorobenzene	ND		5.2	0.80
594-20-7	2,2-Dichloropropane	ND		5.2	0.45
78-93-3	2-Butanone (MEK)	3.8	J	21	1.9
95-49-8	2-Chlorotoluene	ND		5.2	0.53
591-78-6	2-Hexanone	ND		21	5.0
106-43-4	4-Chlorotoluene	ND		5.2	0.80
99-87-6	4-Isopropyltoluene	ND		5.2	0.50
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		21	4.5
67-64-1	Acetone	8.2	J B	21	5.5
71-43-2	Benzene	ND		5.2	0.48
108-86-1	Bromobenzene	ND		5.2	0.50
75-25-2	Bromoform	ND		5.2	0.24
74-83-9	Bromomethane	ND		10	0.52
56-23-5	Carbon tetrachloride	ND		5.2	0.65
108-90-7	Chlorobenzene	ND		5.2	0.56
74-97-5	Chlorobromomethane	ND		5.2	0.31

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver　　Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC18　　Lab Sample ID: 280-107960-18

Matrix: Solid　　Lab File ID: G6556.D

Analysis Method: 8260B　　Date Collected: 03/29/2018 13:02

Sample wt/vol: 4.853(g)　　Date Analyzed: 04/12/2018 22:20

Soil Aliquot Vol:　　Dilution Factor: 1

Soil Extract Vol.:　　GC Column: DB-624 v1　　ID: 32(um)

% Moisture:　　Level: (low/med) Low

Analysis Batch No.: 411164　　Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.2	0.59
75-00-3	Chloroethane	ND		10	0.92
67-66-3	Chloroform	ND		10	0.30
74-87-3	Chloromethane	ND		10	0.79
156-59-2	cis-1,2-Dichloroethene	ND		2.6	0.58
10061-01-5	cis-1,3-Dichloropropene	ND		5.2	1.3
74-95-3	Dibromomethane	ND		5.2	0.87
75-27-4	Dichlorobromomethane	ND		5.2	0.23
75-71-8	Dichlorodifluoromethane	ND		10	0.54
100-41-4	Ethylbenzene	ND		5.2	0.69
87-68-3	Hexachlorobutadiene	ND		5.2	0.57
98-82-8	Isopropylbenzene	ND		5.2	0.61
1634-04-4	Methyl tert-butyl ether	ND		21	0.35
75-09-2	Methylene Chloride	ND		5.2	1.6
179601-23-1	m-Xylene & p-Xylene	ND		2.6	1.1
91-20-3	Naphthalene	ND		5.2	0.65
104-51-8	n-Butylbenzene	ND		5.2	0.58
103-65-1	N-Propylbenzene	ND		5.2	0.60
95-47-6	o-Xylene	ND		2.6	0.63
135-98-8	sec-Butylbenzene	ND		5.2	0.79
100-42-5	Styrene	ND		5.2	0.65
98-06-6	tert-Butylbenzene	ND		5.2	0.52
127-18-4	Tetrachloroethene	ND		5.2	0.61
108-88-3	Toluene	ND		5.2	0.71
156-60-5	trans-1,2-Dichloroethene	ND		2.6	0.40
10061-02-6	trans-1,3-Dichloropropene	ND		5.2	0.69
79-01-6	Trichloroethene	ND		5.2	0.24
75-69-4	Trichlorofluoromethane	ND		10	1.1
75-01-4	Vinyl chloride	ND		5.2	1.4
1330-20-7	Xylenes, Total	ND		5.2	0.63

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC18 | Lab Sample ID: 280-107960-18

Matrix: Solid | Lab File ID: G6556.D

Analysis Method: 8260B | Date Collected: 03/29/2018 13:02

Sample wt/vol: 4.853(g) | Date Analyzed: 04/12/2018 22:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	77		58-140
460-00-4	4-Bromofluorobenzene (Surr)	103		76-127
1868-53-7	Dibromofluoromethane (Surr)	88		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC19 | Lab Sample ID: 280-107960-19

Matrix: Solid | Lab File ID: G6557.D

Analysis Method: 8260B | Date Collected: 03/29/2018 13:07

Sample wt/vol: 4.339(g) | Date Analyzed: 04/12/2018 22:41

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.8	0.65
71-55-6	1,1,1-Trichloroethane	ND		5.8	0.60
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.8	0.70
79-00-5	1,1,2-Trichloroethane	ND		5.8	1.0
75-34-3	1,1-Dichloroethane	ND		5.8	0.24
75-35-4	1,1-Dichloroethene	ND		5.8	0.68
563-58-6	1,1-Dichloropropene	ND		5.8	0.62
87-61-6	1,2,3-Trichlorobenzene	ND		5.8	0.86
96-18-4	1,2,3-Trichloropropane	ND		5.8	0.93
120-82-1	1,2,4-Trichlorobenzene	ND		5.8	0.84
95-63-6	1,2,4-Trimethylbenzene	ND		5.8	0.67
96-12-8	1,2-Dibromo-3-Chloropropane	ND		12	0.69
106-93-4	1,2-Dibromoethane	ND		5.8	0.60
95-50-1	1,2-Dichlorobenzene	ND		5.8	0.52
107-06-2	1,2-Dichloroethane	ND		5.8	0.81
540-59-0	1,2-Dichloroethene, Total	ND		5.8	0.45
78-87-5	1,2-Dichloropropane	ND		5.8	0.63
108-67-8	1,3,5-Trimethylbenzene	ND		5.8	0.66
541-73-1	1,3-Dichlorobenzene	ND		5.8	0.55
142-28-9	1,3-Dichloropropane	ND		5.8	0.59
106-46-7	1,4-Dichlorobenzene	ND		5.8	0.90
594-20-7	2,2-Dichloropropane	ND		5.8	0.51
78-93-3	2-Butanone (MEK)	4.6	J	23	2.1
95-49-8	2-Chlorotoluene	ND		5.8	0.59
591-78-6	2-Hexanone	ND		23	5.6
106-43-4	4-Chlorotoluene	ND		5.8	0.90
99-87-6	4-Isopropyltoluene	ND		5.8	0.56
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		23	5.0
67-64-1	Acetone	10	J B	23	6.2
71-43-2	Benzene	ND		5.8	0.54
108-86-1	Bromobenzene	ND		5.8	0.56
75-25-2	Bromoform	ND		5.8	0.27
74-83-9	Bromomethane	ND		12	0.58
56-23-5	Carbon tetrachloride	ND		5.8	0.73
108-90-7	Chlorobenzene	ND		5.8	0.62
74-97-5	Chlorobromomethane	ND		5.8	0.35

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC19 | Lab Sample ID: 280-107960-19

Matrix: Solid | Lab File ID: G6557.D

Analysis Method: 8260B | Date Collected: 03/29/2018 13:07

Sample wt/vol: 4.339(g) | Date Analyzed: 04/12/2018 22:41

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.8	0.66
75-00-3	Chloroethane	ND		12	1.0
67-66-3	Chloroform	ND		12	0.33
74-87-3	Chloromethane	ND		12	0.89
156-59-2	cis-1,2-Dichloroethene	ND		2.9	0.65
10061-01-5	cis-1,3-Dichloropropene	ND		5.8	1.5
74-95-3	Dibromomethane	ND		5.8	0.97
75-27-4	Dichlorobromomethane	ND		5.8	0.25
75-71-8	Dichlorodifluoromethane	ND		12	0.60
100-41-4	Ethylbenzene	ND		5.8	0.77
87-68-3	Hexachlorobutadiene	ND		5.8	0.63
98-82-8	Isopropylbenzene	ND		5.8	0.68
1634-04-4	Methyl tert-butyl ether	ND		23	0.39
75-09-2	Methylene Chloride	ND		5.8	1.8
179601-23-1	m-Xylene & p-Xylene	ND		2.9	1.2
91-20-3	Naphthalene	ND		5.8	0.73
104-51-8	n-Butylbenzene	ND		5.8	0.65
103-65-1	N-Propylbenzene	ND		5.8	0.67
95-47-6	o-Xylene	ND		2.9	0.70
135-98-8	sec-Butylbenzene	ND		5.8	0.89
100-42-5	Styrene	ND		5.8	0.73
98-06-6	tert-Butylbenzene	ND		5.8	0.58
127-18-4	Tetrachloroethene	ND		5.8	0.68
108-88-3	Toluene	ND		5.8	0.80
156-60-5	trans-1,2-Dichloroethene	ND		2.9	0.45
10061-02-6	trans-1,3-Dichloropropene	ND		5.8	0.77
79-01-6	Trichloroethene	ND		5.8	0.27
75-69-4	Trichlorofluoromethane	ND		12	1.2
75-01-4	Vinyl chloride	ND		5.8	1.5
1330-20-7	Xylenes, Total	ND		5.8	0.70

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC19 | Lab Sample ID: 280-107960-19

Matrix: Solid | Lab File ID: G6557.D

Analysis Method: 8260B | Date Collected: 03/29/2018 13:07

Sample wt/vol: 4.339(g) | Date Analyzed: 04/12/2018 22:41

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 411164 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	78		58-140
460-00-4	4-Bromofluorobenzene (Surr)	102		76-127
1868-53-7	Dibromofluoromethane (Surr)	89		75-121
2037-26-5	Toluene-d8 (Surr)	94		80-126

FORM I 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC20 Lab Sample ID: 280-107960-20

Matrix: Solid Lab File ID: G6558.D

Analysis Method: 8260B Date Collected: 03/29/2018 13:14

Sample wt/vol: 4.925(g) Date Analyzed: 04/12/2018 23:01

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		5.1	0.57
71-55-6	1,1,1-Trichloroethane	ND		5.1	0.53
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.1	0.62
79-00-5	1,1,2-Trichloroethane	ND		5.1	0.89
75-34-3	1,1-Dichloroethane	ND		5.1	0.21
75-35-4	1,1-Dichloroethene	ND		5.1	0.60
563-58-6	1,1-Dichloropropene	ND		5.1	0.55
87-61-6	1,2,3-Trichlorobenzene	ND		5.1	0.76
96-18-4	1,2,3-Trichloropropane	ND		5.1	0.82
120-82-1	1,2,4-Trichlorobenzene	ND		5.1	0.74
95-63-6	1,2,4-Trimethylbenzene	ND		5.1	0.59
96-12-8	1,2-Dibromo-3-Chloropropane	ND		10	0.61
106-93-4	1,2-Dibromoethane	ND		5.1	0.53
95-50-1	1,2-Dichlorobenzene	ND		5.1	0.46
107-06-2	1,2-Dichloroethane	ND		5.1	0.71
540-59-0	1,2-Dichloroethene, Total	ND		5.1	0.40
78-87-5	1,2-Dichloropropane	ND		5.1	0.56
108-67-8	1,3,5-Trimethylbenzene	ND		5.1	0.58
541-73-1	1,3-Dichlorobenzene	ND		5.1	0.49
142-28-9	1,3-Dichloropropane	ND		5.1	0.52
106-46-7	1,4-Dichlorobenzene	ND		5.1	0.79
594-20-7	2,2-Dichloropropane	ND		5.1	0.45
78-93-3	2-Butanone (MEK)	6.6	J	20	1.9
95-49-8	2-Chlorotoluene	ND		5.1	0.52
591-78-6	2-Hexanone	ND		20	5.0
106-43-4	4-Chlorotoluene	ND		5.1	0.79
99-87-6	4-Isopropyltoluene	ND		5.1	0.50
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		20	4.4
67-64-1	Acetone	21	B	20	5.5
71-43-2	Benzene	ND		5.1	0.48
108-86-1	Bromobenzene	ND		5.1	0.50
75-25-2	Bromoform	ND		5.1	0.23
74-83-9	Bromomethane	ND		10	0.51
56-23-5	Carbon tetrachloride	ND		5.1	0.64
108-90-7	Chlorobenzene	ND		5.1	0.55
74-97-5	Chlorobromomethane	ND		5.1	0.30

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GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC20   Lab Sample ID: 280-107960-20

Matrix: Solid   Lab File ID: G6558.D

Analysis Method: 8260B   Date Collected: 03/29/2018 13:14

Sample wt/vol: 4.925(g)   Date Analyzed: 04/12/2018 23:01

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.:   GC Column: DB-624 v1   ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164   Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Chlorodibromomethane	ND		5.1	0.58
75-00-3	Chloroethane	ND		10	0.90
67-66-3	Chloroform	ND		10	0.29
74-87-3	Chloromethane	ND		10	0.78
156-59-2	cis-1,2-Dichloroethene	ND		2.5	0.57
10061-01-5	cis-1,3-Dichloropropene	ND		5.1	1.3
74-95-3	Dibromomethane	ND		5.1	0.85
75-27-4	Dichlorobromomethane	ND		5.1	0.22
75-71-8	Dichlorodifluoromethane	ND		10	0.53
100-41-4	Ethylbenzene	ND		5.1	0.68
87-68-3	Hexachlorobutadiene	ND		5.1	0.56
98-82-8	Isopropylbenzene	ND		5.1	0.60
1634-04-4	Methyl tert-butyl ether	ND		20	0.35
75-09-2	Methylene Chloride	ND		5.1	1.6
179601-23-1	m-Xylene & p-Xylene	ND		2.5	1.1
91-20-3	Naphthalene	ND		5.1	0.64
104-51-8	n-Butylbenzene	ND		5.1	0.57
103-65-1	N-Propylbenzene	ND		5.1	0.59
95-47-6	o-Xylene	ND		2.5	0.62
135-98-8	sec-Butylbenzene	ND		5.1	0.78
100-42-5	Styrene	ND		5.1	0.64
98-06-6	tert-Butylbenzene	ND		5.1	0.51
127-18-4	Tetrachloroethene	ND		5.1	0.60
108-88-3	Toluene	ND		5.1	0.70
156-60-5	trans-1,2-Dichloroethene	ND		2.5	0.40
10061-02-6	trans-1,3-Dichloropropene	ND		5.1	0.68
79-01-6	Trichloroethene	ND		5.1	0.23
75-69-4	Trichlorofluoromethane	ND		10	1.1
75-01-4	Vinyl chloride	ND		5.1	1.4
1330-20-7	Xylenes, Total	ND		5.1	0.62

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GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC20 Lab Sample ID: 280-107960-20

Matrix: Solid Lab File ID: G6558.D

Analysis Method: 8260B Date Collected: 03/29/2018 13:14

Sample wt/vol: 4.925(g) Date Analyzed: 04/12/2018 23:01

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 411164 Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	77		58-140
460-00-4	4-Bromofluorobenzene (Surr)	100		76-127
1868-53-7	Dibromofluoromethane (Surr)	88		75-121
2037-26-5	Toluene-d8 (Surr)	93		80-126

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC1   Lab Sample ID: 280-107960-1

Matrix: Solid   Lab File ID: 013F1301.D

Analysis Method: 8015B   Date Collected: 03/29/2018 11:35

Sample wt/vol: 4.997(g)   Date Analyzed: 04/10/2018 15:10

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.50	J B F1	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	94		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC2   Lab Sample ID: 280-107960-2

Matrix: Solid   Lab File ID: 016F1601.D

Analysis Method: 8015B   Date Collected: 03/29/2018 11:41

Sample wt/vol: 5.049(g)   Date Analyzed: 04/10/2018 16:49

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.64	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	92		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC3 Lab Sample ID: 280-107960-3

Matrix: Solid Lab File ID: 017F1701.D

Analysis Method: 8015B Date Collected: 03/29/2018 11:46

Sample wt/vol: 4.963(g) Date Analyzed: 04/10/2018 17:13

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.78	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	88		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC4 | Lab Sample ID: 280-107960-4

Matrix: Solid | Lab File ID: 018F1801.D

Analysis Method: 8015B | Date Collected: 03/29/2018 11:50

Sample wt/vol: 5.043(g) | Date Analyzed: 04/10/2018 17:38

Soil Aliquot Vol: .1 (mL) | Dilution Factor: 1

Soil Extract Vol.: 5(mL) | GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: | Level: (low/med) Medium

Analysis Batch No.: 410771 | Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.89	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	87		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC5 Lab Sample ID: 280-107960-5

Matrix: Solid Lab File ID: 019F1901.D

Analysis Method: 8015B Date Collected: 03/29/2018 11:55

Sample wt/vol: 4.989(g) Date Analyzed: 04/10/2018 18:03

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.84	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	88		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC6 | Lab Sample ID: 280-107960-6

Matrix: Solid | Lab File ID: 020F2001.D

Analysis Method: 8015B | Date Collected: 03/29/2018 12:00

Sample wt/vol: 5.015(g) | Date Analyzed: 04/10/2018 20:17

Soil Aliquot Vol: .1 (mL) | Dilution Factor: 1

Soil Extract Vol.: 5(mL) | GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: | Level: (low/med) Medium

Analysis Batch No.: 410771 | Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.52	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	87		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC7 Lab Sample ID: 280-107960-7

Matrix: Solid Lab File ID: 021F2101.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:05

Sample wt/vol: 5.001(g) Date Analyzed: 04/10/2018 20:41

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.54	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	96		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC8   Lab Sample ID: 280-107960-8

Matrix: Solid   Lab File ID: 022F2201.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:10

Sample wt/vol: 4.979(g)   Date Analyzed: 04/10/2018 21:06

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.58	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	95		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC9   Lab Sample ID: 280-107960-9

Matrix: Solid   Lab File ID: 023F2301.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:15

Sample wt/vol: 5.020(g)   Date Analyzed: 04/10/2018 21:30

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.73	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	89		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC10 Lab Sample ID: 280-107960-10

Matrix: Solid Lab File ID: 024F2401.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:20

Sample wt/vol: 4.992(g) Date Analyzed: 04/10/2018 21:55

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410771 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.61	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	88		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver　　Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC11　　Lab Sample ID: 280-107960-11

Matrix: Solid　　Lab File ID: 012F1201.D

Analysis Method: 8015B　　Date Collected: 03/29/2018 12:25

Sample wt/vol: 5.032(g)　　Date Analyzed: 04/11/2018 14:26

Soil Aliquot Vol: .1 (mL)　　Dilution Factor: 1

Soil Extract Vol.: 5(mL)　　GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture:　　Level: (low/med) Medium

Analysis Batch No.: 410986　　Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.67	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	92		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC12 Lab Sample ID: 280-107960-12

Matrix: Solid Lab File ID: 013F1301.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:30

Sample wt/vol: 4.982(g) Date Analyzed: 04/11/2018 14:51

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.65	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	97		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC13   Lab Sample ID: 280-107960-13

Matrix: Solid   Lab File ID: 014F1401.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:36

Sample wt/vol: 5.009(g)   Date Analyzed: 04/11/2018 15:16

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.71	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	90		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC14 Lab Sample ID: 280-107960-14

Matrix: Solid Lab File ID: 015F1501.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:41

Sample wt/vol: 4.983(g) Date Analyzed: 04/11/2018 15:41

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.82	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	90		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC15   Lab Sample ID: 280-107960-15

Matrix: Solid   Lab File ID: 016F1601.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:46

Sample wt/vol: 4.963(g)   Date Analyzed: 04/11/2018 16:06

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.83	J B	1.2	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	85		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC16 Lab Sample ID: 280-107960-16

Matrix: Solid Lab File ID: 017F1701.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:51

Sample wt/vol: 5.030(g) Date Analyzed: 04/11/2018 16:31

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.69	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	85		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC17   Lab Sample ID: 280-107960-17

Matrix: Solid   Lab File ID: 018F1801.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:56

Sample wt/vol: 5.005(g)   Date Analyzed: 04/11/2018 16:56

Soil Aliquot Vol: .1 (mL)   Dilution Factor: 1

Soil Extract Vol.: 5(mL)   GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.72	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	92		77-123

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GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC18 Lab Sample ID: 280-107960-18

Matrix: Solid Lab File ID: 019F1901.D

Analysis Method: 8015B Date Collected: 03/29/2018 13:02

Sample wt/vol: 5.021(g) Date Analyzed: 04/11/2018 17:21

Soil Aliquot Vol: .1 (mL) Dilution Factor: 1

Soil Extract Vol.: 5(mL) GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: Level: (low/med) Medium

Analysis Batch No.: 410986 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.62	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	86		77-123

FORM I
GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC19 | Lab Sample ID: 280-107960-19

Matrix: Solid | Lab File ID: 020F2001.D

Analysis Method: 8015B | Date Collected: 03/29/2018 13:07

Sample wt/vol: 5.005(g) | Date Analyzed: 04/11/2018 17:45

Soil Aliquot Vol: .1 (mL) | Dilution Factor: 1

Soil Extract Vol.: 5(mL) | GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: | Level: (low/med) Medium

Analysis Batch No.: 410986 | Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.71	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	98		77-123

FORM I 8015B

FORM I
GASOLINE RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC20 | Lab Sample ID: 280-107960-20

Matrix: Solid | Lab File ID: 021F2101.D

Analysis Method: 8015B | Date Collected: 03/29/2018 13:14

Sample wt/vol: 5.040(g) | Date Analyzed: 04/11/2018 18:10

Soil Aliquot Vol: .1 (mL) | Dilution Factor: 1

Soil Extract Vol.: 5(mL) | GC Column: RTX 502.2 (105) ID: 0.53(mm)

% Moisture: | Level: (low/med) Medium

Analysis Batch No.: 410986 | Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8006-61-9	Gasoline Range Organics (GRO)-C6-C10	0.76	J B	1.2	0.32

CAS NO.	SURROGATE	%REC	Q	LIMITS
98-08-8	a,a,a-Trifluorotoluene	95		77-123

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC1 Lab Sample ID: 280-107960-1

Matrix: Solid Lab File ID: 04091807.D

Analysis Method: 8015B Date Collected: 03/29/2018 11:35

Extraction Method: 3546 Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.2(g) Date Analyzed: 04/09/2018 15:15

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	19	B	7.9	1.3
STL00255	C10-C36	27	B	7.9	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	82		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC2   Lab Sample ID: 280-107960-2

Matrix: Solid   Lab File ID: 04091810.D

Analysis Method: 8015B   Date Collected: 03/29/2018 11:41

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.7(g)   Date Analyzed: 04/09/2018 16:28

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	230	B	7.6	1.3
STL00255	C10-C36	280	B	7.6	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	83		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC3   Lab Sample ID: 280-107960-3

Matrix: Solid   Lab File ID: 04091811.D

Analysis Method: 8015B   Date Collected: 03/29/2018 11:46

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 16.3(g)   Date Analyzed: 04/09/2018 16:53

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	320	B	7.4	1.3
STL00255	C10-C36	370	B	7.4	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	89		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver
Job No.: 280-107960-1
SDG No.:
Client Sample ID: PCS AC4
Lab Sample ID: 280-107960-4
Matrix: Solid
Lab File ID: 04091812.D
Analysis Method: 8015B
Date Collected: 03/29/2018 11:50
Extraction Method: 3546
Date Extracted: 04/03/2018 07:33
Sample wt/vol: 15.3(g)
Date Analyzed: 04/09/2018 17:17
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-1 (30.32) ID: 0.25(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 410664
Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	680	B	7.8	1.3
STL00255	C10-C36	850	B	7.8	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	66		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC5   Lab Sample ID: 280-107960-5

Matrix: Solid   Lab File ID: 04091813.D

Analysis Method: 8015B   Date Collected: 03/29/2018 11:55

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.3(g)   Date Analyzed: 04/09/2018 17:42

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	25	B	7.8	1.3
STL00255	C10-C36	39	B	7.8	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	80		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC6 Lab Sample ID: 280-107960-6

Matrix: Solid Lab File ID: 04091814.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:00

Extraction Method: 3546 Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.3(g) Date Analyzed: 04/09/2018 18:06

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	18	B	7.8	1.3
STL00255	C10-C36	28	B	7.8	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	84		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC7 Lab Sample ID: 280-107960-7

Matrix: Solid Lab File ID: 04091815.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:05

Extraction Method: 3546 Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.2(g) Date Analyzed: 04/09/2018 18:31

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	24	B	7.9	1.3
STL00255	C10-C36	39	B	7.9	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	87		49-115

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FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC8   Lab Sample ID: 280-107960-8

Matrix: Solid   Lab File ID: 04091816.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:10

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.5(g)   Date Analyzed: 04/09/2018 18:55

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	32	B	7.7	1.3
STL00255	C10-C36	51	B	7.7	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	86		49-115

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FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC9 Lab Sample ID: 280-107960-9

Matrix: Solid Lab File ID: 04091817.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:15

Extraction Method: 3546 Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.5(g) Date Analyzed: 04/09/2018 19:20

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	59	B	7.7	1.3
STL00255	C10-C36	92	B	7.7	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	91		49-115

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DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC10   Lab Sample ID: 280-107960-10

Matrix: Solid   Lab File ID: 04091818.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:20

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.3(g)   Date Analyzed: 04/09/2018 19:44

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	26	B	7.8	1.3
STL00255	C10-C36	41	B	7.8	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	87		49-115

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DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC11   Lab Sample ID: 280-107960-11

Matrix: Solid   Lab File ID: 04091820.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:25

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.0(g)   Date Analyzed: 04/09/2018 20:33

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	20	B	8.0	1.4
STL00255	C10-C36	33	B	8.0	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	83		49-115

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DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC12   Lab Sample ID: 280-107960-12

Matrix: Solid   Lab File ID: 04091821.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:30

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.1(g)   Date Analyzed: 04/09/2018 20:57

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	26	B	7.9	1.4
STL00255	C10-C36	44	B	7.9	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	92		49-115

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FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC13   Lab Sample ID: 280-107960-13

Matrix: Solid   Lab File ID: 04091822.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:36

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.5(g)   Date Analyzed: 04/09/2018 21:22

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	20	B	7.7	1.3
STL00255	C10-C36	32	B	7.7	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	80		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC14   Lab Sample ID: 280-107960-14

Matrix: Solid   Lab File ID: 04091823.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:41

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 16.5(g)   Date Analyzed: 04/09/2018 21:46

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	16	B	7.3	1.2
STL00255	C10-C36	23	B	7.3	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	76		49-115

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FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC15 Lab Sample ID: 280-107960-15

Matrix: Solid Lab File ID: 04091824.D

Analysis Method: 8015B Date Collected: 03/29/2018 12:46

Extraction Method: 3546 Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.5(g) Date Analyzed: 04/09/2018 22:10

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	22	B	7.7	1.3
STL00255	C10-C36	35	B	7.7	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	81		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC16   Lab Sample ID: 280-107960-16

Matrix: Solid   Lab File ID: 04091825.D

Analysis Method: 8015B   Date Collected: 03/29/2018 12:51

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 16.9(g)   Date Analyzed: 04/09/2018 22:35

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	25	B	7.1	1.2
STL00255	C10-C36	45	B	7.1	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	90		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC17 | Lab Sample ID: 280-107960-17

Matrix: Solid | Lab File ID: 04091826.D

Analysis Method: 8015B | Date Collected: 03/29/2018 12:56

Extraction Method: 3546 | Date Extracted: 04/03/2018 07:33

Sample wt/vol: 16.8(g) | Date Analyzed: 04/09/2018 22:59

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 | Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	20	B	7.1	1.2
STL00255	C10-C36	37	B	7.1	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	86		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC18   Lab Sample ID: 280-107960-18

Matrix: Solid   Lab File ID: 04091827.D

Analysis Method: 8015B   Date Collected: 03/29/2018 13:02

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 15.0(g)   Date Analyzed: 04/09/2018 23:24

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	20	B	8.0	1.4
STL00255	C10-C36	34	B	8.0	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	88		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC19 Lab Sample ID: 280-107960-19

Matrix: Solid Lab File ID: 04091828.D

Analysis Method: 8015B Date Collected: 03/29/2018 13:07

Extraction Method: 3546 Date Extracted: 04/03/2018 07:33

Sample wt/vol: 16.2(g) Date Analyzed: 04/09/2018 23:48

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-1 (30.32) ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	17	B	7.4	1.3
STL00255	C10-C36	30	B	7.4	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	87		49-115

FORM I 8015B

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver   Job No.: 280-107960-1

SDG No.:

Client Sample ID: PCS AC20   Lab Sample ID: 280-107960-20

Matrix: Solid   Lab File ID: 04091829.D

Analysis Method: 8015B   Date Collected: 03/29/2018 13:14

Extraction Method: 3546   Date Extracted: 04/03/2018 07:33

Sample wt/vol: 16.0(g)   Date Analyzed: 04/10/2018 00:13

Con. Extract Vol.: 1(mL)   Dilution Factor: 1

Injection Volume: 1(uL)   GC Column: RTX-1 (30.32)   ID: 0.25(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 410664   Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
STL00143	Diesel Range Organics [C10-C28]	20	B	7.5	1.3
STL00255	C10-C36	35	B	7.5	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	86		49-115

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Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-107960-1

Login Number: 107960
List Number: 1
Creator: Burtness, Benjamin W

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. SHIMIC / S. MICELI	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 8113935444111	COC No: 280-41655-12101.1
Client Contact: Steve Miceli	Phone: 505-974-1947	E-Mail: betsy.sara@testamericainc.com		Page:
Company: Waste Management				Job #:
Address: 1132 33rd Street	Due Date Requested: 4/14/18			
City: Rio Rancho	TAT Requested (days):			
State, Zip: NM,87144				
Phone: 505-974-1947	PO #: Purchase Order Requested			
Email: smiceli@wm.com	WO #:			
Project Name: 3217|Valencia, NM	Project #:28003991 skip sites/events log all from "Soil"			
Site: VALENCIA LANDFILL	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TPH-GRO	VOA	TPH-DRO	Moisture	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N		
PCS AC1	3/29/18	1135	C	S	N	N	1	1	1	1	4	
PCS AC2	3/29/18	1141	C	S	N	N	1	1	1	1	4	
PCS AC3	3/29/18	1146	C	S	N	N	1	1	1	1	4	
PCS AC4	3/29/18	1150	C	S	N	N	1	1	1	1	4	
PCS AC5	3/29/18	1155	C	S	N	N	1	1	1	1	4	
PCS AC6	3/29/18	1200	C	S	N	N	1	1	1	1	4	
PCS AC7	3/29/18	1205	C	S	N	N	1	1	1	1	4	
~~PCS AC8~~	~~3/29/18~~		~~C~~	~~S~~	~~N~~	~~N~~	~~1~~	~~1~~	~~1~~	~~1~~	~~4~~	MOVED TO NEW FORM
~~PCS AC9~~	~~3/29/18~~		~~C~~	~~S~~	~~N~~	~~N~~	~~1~~	~~1~~	~~1~~	~~1~~	~~4~~	MOVED TO NEW FORM
~~PCS AC10~~	~~3/29/18~~		~~C~~	~~S~~	~~N~~	~~N~~	~~1~~	~~1~~	~~1~~	~~1~~	~~4~~	MOVED TO NEW FORM
	3/29											

280-107960 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 3/29/18 @ 0337	Company	Received by: [signature]	Date/Time: 3-30-18 0850	Company: TA-DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 203601		Cooler Temperature(s) °C and Other Remarks: 1.5, 1.3 / 0.3°C - 0.1 IR #8 Transferred BB 3-30-18		

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information

Client Contact: Steve Miceli
Sampler: DSHIMIC / S. MICELI
Phone: 505-974-1947
Lab PM: Sara, Betsy A
E-Mail: betsy.sara@testamericainc.com
Carrier Tracking No(s): 81139354122
COC No: 280-41655-12101.1
Page:
Job #:

Company: Waste Management
Address: 1132 33rd Street
City: Rio Rancho
State, Zip: NM,87144
Phone: 505-974-1947
Email: smiceli@wm.com
Project Name: 3217|Valencia, NM
Site: VALENCIA LANDFILL

Due Date Requested: 4/14/18
TAT Requested (days):
PO #: Purchase Order Requested
WO #:
Project #: 28003991
skip sites/events log all from "Soil"
SSOW#:

Analysis Requested

Preservation Codes:
A - HCL M - Hexane
B - NaOH N - None
C - Zn Acetate O - AsNaO2
D - Nitric Acid P - Na2O4S
E - NaHSO4 Q - Na2SO3
F - MeOH R - Na2S2SO3
G - Amchlor S - H2SO4
H - Ascorbic Acid T - TSP Dodecahydrate
I - Ice U - Acetone
J - DI Water V - MCAA
K - EDTA W - ph 4-5
L - EDA Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TPH-GRO	VOA	TPH-DRO	Moisture	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N		
PCS AC 8	3/29/18	1210	C	S	N	N	1	1	1	1	4	
PCS AC 9	3/29/18	1215	C	S	N	N	1	1	1	1	4	
PCS AC 10	3/29/18	1220	C	S	N	N	1	1	1	1	4	
PCS AC 11	3/29/18	1225	C	S	N	N	1	1	1	1	4	
PCS AC 12	3/29/18	1230	C	S	N	N	1	1	1	1	4	
PCS AC 13	3/29/18	1236	C	S	N	N	1	1	1	1	4	
PCS AC 14	3/19/18	1241	C	S	N	N	1	1	1	1	4	

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/29/'18 @ 3:40pm	WM	[signature]	3-30-18 0850	TA-DEN

Custody Seals Intact: △ Yes △ No
Custody Seal No.: 203605
Cooler Temperature(s) °C and Other Remarks:

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: D. SHUMC / S. MICELI	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 81139354133	COC No: 280-41655-12101.1
Client Contact: Steve Miceli		Phone: 505-974-1947	E-Mail: betsy.sara@testamericainc.com		Page:
Company: Waste Management			Analysis Requested		Job #:
Address: 1132 33rd Street		Due Date Requested: 4/14/18			Preservation Codes:
City: Rio Rancho		TAT Requested (days):			
State, Zip: NM,87144					
Phone: 505-974-1947		PO #: Purchase Order Requested			
Email: smiceli@wm.com		WO #:			
Project Name: 3217|Valencia, NM		Project #: 28003991 skip sites/events log all from "Soil"			
Site: VALENCIA LANDFILL		SSOW#:			

Preservation Codes:
A - HCL, M - Hexane
B - NaOH, N - None
C - Zn Acetate, O - AsNaO2
D - Nitric Acid, P - Na2O4S
E - NaHSO4, Q - Na2SO3
F - MeOH, R - Na2S2SO3
G - Amchlor, S - H2SO4
H - Ascorbic Acid, T - TSP Dodecahydrate
I - Ice, U - Acetone
J - DI Water, V - MCAA
K - EDTA, W - pH 4-5
L - EDA, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TPH-GRO	VOA	TPH-DRO	Moisture	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N		
PCS AC15	3/29/18	1246	C	S	N	N	1	1	1	1	4	
PCS AC16	3/29/18	1251	C	S	N	N	1	1	1	1	4	
PCS AC 17	3/29/18	1256	C	S	N	N	1	1	1	1	4	
PCS AC 18	3/29/18	1302	C	S	N	N	1	1	1	1	4	
PCS AC 19	3/29/18	1307	C	S	N	N	1	1	1	1	4	
PCS AC 20	3/29/18	1314	C	S	N	N	1	1	1	1	4	

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 3/29/18 @ 3:39pm	Company: WM	Received by: [signature]	Date/Time: 3-30-18 0850	Company: TA-DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 203604	Cooler Temperature(s) °C and Other Remarks:

ATTACHMENT 6.7

LandGEM Output

(INVENTORY TAB)

INVENTORY

Landfill Name or Identifier: Valencia Regional Landfill

Enter year of emissions inventory: 2025

Gas / Pollutant	Emission Rate				
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(ft^3/year)*	*(short tons/year)*
Total landfill gas	5.256E+03	4.209E+06	2.828E+02	1.486E+08	5.781E+03
Methane	1.404E+03	2.104E+06	1.414E+02	7.431E+07	1.544E+03
Carbon dioxide	3.852E+03	2.104E+06	1.414E+02	7.431E+07	4.237E+03
NMOC	5.204E+00	1.452E+03	9.756E-02	5.128E+04	5.725E+00
1,1,1-Trichloroethane (methyl chloroform) - HAP	1.121E-02	2.020E+00	1.357E-04	7.134E+01	1.233E-02
1,1,2,2-Tetrachloroethane - HAP/VOC	3.232E-02	4.629E+00	3.110E-04	1.635E+02	3.555E-02
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	4.158E-02	1.010E+01	6.786E-04	3.567E+02	4.574E-02
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	3.394E-03	8.417E-01	5.655E-05	2.972E+01	3.733E-03
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	7.102E-03	1.725E+00	1.159E-04	6.094E+01	7.812E-03
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	3.560E-03	7.575E-01	5.090E-05	2.675E+01	3.916E-03
2-Propanol (isopropyl alcohol) - VOC	5.261E-01	2.104E+02	1.414E-02	7.431E+03	5.787E-01
Acetone	7.117E-02	2.946E+01	1.979E-03	1.040E+03	7.828E-02
Acrylonitrile - HAP/VOC	5.851E-02	2.651E+01	1.781E-03	9.363E+02	6.436E-02
Benzene - No or Unknown Co-disposal - HAP/VOC	2.598E-02	7.996E+00	5.373E-04	2.824E+02	2.858E-02
Benzene - Co-disposal - HAP/VOC	1.504E-01	4.629E+01	3.110E-03	1.635E+03	1.654E-01
Bromodichloromethane - VOC	8.890E-02	1.305E+01	8.766E-04	4.607E+02	9.779E-02
Butane - VOC	5.087E-02	2.104E+01	1.414E-03	7.431E+02	5.595E-02
Carbon disulfide - HAP/VOC	7.729E-03	2.441E+00	1.640E-04	8.620E+01	8.502E-03
Carbon monoxide	6.864E-01	5.892E+02	3.959E-02	2.081E+04	7.551E-01
Carbon tetrachloride - HAP/VOC	1.077E-04	1.683E-02	1.131E-06	5.945E-01	1.185E-04
Carbonyl sulfide - HAP/VOC	5.152E-03	2.062E+00	1.386E-04	7.283E+01	5.668E-03
Chlorobenzene - HAP/VOC	4.926E-03	1.052E+00	7.069E-05	3.716E+01	5.418E-03
Chlorodifluoromethane	1.968E-02	5.471E+00	3.676E-04	1.932E+02	2.164E-02
Chloroethane (ethyl chloride) - HAP/VOC	1.468E-02	5.471E+00	3.676E-04	1.932E+02	1.615E-02
Chloroform - HAP/VOC	6.270E-04	1.263E-01	8.483E-06	4.459E+00	6.896E-04
Chloromethane - VOC	1.061E-02	5.050E+00	3.393E-04	1.783E+02	1.167E-02
Dichlorobenzene - (HAP for para isomer/VOC)	5.404E-03	8.838E-01	5.938E-05	3.121E+01	5.944E-03
Dichlorodifluoromethane	3.386E-01	6.734E+01	4.524E-03	2.378E+03	3.725E-01
Dichlorofluoromethane - VOC	4.684E-02	1.094E+01	7.352E-04	3.864E+02	5.152E-02
Dichloromethane (methylene chloride) - HAP	2.082E-01	5.892E+01	3.959E-03	2.081E+03	2.290E-01
Dimethyl sulfide (methyl sulfide) - VOC	8.483E-02	3.283E+01	2.206E-03	1.159E+03	9.331E-02
Ethane	4.685E+00	3.746E+03	2.517E-01	1.323E+05	5.153E+00
Ethanol - VOC	2.178E-01	1.136E+02	7.635E-03	4.013E+03	2.396E-01
Ethyl mercaptan (ethanethiol) - VOC	2.501E-02	9.680E+00	6.504E-04	3.418E+02	2.751E-02
Ethylbenzene - HAP/VOC	8.548E-02	1.936E+01	1.301E-03	6.837E+02	9.403E-02
Ethylene dibromide - HAP/VOC	3.289E-05	4.209E-03	2.828E-07	1.486E-01	3.618E-05
Fluorotrichloromethane - VOC	1.828E-02	3.198E+00	2.149E-04	1.130E+02	2.010E-02
Hexane - HAP/VOC	9.956E-02	2.778E+01	1.866E-03	9.809E+02	1.095E-01
Hydrogen sulfide	2.148E-01	1.515E+02	1.018E-02	5.350E+03	2.362E-01
Mercury (total) - HAP	1.018E-05	1.220E-03	8.200E-08	4.310E-02	1.120E-05
Methyl ethyl ketone - HAP/VOC	8.962E-02	2.988E+01	2.008E-03	1.055E+03	9.858E-02
Methyl isobutyl ketone - HAP/VOC	3.331E-02	7.996E+00	5.373E-04	2.824E+02	3.664E-02
Methyl mercaptan - VOC	2.105E-02	1.052E+01	7.069E-04	3.716E+02	2.316E-02
Pentane - VOC	4.168E-02	1.389E+01	9.331E-04	4.905E+02	4.584E-02
Perchloroethylene (tetrachloroethylene) - HAP	1.074E-01	1.557E+01	1.046E-03	5.499E+02	1.181E-01
Propane - VOC	8.489E-02	4.629E+01	3.110E-03	1.635E+03	9.338E-02
t-1,2-Dichloroethene - VOC	4.751E-02	1.178E+01	7.918E-04	4.161E+02	5.226E-02
Toluene - No or Unknown Co-disposal - HAP/VOC	6.289E-01	1.641E+02	1.103E-02	5.796E+03	6.918E-01
Toluene - Co-disposal - HAP/VOC	2.742E+00	7.154E+02	4.807E-02	2.527E+04	3.016E+00
Trichloroethylene (trichloroethene) - HAP/VOC	6.440E-02	1.178E+01	7.918E-04	4.161E+02	7.084E-02
Vinyl chloride - HAP/VOC	7.986E-02	3.072E+01	2.064E-03	1.085E+03	8.785E-02
Xylenes - HAP/VOC	2.230E-01	5.050E+01	3.393E-03	1.783E+03	2.453E-01

ATTACHMENT 6.8
TIER 2 LANDFILL GAS
SAMPLING REPORT

cornerstone
environmental

17 W. Wetmore Road, Suite 310, Tucson, AZ 85705
T 877.633.5520 | F 520.888.4804 | W www.cornerstoneeg.com

March 11, 2016

Ms. Renae Held
New Mexico Environment Department Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505-1816

Re: Tier 2 Landfill Gas Sampling Report, AI number 21664
Valencia Landfill – Los Lunas, New Mexico

Dear Ms. Held:

On behalf of our client, Waste Management of New Mexico, Inc., Cornerstone Environmental (Cornerstone) is submitting the attached Tier 2 Landfill Gas Sampling Report for the Valencia Landfill located in Los Lunas, New Mexico. We will be sending an original hard copy of the report to you for your use.

The New Source Performance Standards (NSPS) (40 CFR Part 60, Subpart WWW) require facilities to test and submit a Tier 2 report containing the site-specific non-methane organic compound (NMOC) concentration every five years. Cornerstone conducted a Tier 2 NMOC test at the San Juan Landfill from January 14 through January 15, 2016.

The Tier 2 test was performed to determine the current site-specific concentration of NMOCs for use in calculating the landfill's NMOC emission rate. The NMOC emission rate was estimated using the United States Environmental Protection Agency (EPA) Landfill Gas Emissions Model and the site-specific NMOC concentration. The Tier 2 results indicate that the NMOC emission rate will be below the regulatory compliance limit of 50 megagrams per year (Mg/yr) for the next five years (through 2020). Per 40 CFR Section 60.757(b)(1) of the NSPS, no further NMOC emissions estimating is required until the year 2021, unless the actual refuse acceptance rate exceeds the estimated value used in the calculations and the site exceeds 50 Mg/yr. A copy of the Tier 2 NMOC Emission Rate Report will be placed in the site's operating record for this facility.

During the course of your review, if you need any additional information or have any questions, please do not hesitate to call me at 630-633-5806.

Sincerely,

Cornerstone Environmental Group, LLC

Craig W. Young

Craig W. Young, P.E.
Project Manager

Attachments

cc: Rod Walter, Waste Management of New Mexico
Steve Miceli, Los Lunas Landfill

cornerstone
environmental

Building lifetime relationships with our clients and employees.

Tier 2 Landfill Gas Sampling Report

Valencia Landfill

March 2016

Prepared for:
Waste Management of New Mexico, Inc.
Valencia Landfill
1600 W Highway 6
Los Lunas, NM 87031

17 W. Wetmore Road, Suite 310
Tucson, Arizona 85705
(520) 888-4800

REPORT CERTIFICATION

Tier 2 Landfill Gas Sampling Report

Valencia Landfill
Los Lunas, New Mexico

The material and data in this report were prepared under the supervision and direction of the undersigned.

Cornerstone Environmental Group, LLC

Craig W. Young

Craig W. Young, P.E.
Project Manager

GARTH R. BOWERS
NEW MEXICO
20360
PROFESSIONAL ENGINEER

3/11/2016

Garth R. Bowers, P.E.
Technical Director / Certifying Engineer

TABLE OF CONTENTS

APPENDICES

List of Tables, Figures and Drawings

Tables

Figures

1 EXECUTIVE SUMMARY

Cornerstone Environmental Group, LLC (Cornerstone) conducted a Tier 2 landfill gas (LFG) sampling event at the Valencia Regional Landfill (VRLF) located in unincorporated Valencia County approximately 13 miles west of Los Lunas, New Mexico on January 14 and 15, 2016. This is the first Tier 2 sampling performed at the VRLF. A total of 21 samples were taken from the landfill and analyzed by ALS laboratories for Non-Methane Organic Compounds (NMOC) as Hexane. The average NMOC concentration for the samples was 345 parts per million by volume (ppmv) as Hexane. Cornerstone used this NMOC concentration and waste acceptance rates through 2015 provided by Waste Management of New Mexico, Inc. (WMNM) to update the US Environmental Protection Agency (EPA) LFG Emission Model Version 3.02 (LandGEM) model for the site. Based on the LandGEM model, the NMOC emission rate for the VRLF for 2015 was 5.95 Megagrams per year (Mg/yr). The VRLF NMOC emission rate in 2015 is below the New Source Performance Standards (NSPS) emission threshold of 50 Mg/yr and is not expected to exceed the 50 Mg/yr emission threshold over the next five years.

2 INTRODUCTION

The Valencia Regional Landfill (VRLF) is a MSWLF owned and operated by Waste Management of New Mexico, Inc. (WMNM) located approximately fifteen miles southwest of Los Lunas, New Mexico, as shown in Figure 1. The VRLF has been in operation since 1988, accepting non-hazardous solid waste materials, including household, municipal, commercial, industrial, and construction/demolition wastes. Operations are conducted according to an approved engineering design and operations plan, which includes compaction and daily cover of landfilled wastes with soil. To date, approximately 18.4 acres (7.4 hectares) of permitted disposal area have received wastes that are more than two years old. Soil cover has been installed over the landfill wastes.

Based on the cumulative waste placed at the VRLF through the end of 2015, the VRLF triggered the 50 Mg/year threshold using the U.S. EPA Tier 1 analysis. As a result, either an active gas collection and control system (GCCS) needed to be installed or the initial Tier 2 testing procedure needed to be implemented. WMNM selected to perform the initial Tier 2 for the landfill.

Cornerstone Environmental Group, LLC (Cornerstone) conducted the initial Tier 2 landfill gas (LFG) sampling event at the VRLF located in Los Lunas, New Mexico on January 14 and 15, 2016. This report summarizes the field sampling, analytical results, and emissions estimates in support of a Tier 2 evaluation of NMOC emissions at the VRLF.

The VRLF operates under Title V Operating Permit (Title V Permit) Number P247L, issued by the New Mexico Environmental Department (NMED). Now that the VRLF has triggered the 50 Mg/year level using the Tier 1 approach and has entered in to the Tier 2 program, the Title V permit, the Title V Permit requires the VRLF to periodically submit an NMOC emissions estimate report and retest NMOC concentrations every five years in accordance with 40 Code of Federal Regulations (CFR) §60.754(a)(3) of the NSPS. This report is intended to satisfy Title V permit reporting requirements in addition to NSPS requirements.

This NMOC emission rate calculation has been updated based on site-specific NMOC concentrations determined during field-testing in January 2016 to yield a more site specific estimate of NMOC emissions for the VRLF. The results of this calculation were then used to project the annual NMOC emissions and determine if the facility will exceed 50 Mg/yr over the next five years; therefore, subjecting the VRLF to the GCCS requirements of the NSPS.

This report is intended to serve as a presentation of the Tier 2 sampling results and a five-year NMOC emission rate report for years 2016 through 2020. Included in this report is a description of the field procedures used to collect LFG field samples for laboratory analysis, the laboratory analytical results and data interpretation, a revised NMOC emission rate calculation, and a discussion of the Tier 2 sampling results.

3 FIELD PROCEDURES

In accordance with the NSPS [40 CFR §60.754(a)(3)], the Tier 2 sampling protocol requires sampling at a frequency of two samples for every hectare of landfill that has retained waste for at least two years, up to a maximum of 50 samples. The standard Tier 2 method requires penetrating the landfill surface and the interim cover.

A total of 15 sampling points were selected on an evenly spaced pattern across the VRLF, which has 18.4 acres (7.4 hectares) of landfill surface that have retained waste for at least 2 years. Sampling locations consisted of areas where waste has been in place for more than 2 years, but did not include areas which are known to be landfilled with non-degradable construction debris wastes. Areas with steep side slopes (greater than 3 horizontal: 1 vertical) or which were deemed unsafe due to weather conditions were avoided in selecting sampling locations due the potential for unsafe conditions with the direct push rig (Geoprobe™). All sampling points where marked on the landfill by the WMNM site personnel or Cornerstone personnel using a global positioning system. The sampling locations are summarized in Table 1. Figure 2 illustrates the location of each sampling point.

All samples were collected on January 14 and 15, 2016. Field sampling was conducted in a manner consistent with EPA Air Quality Test Method 25C, Determination of NMOC in Landfill Gas (Method 25C). Soil gas samples were collected through the use of a direct push rig (Geoprobe™) operated by Alpine Remediation, Inc. The direct push rig was equipped with a soil gas sampling probe that was driven into the subsurface using a pneumatic hammer. A 1.25-inch diameter vapor sampling probe sampler with 3-foot extensions was driven to an appropriate depth of 8 feet below the ground surface for sample collection to ensure a minimum depth of 3 feet below the bottom of the landfill cover in conformance with Method 25C sampling requirements. The sampling rod was raised approximately one foot to allow the tip to open to allow gas to flow through the sampling rod giving a sample depth of approximately 7 feet below the ground surface. Due to gas quality (i.e., elevated oxygen or balance gas levels) at certain locations, sampling depth was increased up to a maximum depth of 24 feet below grade to obtain a sample.

Prior to collecting the LFG samples, a Landtec GEM-5000® portable monitoring unit, was used to measure methane, carbon dioxide, oxygen, and balance gas (assumed to be nitrogen) concentrations as a check for any indication of air intrusion in the landfill and potentially in the LFG sample collected. The concentrations were observed to be within the limits allowed under EPA Method 25C for NSPS Tier 2 testing. If oxygen levels were above 5% or balance gas was above 20%, air infiltration into the landfill was assumed and a sample was not taken. If oxygen levels were below 5% or balance gas was below 20%, the sample was considered to have no air infiltration and was collected for analysis.

A total of 7, six-liter Summa® canisters were used to collect 15 LFG samples plus 6 duplicate samples from within the waste mass older than 2 years. All samples were collected in stainless steel Summa canisters partially filled with helium under negative pressure by the analytical laboratory. All of the steel canisters were leak-tested by the analytical laboratory to verify that the valve and collection port on each tank was not leaking. Each canister was used to collect composite samples of three samples per canister. Due to sampling conditions, one canister had less than three samples per canister and one canister had four samples. The canisters were filled at a rate of approximately 500 milliliters per minute (ml/min) or less at each sample location until 1 liter of sample was collected. Equal volumes of LFG were collected at each location and included in a composite sample by collecting 1 liter of gas from each sample location. Each canister was documented in a field log with the laboratory canister number and sampling point. Date, time, depth of the sampling point, and initial sampling vacuum were also recorded in field logs. A copy of the field log is provided in Appendix A.

TABLE 1 - SAMPLE LOCATIONS

Sample Point	Latitude	Longitude
1	N34.43.239	W107.02.315
2	N34.43.206	W107.02.287
3	N34.43.176	W107.02.305
4	N34.43.177	W107.02.354
5	N34.43.163	W107.02.400
6	N34.43.175	W107.02.449
7	N34.43.320	W107.02.499
8	N34.43.245	W107.02.443
9	N34.43.244	W107.02.374
10	N34.43.29	W107.02.370
11	N34.43.229	W107.02.358
11D	N34.43.229	W107.02.358
12	N34.43.232	W107.02.386
12D	N34.43.232	W107.02.386
13	N34.43.216	W107.02.336
13D	N34.43.216	W107.02.336
14	N34.43.207	W107.02.403
14D	N34.43.207	W107.02.403
15	N34.43.227	W107.02.450
15D	N34.43.227	W107.02.450

Note: Sample Points with a "D" indicate a duplicate sample.

4 LABORATORY RESULTS

LFG samples were packaged by the sampler and shipped by Federal Express to ALS laboratory (ALS) in Simi Valley, California, for analysis by Method 25C and Method 3C (CFR, 2007 Appendix A). All samples were processed in the laboratory with a gas chromatographic column to separate NMOCs from fixed gases. Consistent with Method 25C quality control requirements, each sample was first tested according to Method 3C (CFR 2007, Appendix A) protocols for nitrogen and oxygen concentration using a thermal conductivity detector. The laboratory report for the Method 25C and 3C results is provided in Appendix B. A summary of Method 3C and Method 25C results is provided in Tables 2 and 3 respectively.

Pressurization of the Summa® canisters with helium was performed in the laboratory prior to analysis. The laboratory results are reported as total NMOC by volume as carbon and have been corrected for temperature and pressure as indicated by the dilution factor incorporated within the laboratory results.

The laboratory results were also corrected for the moisture content and measured nitrogen content present in the samples as discussed in EPA Method 25C. The moisture content of the LFG was determined based upon default EPA Method 25C specifications. Oxygen and nitrogen content for each sample was obtained from the EPA Method 3C test results.

None of the seven summa canisters analyzed were identified to contain oxygen concentrations greater than 5 percent by volume and, therefore, all samples were deemed to be acceptable samples. See Table 2 for Method 3C results.

A weighted average of the NMOC concentration (parts per million by volume [ppmv] as carbon) for each sample was calculated. Results were within the acceptable range of data collected at landfills. This value was then divided by six to convert from ppmv NMOC as carbon to ppmv NMOC as hexane and used as the site-specific NMOC concentration for the VRLF.

The Method 25C results revealed that the average NMOC concentration at the VRLF ranged from 190 to 450 parts per million-hexane (ppmh) for all samples analyzed. The weighted average NMOC concentration was identified to be 345 ppmh for all samples. The average NMOC concentration of 345 ppmh for acceptable samples was used to evaluate NMOC emissions consistent with Tier 2 protocols. See Table 3 for Method 25C results.

TABLE 2 - SUMMARY OF LABORATORY METHOD 3C RESULT

Lab Sample ID	Sample Points	Percent O_2	Percent N_2	Percent CH_4	Percent CO_2
P1600639-001	7, 2	1.97	15.1	41.1	41.8
P1600639-002	3, 4, 8D	2.30	25.2	36.0	36.3
P1600639-003	5, 6, 15, 15D	1.26	5.16	50.7	42.4
P1600639-004	8, 12, 12D	0.384	2.30	56.3	40.7
P1600639-005	9, 11, 11D	0.799	3.92	55.5	39.5
P1600639-006	14, 14D, 12	0.422	1.86	54.6	42.9
P1600639-007	13, 13D, 1	0.497	2.54	54.9	41.9

Note: Sample Points with a "D" indicate a duplicate sample.

TABLE 3 - SUMMARY OF LABORATORY METHOD 25C RESULT

Lab Sample ID	Sample Points	C_{NMOC} as Hexane (ppm)
P1600639-001	7, 2	330
P1600639-002	3, 4, 8D	330
P1600639-003	5, 6, 15, 15D	190
P1600639-004	8, 12, 12D	450
P1600639-005	9, 11, 11D	430
P1600639-006	14, 14D, 12	350
P1600639-007	13, 13D, 1	380

Note: Sample Points with a "D" indicate a duplicate sample.

5 NMOC EMISSION RATE CALCULATION

A revised NMOC emission rate calculation was performed with the site-specific NMOC concentration. The calculation was performed using the LandGEM (Clean Air Act [CAA] default values – k=0.02/year and L_0=170 m^3/Mg), the site-specific NMOC concentration (345 ppmv), historical waste receipts for degradable solid waste, and the projected future waste acceptance rates (2016 – 2020) for VRLF. Waste acceptance rates for 2015 and prior were provided by WMNM. Table 4 below details the projected NMOC emission rates for 2015 through 2020.

The equation specified in 40 CFR 60.754 when the year to year solid waste acceptance rate is known is displayed below:

$M_{NMOC} = \sum 2\, k\, L_o\, M_i\, (e^{-kt_i})\, (C_{NMOC})\, (3.6 \times 10^{-9})$

where:

M_{NMOC} = Total emission rate from landfill – (Mg/yr)

k = Methane generation constant = 0.02/yr (representative of an arid climate.)

L_o = Methane generation potential = 170 cubic meters per Megagram (m^3/Mg)

M_i = Mass of waste in the ith section – Mg

t_i = Age of the ith section of waste - years

C_{NMOC} = Site-specific NMOC concentration of 345 ppmv, as determined from sample analyses.

TABLE 4 – NMOC EMISSION RATE

Year	Projected Disposal (tons)	Refuse in Place (Mg)	(Mg/yr)	(m^3/yr)
2015		783,078	5.95	1,658
2016	61,500	858,844	6.50	1,812
2017	61,900	934,609	6.86	1,962
2018	62,500	1,010,375	7.22	2,110
2019	63,200	1,086,140	7.58	2,254
2020	63,900	1,161,905	7.94	2,396

6 CONCLUSIONS

Based on the site-specific NMOC concentration determined by this Tier 2 LFG sampling event, the results of the Tier 2 calculation indicate that the NMOC emission rate for VRLF in 2015 and 2016 is below the NSPS emission threshold of 50 Mg/yr is not expected to exceed the 50 Mg/yr threshold limit value over the next five years. According to the LandGEM model results, the VRLF is not expected to exceed the NSPS emission threshold limit of 50 Mg/yr during the LandGEM model limit of 2067. In the event that actual waste acceptance rates differ significantly than those estimated in this report, VRLF will recalculate the NMOC emission rate using the NMOC concentration determined in this report and actual waste acceptance.

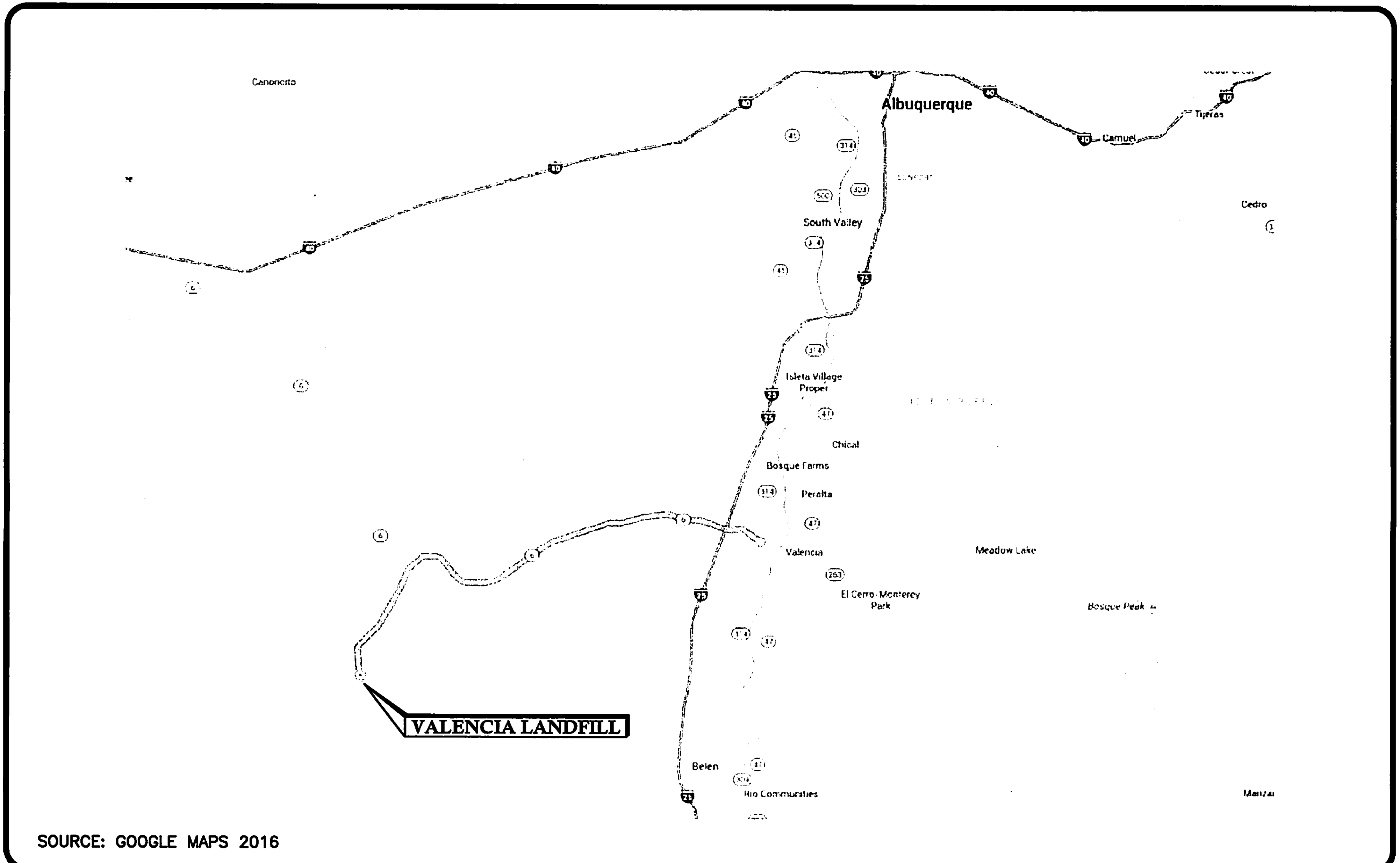
Per this report, as of February 2016, the VRLF is not projected to be over the NSPS threshold of 50 Mg/yr for the five year period of 2016 to 2020 and will not be subject to the requirements of NSPS within this timeframe. The VRLF will plan to conduct a new Tier II sampling event by January 7, 2021.

LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

FIGURES



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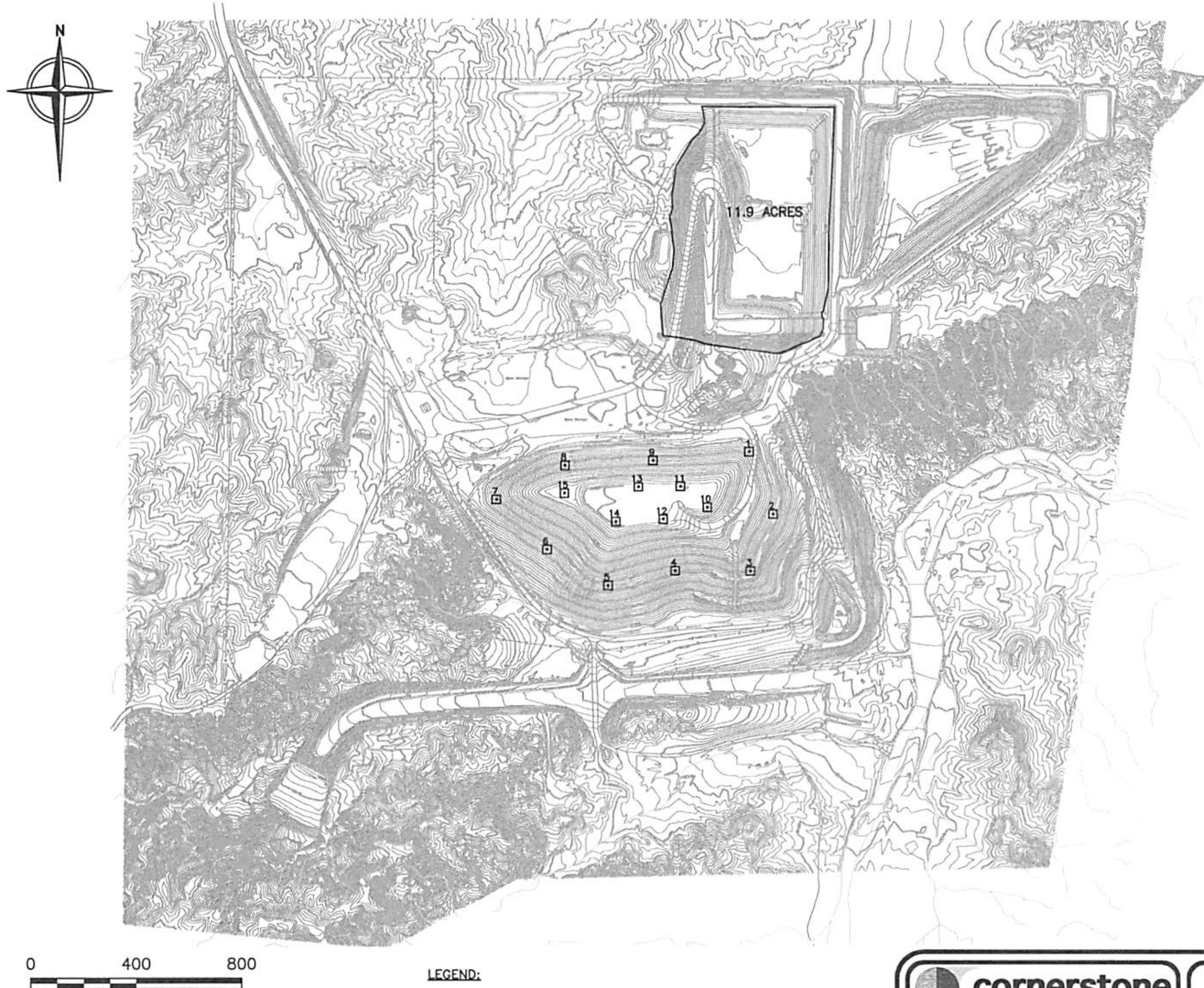
PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC

WASTE MANAGEMENT, INC.
VALENCIA LANDFILL

LOCATION MAP

FIGURE NO.
1

PROJECT NO.
150780



TOPOGRAPHY DATED JANUARY 16, 2015

LEGEND:

AREA TO BE EXCLUDED FROM TIER 2 TESTING BASED ON GREATER THAT 5 FEET OF WASTE WITHIN THE PRECEDING 2 YEARS BASED ON COMPARISON OF 2013 AND 2015 TOPOGRAPHY SUPPLIED BY WASTE MANAGEMENT.

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PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC

WASTE MANAGEMENT, INC.
VALENCIA LANDFILL

LANDFILL GAS TIER 2 SAMPLING

FIGURE NO.
2

PROJECT NO.
150780

File: X:\MARKETING\PROPOSALS\-2015\WM - Four Corners Tier 2_Project Drawings\Valencia Fig 1_LFG PLAN.dwg Layout: FIG 2 User: mark.case Mar 11, 2016 - 1:59pm

APPENDIX A
FIELD DATA AND LOGS

Cornerstone Environmental Group, LLC
Tier 2 Sampling Log

LANDFILL NAME:	Los Lunas Landfill	Meter:	GEM 5000
CLIENT:	Waste Management	Probe:	Stainless Steel Sampling Rod
CLIENT FIELD REP:		Flowmeter:	Sample Train Rotameter
PROJECT START DATE:	14-Jan-16	Vac. Gauge	Sample Train Gauge
		Sample Tech:	Albrecht

				FIELD GAS ANALYSIS (VIA GEM 5000)				SAMPLE COLLECTION SUMMA CANNISTER (<500ml/min)								
DATE	SAMPLE NO.	Sample Depth (ft)		<20% N2	<5% O2	CH4	CO2	SCC I.D.	INITIAL PRESSURE (inHg)	FINAL PRESSURE (inHg)	AMOUNT (inHg)	SAMPLE START TIME	Latitude	Longitude	Outside TEMP. (F)	Barometric Pressure
1/14/2016	7	10		5.2	0.8	49.6	44.4	767	-13.15	-0.79	-12.36	0925	N34.43.320	W107.02.499	25	24.59
1/14/2016	2	24		12.8	0.0	45.7	41.4	767	-0.79	0.00	-0.79	1025	N34.43.206	W107.02.287	24	24.46
1/14/2016	3	24		19.9	0.1	41.5	38.6	603	-11.65	-2.70	-8.95	1430	N34.43.176	W107.02.305	54	24.37
1/14/2016	4	16		0.0	0.1	53.8	46.0	603	-2.70	-0.41	-2.29	1500	N34.43.177	W107.02.354	54	24.37
1/14/2016	5	16		0.0	0.1	54.5	45.2	010	-12.71	-8.57	-4.14	1533	N34.43.163	W107.02.400	54	24.37
1/14/2016	6	16		0.0	0.0	51.5	48.4	010	-8.57	-4.53	-4.04	1608	N34.43.175	W107.02.449	54	24.37
1/15/2016	15	16		0.0	0.0	54.5	45.5	010	-4.53	-1.21	-3.32	0830	N34.43.227	W107.02.450	21	24.36
1/15/2016	15D	16	Duplicate Sample	0.0	0.1	54.2	45.8	010	-1.21	-0.10	-1.11	0835	N34.43.227	W107.02.450	21	24.36
1/15/2016	8	16		0.0	0.0	55.8	44.1	197	-13.30	-8.24	-5.06	0850	N34.43.245	W107.02.443	21	24.35
1/15/2016	8D	16	Duplicate Sample	0.0	0.5	55.7	44.3	603	-1.20	0.00	-1.20	0900	N34.43.245	W107.02.443	21	24.35
1/15/2016	12	16		0.0	0.0	58.9	40.7	197	-8.24	-4.06	-4.18	0915	N34.43.232	W107.02.386	25	24.35
1/15/2016	12D	16	Duplicate Sample	0.0	0.0	56.5	43.5	197	-4.06	-0.19	-3.87	0925	N34.43.232	W107.02.386	25	24.35
1/15/2016	9	16		0.0	2.6	57.5	42.5	307	-13.22	-8.97	-4.25	0945	N34.43.244	W107.02.374	25	24.35
1/15/2016	11	16		0.3	0.0	58.8	38.2	307	-8.97	-4.56	-4.41	1005	N34.43.229	W107.02.358	32	24.38
1/15/2016	11D	16	Duplicate Sample	0.0	0.2	56.3	43.7	307	-4.56	-0.38	-4.18	1015	N34.43.229	W107.02.358	32	24.38
1/15/2016	14	16		0.0	0.0	54.5	45.4	1006	-13.05	-8.93	-4.12	1030	N34.43.207	W107.02.403	32	24.38
1/15/2016	14D	16	Duplicate Sample	0.0	0.0	54.2	45.8	1006	-8.93	-4.90	-4.03	1035	N34.43.207	W107.02.403	36	24.38
1/15/2016	10	16		0.0	0.1	55.5	44.5	1006	-4.90	-1.18	-3.72	1045	N34.43.29	W107.02.370	41	24.38
1/15/2016	13	16		0.0	0.1	54.7	45.3	149	-13.00	-8.18	-4.82	1105	N34.43.216	W107.02.336	41	24.38
1/15/2016	13D	16	Duplicate Sample	0.0	0.0	54.9	45.2	149	-8.78	-4.93	-3.85	1115	N34.43.216	W107.02.336	41	24.38
1/15/2016	1	20		0.0	0.0	55.7	44.2	149	-4.93	-0.92	-4.01	1130	N34.43.239	W107.02.315	43	24.38

APPENDIX B
LABORATORY RESULTS

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

February 22, 2016

Craig Young
Cornerstone Environmental Group, LLC
17 West Wetmore Road, Suite 310
Tucson, AZ 85705

RE: Los Lunas Landfill

Dear Craig:

Enclosed are the results of the samples submitted to our laboratory on February 8, 2016. For your reference, these analyses have been assigned our service request number P1600639.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 10:13 am, Feb 22, 2016

Sue Anderson
Project Manager

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Client: Cornerstone Environmental Group, LLC
Project: Los Lunas Landfill

Service Request No: P1600639

CASE NARRATIVE

The samples were received intact under chain of custody on February 8, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Fixed Gases Analysis

The samples were analyzed for fixed gases (hydrogen, oxygen, nitrogen, carbon monoxide, methane and carbon dioxide) according to modified EPA Method 3C (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD). This procedure is described in laboratory SOP VOA-EPA3C. This method is included on the laboratory's DoD-ELAP scope of accreditation, however it is not part of the NELAP or AIHA-LAP accreditation.

Total Gaseous Non-Methane Organics as Hexane Analysis

The samples were also analyzed for total gaseous non-methane organics as hexane according to modified EPA Method 25C. The analyses included a single sample injection (method modification) analyzed by gas chromatography using flame ionization detection/total combustion analysis. This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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ALS Environmental - Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L15-398
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-001
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-15-6
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272015-5
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Cornerstone Environmental Group, LLC   Service Request: P1600639

Project ID: Los Lunas Landfill

Date Received: 2/8/2016

Time Received: 09:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	3C Modified - Fxd Gases Can	25C Modified - TGNMO+ 1X Can
7, 2	P1600639-001	Air	1/14/2016	10:25	SC00767	-1.81	1.82	X	X
3, 4, 8 (dupl)	P1600639-002	Air	1/14/2016	15:00	SC00603	-1.62	2.18	X	X
5, 6, 15, 15 (dupl)	P1600639-003	Air	1/15/2016	08:35	SSC00010	-1.59	1.78	X	X
8, 12, 12 (dupl)	P1600639-004	Air	1/15/2016	09:25	SSC00197	-1.69	1.50	X	X
9, 11, 11 (dupl)	P1600639-005	Air	1/15/2016	10:15	SSC00307	-1.94	1.45	X	X
14, 14 (dupl), 12	P1600639-006	Air	1/15/2016	10:45	SC01006	-2.27	2.10	X	X
13, 13 (dupl), 1	P1600639-007	Air	1/15/2016	11:30	SSC00149	-2.19	2.07	X	X

P1600639

Cornerstone Environmental Group, LLC
Tier 2 Sampling Log

LANDFILL NAME:	Los Lunas Landfill	Meter:	GEM 5000
CLIENT:	Waste Management	Probe:	Stainless Steel Sampling Rod
CLIENT FIELD REP:		Flowmeter:	Sample Train Rotameter
PROJECT START DATE:	14-Jan-16	Vac. Gauge	Sample Train Gauge
		Sample Tech:	Albrecht

				PRESAMPLING SYSTEM PURGE (<500ml/min.)			FIELD GAS ANALYSIS (VIA GEM 5000)				SAMPLE COLLECTION SUMMA CANNISTER (<500ml/min)								
	DATE	SAMPLE NO.	Sample Depth (ft)	START (Time)	END (Time)	AMOUNT (Time)	<20% N2	<5% O2	CH4	CO2	SCC I.D.	INITIAL PRESSURE (inHg)	FINAL PRESSURE (inHg)	AMOUNT (inHg)	SAMPLE START TIME	Latitude	Longitude	Outside TEMP. (F)	Barometric Pressure
1	1/14/2016	7	10				5.2	0.8	49.6	44.4	767	-13.15	-0.79		0925	N34 43.320	W107 02.499	25	24.59
	1/14/2016	2	24				12.8	0.0	45.7	41.4	767	-0.79	0.00		1025	43.208	02.287	24	24.46
2	1/14/2016	3	24				19.9	0.1	41.5	38.6	603	-11.65	-2.70		1430	43.176	02.305	54	24.37
	1/14/2016	4	16				0.0	0.1	53.8	46.0	603	-2.70	-0.41		1500	43.177	02.354	54	24.37
3	1/14/2016	5	16				0.0	0.1	54.5	45.2	010	-12.71	-8.57		1533	43.163	02.400	54	24.37
	1/14/2016	6	16				0.0	0.0	51.5	48.4	010	-8.57	-4.53		1608	43.175	02.449	54	24.37
	1/15/2016	15	16				0.0	0.0	54.5	45.5	010	-4.53	-1.21		0830	43.227	02.450	21	24.36
	1/15/2016	15 (dupl)	16				0.0	0.1	54.2	45.8	010	-1.21	-0.10		0835	43.227	02.450	21	24.36
4	1/15/2016	8	16				0.0	0.0	55.8	44.1	197	-13.30	-8.24		0850	43.245	02.443	21	24.35
	1/15/2016	8 (dupl)	16				0.0	0.5	55.7	44.3	603	-1.20	0.00		0900	43.245	02.443	21	24.35
	1/15/2016	12	16				0.0	0.0	58.9	40.7	197	-8.24	-4.06		0915	43.232	02.386	25	24.35
	1/15/2016	12 (dupl)	16				0.0	0.0	56.5	43.5	197	-4.06	-0.19		0925	43.232	02.386	25	24.35
5	1/15/2016	9	16				0.0	2.6	57.6	42.5	307	-13.22	-8.97		0945	43.244	02.374	25	24.36
	1/15/2016	11	16				0.3	0.0	58.8	38.2	307	-8.97	-4.56		1005	43.229	02.358	32	24.38
	1/15/2016	11 (dupl)	16				0.0	0.2	56.3	43.7	307	-4.56	-0.38		1015	43.229	02.358	32	24.38
6	1/15/2016	14	16				0.0	0.0	54.5	45.4	1006	-13.05	-8.93		1030	43.207	02.403	32	24.38
	1/15/2016	14 (dupl)	16				0.0	0.0	54.2	45.8	1006	-8.93	-4.90		1035	43.207	02.403	36	24.38
	1/15/2016	12	16				0.0	0.1	55.5	44.5	1006	-4.90	-1.18		1045	43.29	02.370	41	24.38
7	1/15/2016	13	16				0.0	0.1	54.7	45.3	149	-13.00	-8.18		1105	43.216	02.336	41	24.38
	1/15/2016	13 (dupl)	16				0.0	0.0	54.9	45.2	149	-8.78	-4.93		1115	43.216	02.336	41	24.38
	1/15/2016	1	20				0.0	0.0	55.7	44.2	149	-4.93	-0.92		1130	43.239	02.315	43	24.38

2/8/16 0915

ALS Environmental
Sample Acceptance Check Form

Client: Cornerstone Environmental Group, LLC Work order: P1600639
Project: Los Lunas Landfill
Sample(s) received on: 2/8/16 Date opened: 2/8/16 by: KKELPE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

#	Question	Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? ______ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1600639-001.01	6.0 L Source Can					
P1600639-002.01	6.0 L Source Can					
P1600639-003.01	6.0 L Silonite Can					
P1600639-004.01	6.0 L Silonite Can					
P1600639-005.01	6.0 L Silonite Can					
P1600639-006.01	6.0 L Source Can					
P1600639-007.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **7, 2**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-001

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Summa Canister
Test Notes: **H1**
Container ID: SC00767

Date Collected: 1/14/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.51

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.25	
7782-44-7	**Oxygen***	**1.97**	0.25	
7727-37-9	**Nitrogen**	**15.1**	0.25	
630-08-0	Carbon Monoxide	ND	0.25	
82-8	**Methane**	**41.1**	0.25	
24-38-9	**Carbon Dioxide**	**41.8**	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **3, 4, 8 (dupl)**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-002

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Summa Canister
Test Notes: **H1**
Container ID: SC00603

Date Collected: 1/14/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.49

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.25	
7782-44-7	**Oxygen***	**2.30**	0.25	
7727-37-9	**Nitrogen**	**25.2**	0.25	
630-08-0	Carbon Monoxide	ND	0.25	
[illegible]82-8	**Methane**	**36.0**	0.25	
[illegible]24-38-9	**Carbon Dioxide**	**36.3**	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **5, 6, 15, 15 (dupl)**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-003

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Silonite Canister
Test Notes: **H1**
Container ID: SSC00010

Date Collected: 1/15/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.42

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	**Hydrogen**	**0.493**	0.24	
7782-44-7	**Oxygen***	**1.26**	0.24	
7727-37-9	**Nitrogen**	**5.16**	0.24	
630-08-0	Carbon Monoxide	ND	0.24	
[illegible]-82-8	**Methane**	**50.7**	0.24	
[illegible]24-38-9	**Carbon Dioxide**	**42.4**	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **8, 12, 12 (dupl)**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-004

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Silonite Canister
Test Notes: **H1**
Container ID: SSC00197

Date Collected: 1/15/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	**Hydrogen**	**0.270**	0.24	
7782-44-7	**Oxygen***	**0.384**	0.24	
7727-37-9	**Nitrogen**	**2.30**	0.24	
630-08-0	Carbon Monoxide	ND	0.24	
82-8	**Methane**	**56.3**	0.24	
4-38-9	**Carbon Dioxide**	**40.7**	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **9, 11, 11 (dupl)**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-005

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Silonite Canister
Test Notes: **H1**
Container ID: SSC00307

Date Collected: 1/15/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.50

CAS #	Compound	Result %, v/v		MRL %, v/v	Data Qualifier
1333-74-0	**Hydrogen**	**0.293**		0.25	
7782-44-7	**Oxygen***	**0.799**		0.25	
7727-37-9	**Nitrogen**	**3.92**		0.25	
630-08-0	Carbon Monoxide		ND	0.25	
[illegible]-82-8	**Methane**	**55.5**		0.25	
[illegible]4-38-9	**Carbon Dioxide**	**39.5**		0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **14, 14 (dupl), 12**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-006

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Summa Canister
Test Notes: **H1**
Container ID: SC01006

Date Collected: 1/15/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.74

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.27	
7782-44-7	**Oxygen***	**0.422**	0.27	
7727-37-9	**Nitrogen**	**1.86**	0.27	
630-08-0	Carbon Monoxide	ND	0.27	
[illegible]82-8	**Methane**	**54.6**	0.27	
[illegible]4-38-9	**Carbon Dioxide**	**42.9**	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **13, 13 (dupl), 1**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P1600639-007

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Silonite Canister
Test Notes: **H1**
Container ID: SSC00149

Date Collected: 1/15/16
Date Received: 2/8/16
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 2.70

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.27	
7782-44-7	**Oxygen***	**0.497**	0.27	
7727-37-9	**Nitrogen**	**2.54**	0.27	
630-08-0	Carbon Monoxide	ND	0.27	
[illegible]-82-8	**Methane**	**54.9**	0.27	
[illegible]4-38-9	**Carbon Dioxide**	**41.9**	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.
H1 = Sample analysis performed past holding time.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **Method Blank**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P160215-MB

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 2/15/16
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen*	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
[illegible]-82-8	Methane	ND	0.10	
[illegible]4-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Los Lunas Landfill**

ALS Project ID: P1600639
ALS Sample ID: P160215-LCS

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo/Wade Henton
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 2/15/16
Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppmV	Result ppmV	% Recovery	ALS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,000	**38,000**	**95**	83-114	
7782-44-7	Oxygen*	40,000	**40,800**	**102**	84-121	
7727-37-9	Nitrogen	40,000	**39,400**	**99**	88-122	
630-08-0	Carbon Monoxide	40,000	**40,000**	**100**	87-118	
[illegible]82-8	Methane	40,000	**40,300**	**101**	85-116	
[illegible]4-38-9	Carbon Dioxide	40,000	**40,100**	**100**	84-117	

* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Cornerstone Environmental Group, LLC**
Client Project ID: **Los Lunas Landfill** ALS Project ID: P1600639

Total Gaseous Nonmethane Organics (TGNMO) as Hexane

Test Code: EPA Method 25C Modified
Instrument ID: HP5890 II/GC1/FID/TCA
Analyst: Mike Conejo/Wade Henton
Sampling Media: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 1/14 - 1/15/16
Date Received: 2/8/16
Date Analyzed: 2/15/16

Client Sample ID	ALS Sample ID	Canister Dilution Factor	Injection Volume ml(s)	**Result ppmV**	MRL! ppmV	Data Qualifier
7, 2	P1600639-001	2.51	0.50	**330**	0.43	
3, 4, 8 (dupl)	P1600639-002	2.49	0.50	**330**	0.42	
5, 6, 15, 15 (dupl)	P1600639-003	2.42	0.50	**190**	0.41	
8, 12, 12 (dupl)	P1600639-004	2.41	0.50	**450**	0.41	
9, 11, 11 (dupl)	P1600639-005	2.50	0.50	**430**	0.43	
[illegible] 14 (dupl), 12	P1600639-006	2.74	0.50	**350**	0.47	
[illegible], 13 (dupl), 1	P1600639-007	2.70	0.50	**380**	0.46	
Method Blank	P160215-MB	1.00	0.50	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
! = For consistency purposes, the actual MRL was divided by six and reported as Hexane.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Cornerstone Environmental Group, LLC**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Los Lunas Landfill**

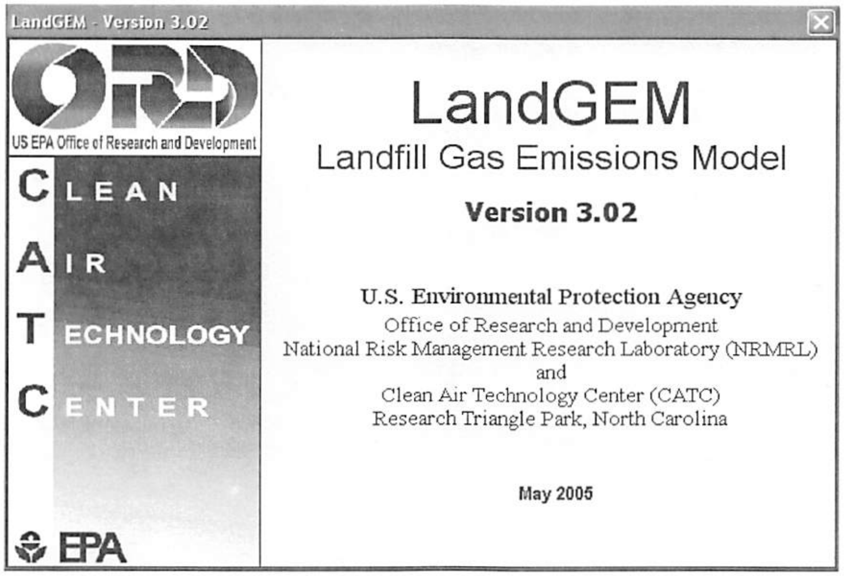
ALS Project ID: P1600639
ALS Sample ID: P160215-LCS

Test Code: EPA Method 25C Modified
Instrument ID: HP5890 II/GC1/FID/TCA
Analyst: Mike Conejo/Wade Henton
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 2/15/16
Volume(s) Analyzed: NA ml(s)

Compound	Spike Amount ppmV	**Result ppmV**	**% Recovery**	ALS Acceptance Limits	Data Qualifier
Total Gaseous Nonmethane Organics (TGNMO) as Hexane	16.7	**17.7**	**106**	81-119	

APPENDIX C
TIER 2 NMOC EMISSION RATE CALCULATIONS (LANDGEM MODEL)



Summary Report

Landfill Name or Identifier: Valencia Landfill, Los Lunas New Mexico

Date: Friday, March 11, 2016

Description/Comments:

Waste acceptance from "Tonnage Data from GHG Report - San Juan County" column "Year's Total Waste." NMOC and Methane from Tier 2 sample analysis in January 2016.

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} k L_o \left(\frac{M_i}{10} \right) e^{-k t_{ij}}$$

Where,

Q_{CH4} = annual methane generation in the year of the calculation *(m^3/year)*

i = 1-year time increment

n = (year of the calculation) - (initial year of waste acceptance)

j = 0.1-year time increment

k = methane generation rate *($year^{-1}$)*

L_o = potential methane generation capacity *(m^3/Mg)*

M_i = mass of waste accepted in the i^{th} year *(Mg)*

t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year *(decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at http://www.epa.gov/ttnatw01/landfill/landflpg.html.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	1988	
Landfill Closure Year (with 80-year limit)	2067	
Actual Closure Year (without limit)	*3114*	
Have Model Calculate Closure Year?	Yes	
Waste Design Capacity	71,160,000	*short tons*

The 80-year waste acceptance limit of the model has been exceeded before the Waste Design Capacity was reached. The model will assume the 80th year of waste acceptance as the final year to estimate emissions. See Section 2.6 of the User's Manual.

MODEL PARAMETERS

Methane Generation Rate, k	0.020	*year^{-1}*
Potential Methane Generation Capacity, L_o	170	*m^3/Mg*
NMOC Concentration	365	*ppmv as hexane*
Methane Content	50	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1988	7,360	8,096	0	0
1989	7,360	8,096	7,360	8,096
1990	7,360	8,096	14,720	16,192
1991	7,360	8,096	22,080	24,288
1992	7,360	8,096	29,440	32,384
1993	7,360	8,096	36,800	40,480
1994	2,449	2,694	44,160	48,576
1995	17,423	19,165	46,609	51,270
1996	24,345	26,780	64,032	70,435
1997	46,312	50,943	88,377	97,215
1998	42,865	47,151	134,689	148,158
1999	11,558	12,714	177,554	195,309
2000	6,955	7,650	189,112	208,023
2001	38,321	42,153	196,066	215,673
2002	5,400	5,940	234,387	257,826
2003	12,505	13,755	239,787	263,766
2004	21,952	24,147	252,292	277,521
2005	9,693	10,662	274,244	301,668
2006	7,177	7,895	283,936	312,330
2007	32,315	35,546	291,114	320,225
2008	51,392	56,531	323,428	355,771
2009	57,566	63,323	374,820	412,302
2010	66,713	73,384	432,386	475,625
2011	78,029	85,832	499,099	549,009
2012	84,934	93,427	577,128	634,841
2013	60,671	66,738	662,062	728,268
2014	60,345	66,380	722,733	795,006
2015	75,765	83,342	783,078	861,386
2016	55,909	61,500	858,844	944,728
2017	56,273	61,900	914,753	1,006,228
2018	56,818	62,500	971,025	1,068,128
2019	57,455	63,200	1,027,844	1,130,628
2020	58,091	63,900	1,085,298	1,193,828
2021	58,091	63,900	1,143,389	1,257,728
2022	58,091	63,900	1,201,480	1,321,628
2023	58,091	63,900	1,259,571	1,385,528
2024	58,091	63,900	1,317,662	1,449,428
2025	58,091	63,900	1,375,753	1,513,328
2026	58,091	63,900	1,433,844	1,577,228
2027	58,091	63,900	1,491,935	1,641,128

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
2028	58,091	63,900	1,550,025	1,705,028
2029	58,091	63,900	1,608,116	1,768,928
2030	58,091	63,900	1,666,207	1,832,828
2031	58,091	63,900	1,724,298	1,896,728
2032	58,091	63,900	1,782,389	1,960,628
2033	58,091	63,900	1,840,480	2,024,528
2034	58,091	63,900	1,898,571	2,088,428
2035	58,091	63,900	1,956,662	2,152,328
2036	58,091	63,900	2,014,753	2,216,228
2037	58,091	63,900	2,072,844	2,280,128
2038	58,091	63,900	2,130,935	2,344,028
2039	58,091	63,900	2,189,025	2,407,928
2040	58,091	63,900	2,247,116	2,471,828
2041	58,091	63,900	2,305,207	2,535,728
2042	58,091	63,900	2,363,298	2,599,628
2043	58,091	63,900	2,421,389	2,663,528
2044	58,091	63,900	2,479,480	2,727,428
2045	58,091	63,900	2,537,571	2,791,328
2046	58,091	63,900	2,595,662	2,855,228
2047	58,091	63,900	2,653,753	2,919,128
2048	58,091	63,900	2,711,844	2,983,028
2049	58,091	63,900	2,769,935	3,046,928
2050	58,091	63,900	2,828,025	3,110,828
2051	58,091	63,900	2,886,116	3,174,728
2052	58,091	63,900	2,944,207	3,238,628
2053	58,091	63,900	3,002,298	3,302,528
2054	58,091	63,900	3,060,389	3,366,428
2055	58,091	63,900	3,118,480	3,430,328
2056	58,091	63,900	3,176,571	3,494,228
2057	58,091	63,900	3,234,662	3,558,128
2058	58,091	63,900	3,292,753	3,622,028
2059	58,091	63,900	3,350,844	3,685,928
2060	58,091	63,900	3,408,935	3,749,828
2061	58,091	63,900	3,467,025	3,813,728
2062	58,091	63,900	3,525,116	3,877,628
2063	58,091	63,900	3,583,207	3,941,528
2064	58,091	63,900	3,641,298	4,005,428
2065	58,091	63,900	3,699,389	4,069,328
2066	58,091	63,900	3,757,480	4,133,228
2067	58,091	63,900	3,815,571	4,197,128

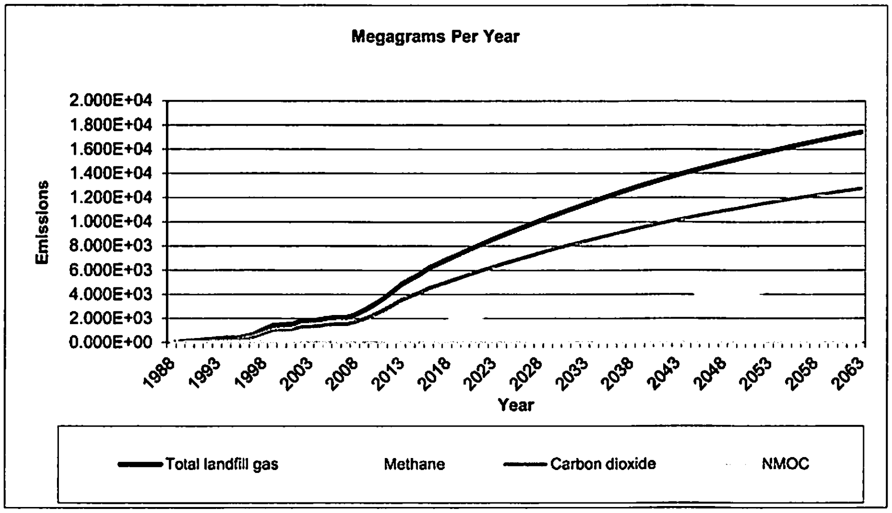
Pollutant Parameters

	Compound	Gas / Pollutant Default Parameters: Concentration (*ppmv*)	Molecular Weight	User-specified Pollutant Parameters: Concentration (*ppmv*)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41		
	1,1,2,2-Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		

Pollutant Parameters (Continued)

	Gas / Pollutant Default Parameters:			User-specified Pollutant Parameters:	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Pollutants	Ethyl mercaptan (ethanethiol) - VOC	2.3	62.13		
	Ethylbenzene - HAP/VOC	4.6	106.16		
	Ethylene dibromide - HAP/VOC	1.0E-03	187.88		
	Fluorotrichloromethane - VOC	0.76	137.38		
	Hexane - HAP/VOC	6.6	86.18		
	Hydrogen sulfide	36	34.08		
	Mercury (total) - HAP	2.9E-04	200.61		
	Methyl ethyl ketone - HAP/VOC	7.1	72.11		
	Methyl isobutyl ketone - HAP/VOC	1.9	100.16		
	Methyl mercaptan - VOC	2.5	48.11		
	Pentane - VOC	3.3	72.15		
	Perchloroethylene (tetrachloroethylene) - HAP	3.7	165.83		
	Propane - VOC	11	44.09		
	t-1,2-Dichloroethene - VOC	2.8	96.94		
	Toluene - No or Unknown Co-disposal - HAP/VOC	39	92.13		
	Toluene - Co-disposal - HAP/VOC	170	92.13		
	Trichloroethylene (trichloroethene) - HAP/VOC	2.8	131.40		
	Vinyl chloride - HAP/VOC	7.3	62.50		
	Xylenes - HAP/VOC	12	106.16		
	VOC (assumed 39% of NMOC)			142.35	86.18

Graphs


Megagrams Per Year
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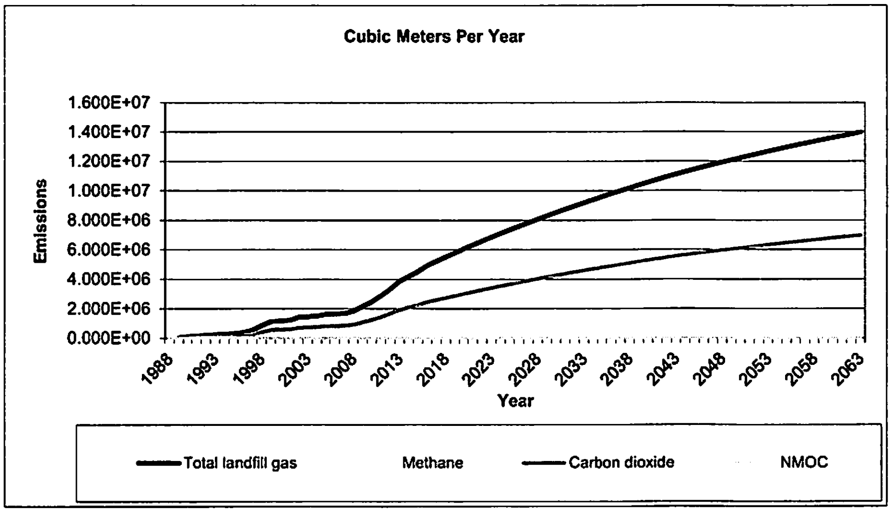
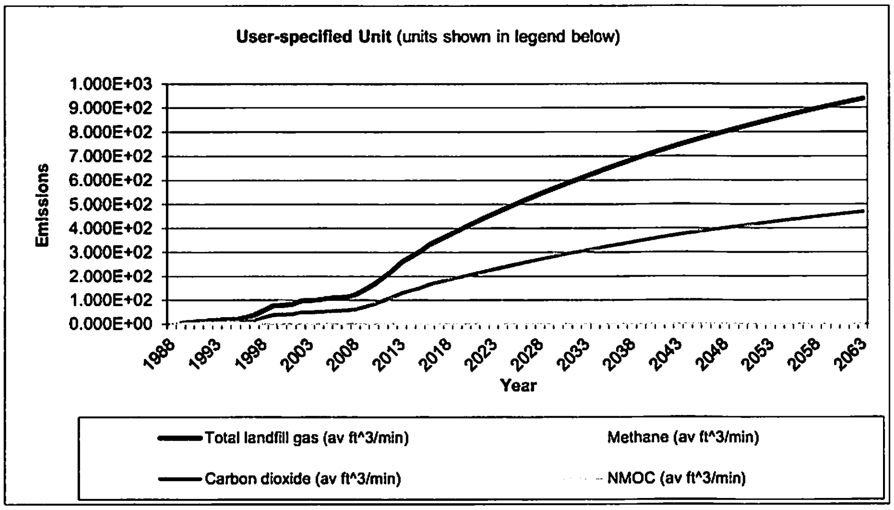
1.800E+04
1.600E+04
1.400E+04
1.200E+04
1.000E+04
8.000E+03
6.000E+03
4.000E+03
2.000E+03
0.000E+00
Emissions
1988 1993 1998 2003 2008 2013 2018 2023 2028 2033 2038 2043 2048 2053 2058 2063
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


Cubic Meters Per Year
1.600E+07
1.400E+07
1.200E+07
1.000E+07
8.000E+06
6.000E+06
4.000E+06
2.000E+06
0.000E+00
Emissions
1988 1993 1998 2003 2008 2013 2018 2023 2028 2033 2038 2043 2048 2053 2058 2063
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


User-specified Unit (units shown in legend below)
1.000E+03
9.000E+02
8.000E+02
7.000E+02
6.000E+02
5.000E+02
4.000E+02
3.000E+02
2.000E+02
1.000E+02
0.000E+00
Emissions
1988 1993 1998 2003 2008 2013 2018 2023 2028 2033 2038 2043 2048 2053 2058 2063
Year
Total landfill gas (av ft^3/min)
Methane (av ft^3/min)
Carbon dioxide (av ft^3/min)
NMOC (av ft^3/min)

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1988	0	0	0	0	0	0
1989	6.194E+01	4.960E+04	3.333E+00	1.655E+01	2.480E+04	1.666E+00
1990	1.227E+02	9.822E+04	6.599E+00	3.276E+01	4.911E+04	3.300E+00
1991	1.822E+02	1.459E+05	9.801E+00	4.866E+01	7.294E+04	4.901E+00
1992	2.405E+02	1.926E+05	1.294E+01	6.424E+01	9.629E+04	6.470E+00
1993	2.977E+02	2.384E+05	1.602E+01	7.952E+01	1.192E+05	8.008E+00
1994	3.537E+02	2.833E+05	1.903E+01	9.449E+01	1.416E+05	9.516E+00
1995	3.673E+02	2.941E+05	1.976E+01	9.812E+01	1.471E+05	9.882E+00
1996	5.067E+02	4.057E+05	2.726E+01	1.353E+02	2.029E+05	1.363E+01
1997	7.016E+02	5.618E+05	3.775E+01	1.874E+02	2.809E+05	1.887E+01
1998	1.077E+03	8.628E+05	5.797E+01	2.878E+02	4.314E+05	2.898E+01
1999	1.417E+03	1.135E+06	7.623E+01	3.785E+02	5.673E+05	3.811E+01
2000	1.486E+03	1.190E+06	7.995E+01	3.969E+02	5.950E+05	3.998E+01
2001	1.515E+03	1.213E+06	8.152E+01	4.047E+02	6.066E+05	4.076E+01
2002	1.808E+03	1.448E+06	9.726E+01	4.828E+02	7.238E+05	4.863E+01
2003	1.817E+03	1.455E+06	9.778E+01	4.854E+02	7.276E+05	4.889E+01
2004	1.887E+03	1.511E+06	1.015E+02	5.039E+02	7.553E+05	5.075E+01
2005	2.034E+03	1.629E+06	1.094E+02	5.433E+02	8.144E+05	5.472E+01
2006	2.075E+03	1.662E+06	1.117E+02	5.543E+02	8.309E+05	5.583E+01
2007	2.095E+03	1.677E+06	1.127E+02	5.595E+02	8.386E+05	5.635E+01
2008	2.325E+03	1.862E+06	1.251E+02	6.211E+02	9.309E+05	6.255E+01
2009	2.712E+03	2.171E+06	1.459E+02	7.243E+02	1.086E+06	7.294E+01
2010	3.142E+03	2.516E+06	1.691E+02	8.394E+02	1.258E+06	8.453E+01
2011	3.642E+03	2.916E+06	1.959E+02	9.727E+02	1.458E+06	9.796E+01
2012	4.226E+03	3.384E+06	2.274E+02	1.129E+03	1.692E+06	1.137E+02
2013	4.857E+03	3.889E+06	2.613E+02	1.297E+03	1.945E+06	1.307E+02
2014	5.272E+03	4.221E+06	2.836E+02	1.408E+03	2.111E+06	1.418E+02
2015	5.675E+03	4.544E+06	3.053E+02	1.516E+03	2.272E+06	1.527E+02
2016	6.200E+03	4.965E+06	3.336E+02	1.656E+03	2.483E+06	1.668E+02
2017	6.548E+03	5.244E+06	3.523E+02	1.749E+03	2.622E+06	1.762E+02
2018	6.892E+03	5.519E+06	3.708E+02	1.841E+03	2.759E+06	1.854E+02
2019	7.234E+03	5.793E+06	3.892E+02	1.932E+03	2.896E+06	1.946E+02
2020	7.574E+03	6.065E+06	4.075E+02	2.023E+03	3.033E+06	2.038E+02
2021	7.913E+03	6.336E+06	4.257E+02	2.114E+03	3.168E+06	2.129E+02
2022	8.245E+03	6.602E+06	4.436E+02	2.202E+03	3.301E+06	2.218E+02
2023	8.571E+03	6.863E+06	4.611E+02	2.289E+03	3.432E+06	2.306E+02
2024	8.890E+03	7.119E+06	4.783E+02	2.375E+03	3.559E+06	2.392E+02
2025	9.203E+03	7.369E+06	4.951E+02	2.458E+03	3.685E+06	2.476E+02
2026	9.510E+03	7.615E+06	5.116E+02	2.540E+03	3.807E+06	2.558E+02
2027	9.810E+03	7.856E+06	5.278E+02	2.620E+03	3.928E+06	2.639E+02
2028	1.010E+04	8.092E+06	5.437E+02	2.699E+03	4.046E+06	2.718E+02
2029	1.039E+04	8.323E+06	5.592E+02	2.776E+03	4.161E+06	2.796E+02
2030	1.068E+04	8.549E+06	5.744E+02	2.852E+03	4.275E+06	2.872E+02
2031	1.095E+04	8.772E+06	5.894E+02	2.926E+03	4.386E+06	2.947E+02
2032	1.123E+04	8.989E+06	6.040E+02	2.999E+03	4.495E+06	3.020E+02
2033	1.149E+04	9.203E+06	6.183E+02	3.070E+03	4.601E+06	3.092E+02
2034	1.175E+04	9.412E+06	6.324E+02	3.140E+03	4.706E+06	3.162E+02
2035	1.201E+04	9.617E+06	6.462E+02	3.208E+03	4.809E+06	3.231E+02
2036	1.226E+04	9.818E+06	6.597E+02	3.275E+03	4.909E+06	3.298E+02
2037	1.251E+04	1.002E+07	6.729E+02	3.341E+03	5.008E+06	3.365E+02

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2038	1.275E+04	1.021E+07	6.859E+02	3.405E+03	5.104E+06	3.430E+02
2039	1.299E+04	1.040E+07	6.986E+02	3.468E+03	5.199E+06	3.493E+02
2040	1.322E+04	1.058E+07	7.111E+02	3.530E+03	5.292E+06	3.556E+02
2041	1.344E+04	1.077E+07	7.233E+02	3.591E+03	5.383E+06	3.617E+02
2042	1.367E+04	1.094E+07	7.353E+02	3.651E+03	5.472E+06	3.677E+02
2043	1.389E+04	1.112E+07	7.471E+02	3.709E+03	5.559E+06	3.735E+02
2044	1.410E+04	1.129E+07	7.586E+02	3.766E+03	5.645E+06	3.793E+02
2045	1.431E+04	1.146E+07	7.698E+02	3.822E+03	5.729E+06	3.849E+02
2046	1.451E+04	1.162E+07	7.809E+02	3.877E+03	5.811E+06	3.905E+02
2047	1.472E+04	1.178E+07	7.917E+02	3.931E+03	5.892E+06	3.959E+02
2048	1.491E+04	1.194E+07	8.024E+02	3.984E+03	5.971E+06	4.012E+02
2049	1.511E+04	1.210E+07	8.128E+02	4.035E+03	6.048E+06	4.064E+02
2050	1.530E+04	1.225E+07	8.230E+02	4.086E+03	6.124E+06	4.115E+02
2051	1.548E+04	1.240E+07	8.330E+02	4.136E+03	6.199E+06	4.165E+02
2052	1.566E+04	1.254E+07	8.428E+02	4.184E+03	6.272E+06	4.214E+02
2053	1.584E+04	1.269E+07	8.524E+02	4.232E+03	6.343E+06	4.262E+02
2054	1.602E+04	1.283E+07	8.619E+02	4.279E+03	6.414E+06	4.309E+02
2055	1.619E+04	1.296E+07	8.711E+02	4.325E+03	6.482E+06	4.355E+02
2056	1.636E+04	1.310E+07	8.801E+02	4.370E+03	6.550E+06	4.401E+02
2057	1.652E+04	1.323E+07	8.890E+02	4.414E+03	6.616E+06	4.445E+02
2058	1.669E+04	1.336E+07	8.977E+02	4.457E+03	6.681E+06	4.489E+02
2059	1.684E+04	1.349E+07	9.063E+02	4.499E+03	6.744E+06	4.531E+02
2060	1.700E+04	1.361E+07	9.146E+02	4.541E+03	6.806E+06	4.573E+02
2061	1.715E+04	1.373E+07	9.228E+02	4.581E+03	6.867E+06	4.614E+02
2062	1.730E+04	1.385E+07	9.308E+02	4.621E+03	6.927E+06	4.654E+02
2063	1.745E+04	1.397E+07	9.387E+02	4.660E+03	6.985E+06	4.694E+02
2064	1.759E+04	1.409E+07	9.464E+02	4.699E+03	7.043E+06	4.732E+02
2065	1.773E+04	1.420E+07	9.540E+02	4.736E+03	7.099E+06	4.770E+02
2066	1.787E+04	1.431E+07	9.614E+02	4.773E+03	7.154E+06	4.807E+02
2067	1.800E+04	1.442E+07	9.687E+02	4.809E+03	7.208E+06	4.843E+02
2068	1.814E+04	1.452E+07	9.758E+02	4.844E+03	7.261E+06	4.879E+02
2069	1.778E+04	1.424E+07	9.565E+02	4.749E+03	7.118E+06	4.782E+02
2070	1.743E+04	1.395E+07	9.375E+02	4.655E+03	6.977E+06	4.688E+02
2071	1.708E+04	1.368E+07	9.190E+02	4.562E+03	6.839E+06	4.595E+02
2072	1.674E+04	1.341E+07	9.008E+02	4.472E+03	6.703E+06	4.504E+02
2073	1.641E+04	1.314E+07	8.829E+02	4.383E+03	6.570E+06	4.415E+02
2074	1.609E+04	1.288E+07	8.654E+02	4.297E+03	6.440E+06	4.327E+02
2075	1.577E+04	1.263E+07	8.483E+02	4.212E+03	6.313E+06	4.242E+02
2076	1.545E+04	1.238E+07	8.315E+02	4.128E+03	6.188E+06	4.158E+02
2077	1.515E+04	1.213E+07	8.150E+02	4.046E+03	6.065E+06	4.075E+02
2078	1.485E+04	1.189E+07	7.989E+02	3.966E+03	5.945E+06	3.995E+02
2079	1.455E+04	1.165E+07	7.831E+02	3.888E+03	5.827E+06	3.915E+02
2080	1.427E+04	1.142E+07	7.676E+02	3.811E+03	5.712E+06	3.838E+02
2081	1.398E+04	1.120E+07	7.524E+02	3.735E+03	5.599E+06	3.762E+02
2082	1.371E+04	1.098E+07	7.375E+02	3.661E+03	5.488E+06	3.687E+02
2083	1.344E+04	1.076E+07	7.229E+02	3.589E+03	5.379E+06	3.614E+02
2084	1.317E+04	1.055E+07	7.086E+02	3.518E+03	5.273E+06	3.543E+02
2085	1.291E+04	1.034E+07	6.945E+02	3.448E+03	5.168E+06	3.473E+02
2086	1.265E+04	1.013E+07	6.808E+02	3.380E+03	5.066E+06	3.404E+02
2087	1.240E+04	9.932E+06	6.673E+02	3.313E+03	4.966E+06	3.337E+02
2088	1.216E+04	9.735E+06	6.541E+02	3.247E+03	4.867E+06	3.270E+02

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2089	1.192E+04	9.542E+06	6.411E+02	3.183E+03	4.771E+06	3.206E+02
2090	1.168E+04	9.353E+06	6.284E+02	3.120E+03	4.677E+06	3.142E+02
2091	1.145E+04	9.168E+06	6.160E+02	3.058E+03	4.584E+06	3.080E+02
2092	1.122E+04	8.987E+06	6.038E+02	2.998E+03	4.493E+06	3.019E+02
2093	1.100E+04	8.809E+06	5.918E+02	2.938E+03	4.404E+06	2.959E+02
2094	1.078E+04	8.634E+06	5.801E+02	2.880E+03	4.317E+06	2.901E+02
2095	1.057E+04	8.463E+06	5.686E+02	2.823E+03	4.232E+06	2.843E+02
2096	1.036E+04	8.296E+06	5.574E+02	2.767E+03	4.148E+06	2.787E+02
2097	1.015E+04	8.131E+06	5.463E+02	2.712E+03	4.066E+06	2.732E+02
2098	9.954E+03	7.970E+06	5.355E+02	2.659E+03	3.985E+06	2.678E+02
2099	9.756E+03	7.813E+06	5.249E+02	2.606E+03	3.906E+06	2.625E+02
2100	9.563E+03	7.658E+06	5.145E+02	2.554E+03	3.829E+06	2.573E+02
2101	9.374E+03	7.506E+06	5.043E+02	2.504E+03	3.753E+06	2.522E+02
2102	9.188E+03	7.358E+06	4.944E+02	2.454E+03	3.679E+06	2.472E+02
2103	9.006E+03	7.212E+06	4.846E+02	2.406E+03	3.606E+06	2.423E+02
2104	8.828E+03	7.069E+06	4.750E+02	2.358E+03	3.535E+06	2.375E+02
2105	8.653E+03	6.929E+06	4.656E+02	2.311E+03	3.465E+06	2.328E+02
2106	8.482E+03	6.792E+06	4.563E+02	2.266E+03	3.396E+06	2.282E+02
2107	8.314E+03	6.657E+06	4.473E+02	2.221E+03	3.329E+06	2.237E+02
2108	8.149E+03	6.526E+06	4.385E+02	2.177E+03	3.263E+06	2.192E+02
2109	7.988E+03	6.396E+06	4.298E+02	2.134E+03	3.198E+06	2.149E+02
2110	7.830E+03	6.270E+06	4.213E+02	2.091E+03	3.135E+06	2.106E+02
2111	7.675E+03	6.146E+06	4.129E+02	2.050E+03	3.073E+06	2.065E+02
2112	7.523E+03	6.024E+06	4.047E+02	2.009E+03	3.012E+06	2.024E+02
2113	7.374E+03	5.905E+06	3.967E+02	1.970E+03	2.952E+06	1.984E+02
2114	7.228E+03	5.788E+06	3.889E+02	1.931E+03	2.894E+06	1.944E+02
2115	7.085E+03	5.673E+06	3.812E+02	1.892E+03	2.837E+06	1.906E+02
2116	6.944E+03	5.561E+06	3.736E+02	1.855E+03	2.780E+06	1.868E+02
2117	6.807E+03	5.451E+06	3.662E+02	1.818E+03	2.725E+06	1.831E+02
2118	6.672E+03	5.343E+06	3.590E+02	1.782E+03	2.671E+06	1.795E+02
2119	6.540E+03	5.237E+06	3.519E+02	1.747E+03	2.618E+06	1.759E+02
2120	6.410E+03	5.133E+06	3.449E+02	1.712E+03	2.567E+06	1.724E+02
2121	6.284E+03	5.032E+06	3.381E+02	1.678E+03	2.516E+06	1.690E+02
2122	6.159E+03	4.932E+06	3.314E+02	1.645E+03	2.466E+06	1.657E+02
2123	6.037E+03	4.834E+06	3.248E+02	1.613E+03	2.417E+06	1.624E+02
2124	5.918E+03	4.739E+06	3.184E+02	1.581E+03	2.369E+06	1.592E+02
2125	5.800E+03	4.645E+06	3.121E+02	1.549E+03	2.322E+06	1.560E+02
2126	5.686E+03	4.553E+06	3.059E+02	1.519E+03	2.276E+06	1.529E+02
2127	5.573E+03	4.463E+06	2.998E+02	1.489E+03	2.231E+06	1.499E+02
2128	5.463E+03	4.374E+06	2.939E+02	1.459E+03	2.187E+06	1.470E+02

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1988	0	0	0	0	0	0
1989	4.540E+01	2.480E+04	1.666E+00	6.489E-02	1.810E+01	1.216E-03
1990	8.989E+01	4.911E+04	3.300E+00	1.285E-01	3.585E+01	2.409E-03
1991	1.335E+02	7.294E+04	4.901E+00	1.909E-01	5.324E+01	3.577E-03
1992	1.763E+02	9.629E+04	6.470E+00	2.520E-01	7.029E+01	4.723E-03
1993	2.182E+02	1.192E+05	8.008E+00	3.119E-01	8.701E+01	5.846E-03
1994	2.592E+02	1.416E+05	9.516E+00	3.706E-01	1.034E+02	6.947E-03
1995	2.692E+02	1.471E+05	9.882E+00	3.848E-01	1.074E+02	7.214E-03
1996	3.714E+02	2.029E+05	1.363E+01	5.308E-01	1.481E+02	9.950E-03
1997	5.142E+02	2.809E+05	1.887E+01	7.350E-01	2.050E+02	1.378E-02
1998	7.896E+02	4.314E+05	2.898E+01	1.129E+00	3.149E+02	2.116E-02
1999	1.038E+03	5.673E+05	3.811E+01	1.484E+00	4.141E+02	2.782E-02
2000	1.089E+03	5.950E+05	3.998E+01	1.557E+00	4.343E+02	2.918E-02
2001	1.110E+03	6.066E+05	4.076E+01	1.587E+00	4.428E+02	2.975E-02
2002	1.325E+03	7.238E+05	4.863E+01	1.894E+00	5.283E+02	3.550E-02
2003	1.332E+03	7.276E+05	4.889E+01	1.904E+00	5.312E+02	3.569E-02
2004	1.383E+03	7.553E+05	5.075E+01	1.976E+00	5.514E+02	3.705E-02
2005	1.491E+03	8.144E+05	5.472E+01	2.131E+00	5.945E+02	3.994E-02
2006	1.521E+03	8.309E+05	5.583E+01	2.174E+00	6.065E+02	4.075E-02
2007	1.535E+03	8.386E+05	5.635E+01	2.194E+00	6.122E+02	4.113E-02
2008	1.704E+03	9.309E+05	6.255E+01	2.436E+00	6.796E+02	4.566E-02
2009	1.987E+03	1.086E+06	7.294E+01	2.841E+00	7.925E+02	5.325E-02
2010	2.303E+03	1.258E+06	8.453E+01	3.292E+00	9.184E+02	6.171E-02
2011	2.669E+03	1.458E+06	9.796E+01	3.815E+00	1.064E+03	7.151E-02
2012	3.097E+03	1.692E+06	1.137E+02	4.428E+00	1.235E+03	8.299E-02
2013	3.560E+03	1.945E+06	1.307E+02	5.089E+00	1.420E+03	9.539E-02
2014	3.864E+03	2.111E+06	1.418E+02	5.523E+00	1.541E+03	1.035E-01
2015	4.159E+03	2.272E+06	1.527E+02	5.946E+00	1.659E+03	1.114E-01
2016	4.544E+03	2.483E+06	1.668E+02	6.496E+00	1.812E+03	1.218E-01
2017	4.799E+03	2.622E+06	1.762E+02	6.860E+00	1.914E+03	1.286E-01
2018	5.051E+03	2.759E+06	1.854E+02	7.221E+00	2.014E+03	1.353E-01
2019	5.302E+03	2.896E+06	1.946E+02	7.579E+00	2.114E+03	1.421E-01
2020	5.551E+03	3.033E+06	2.038E+02	7.935E+00	2.214E+03	1.487E-01
2021	5.799E+03	3.168E+06	2.129E+02	8.290E+00	2.313E+03	1.554E-01
2022	6.043E+03	3.301E+06	2.218E+02	8.638E+00	2.410E+03	1.619E-01
2023	6.282E+03	3.432E+06	2.306E+02	8.979E+00	2.505E+03	1.683E-01
2024	6.515E+03	3.559E+06	2.392E+02	9.314E+00	2.598E+03	1.746E-01
2025	6.745E+03	3.685E+06	2.476E+02	9.641E+00	2.690E+03	1.807E-01
2026	6.970E+03	3.807E+06	2.558E+02	9.963E+00	2.779E+03	1.867E-01
2027	7.190E+03	3.928E+06	2.639E+02	1.028E+01	2.867E+03	1.927E-01
2028	7.406E+03	4.046E+06	2.718E+02	1.059E+01	2.953E+03	1.984E-01
2029	7.617E+03	4.161E+06	2.796E+02	1.089E+01	3.038E+03	2.041E-01
2030	7.825E+03	4.275E+06	2.872E+02	1.119E+01	3.121E+03	2.097E-01
2031	8.028E+03	4.386E+06	2.947E+02	1.148E+01	3.202E+03	2.151E-01
2032	8.228E+03	4.495E+06	3.020E+02	1.176E+01	3.281E+03	2.205E-01
2033	8.423E+03	4.601E+06	3.092E+02	1.204E+01	3.359E+03	2.257E-01
2034	8.614E+03	4.706E+06	3.162E+02	1.231E+01	3.435E+03	2.308E-01
2035	8.802E+03	4.809E+06	3.231E+02	1.258E+01	3.510E+03	2.359E-01
2036	8.986E+03	4.909E+06	3.298E+02	1.285E+01	3.584E+03	2.408E-01
2037	9.167E+03	5.008E+06	3.365E+02	1.310E+01	3.656E+03	2.456E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2038	9.343E+03	5.104E+06	3.430E+02	1.336E+01	3.726E+03	2.504E-01
2039	9.517E+03	5.199E+06	3.493E+02	1.360E+01	3.795E+03	2.550E-01
2040	9.687E+03	5.292E+06	3.556E+02	1.385E+01	3.863E+03	2.596E-01
2041	9.853E+03	5.383E+06	3.617E+02	1.408E+01	3.929E+03	2.640E-01
2042	1.002E+04	5.472E+06	3.677E+02	1.432E+01	3.994E+03	2.684E-01
2043	1.018E+04	5.559E+06	3.735E+02	1.455E+01	4.058E+03	2.727E-01
2044	1.033E+04	5.645E+06	3.793E+02	1.477E+01	4.121E+03	2.769E-01
2045	1.049E+04	5.729E+06	3.849E+02	1.499E+01	4.182E+03	2.810E-01
2046	1.064E+04	5.811E+06	3.905E+02	1.521E+01	4.242E+03	2.850E-01
2047	1.079E+04	5.892E+06	3.959E+02	1.542E+01	4.301E+03	2.890E-01
2048	1.093E+04	5.971E+06	4.012E+02	1.562E+01	4.359E+03	2.929E-01
2049	1.107E+04	6.048E+06	4.064E+02	1.583E+01	4.415E+03	2.967E-01
2050	1.121E+04	6.124E+06	4.115E+02	1.603E+01	4.471E+03	3.004E-01
2051	1.135E+04	6.199E+06	4.165E+02	1.622E+01	4.525E+03	3.040E-01
2052	1.148E+04	6.272E+06	4.214E+02	1.641E+01	4.578E+03	3.076E-01
2053	1.161E+04	6.343E+06	4.262E+02	1.660E+01	4.631E+03	3.111E-01
2054	1.174E+04	6.414E+06	4.309E+02	1.678E+01	4.682E+03	3.146E-01
2055	1.187E+04	6.482E+06	4.355E+02	1.696E+01	4.732E+03	3.179E-01
2056	1.199E+04	6.550E+06	4.401E+02	1.714E+01	4.781E+03	3.213E-01
2057	1.211E+04	6.616E+06	4.445E+02	1.731E+01	4.830E+03	3.245E-01
2058	1.223E+04	6.681E+06	4.489E+02	1.748E+01	4.877E+03	3.277E-01
2059	1.234E+04	6.744E+06	4.531E+02	1.765E+01	4.923E+03	3.308E-01
2060	1.246E+04	6.806E+06	4.573E+02	1.781E+01	4.969E+03	3.338E-01
2061	1.257E+04	6.867E+06	4.614E+02	1.797E+01	5.013E+03	3.368E-01
2062	1.268E+04	6.927E+06	4.654E+02	1.813E+01	5.057E+03	3.398E-01
2063	1.279E+04	6.985E+06	4.694E+02	1.828E+01	5.099E+03	3.426E-01
2064	1.289E+04	7.043E+06	4.732E+02	1.843E+01	5.141E+03	3.454E-01
2065	1.300E+04	7.099E+06	4.770E+02	1.858E+01	5.182E+03	3.482E-01
2066	1.310E+04	7.154E+06	4.807E+02	1.872E+01	5.223E+03	3.509E-01
2067	1.320E+04	7.208E+06	4.843E+02	1.886E+01	5.262E+03	3.536E-01
2068	1.329E+04	7.261E+06	4.879E+02	1.900E+01	5.301E+03	3.562E-01
2069	1.303E+04	7.118E+06	4.782E+02	1.862E+01	5.196E+03	3.491E-01
2070	1.277E+04	6.977E+06	4.688E+02	1.826E+01	5.093E+03	3.422E-01
2071	1.252E+04	6.839E+06	4.595E+02	1.789E+01	4.992E+03	3.354E-01
2072	1.227E+04	6.703E+06	4.504E+02	1.754E+01	4.893E+03	3.288E-01
2073	1.203E+04	6.570E+06	4.415E+02	1.719E+01	4.796E+03	3.223E-01
2074	1.179E+04	6.440E+06	4.327E+02	1.685E+01	4.701E+03	3.159E-01
2075	1.156E+04	6.313E+06	4.242E+02	1.652E+01	4.608E+03	3.096E-01
2076	1.133E+04	6.188E+06	4.158E+02	1.619E+01	4.517E+03	3.035E-01
2077	1.110E+04	6.065E+06	4.075E+02	1.587E+01	4.428E+03	2.975E-01
2078	1.088E+04	5.945E+06	3.995E+02	1.556E+01	4.340E+03	2.916E-01
2079	1.067E+04	5.827E+06	3.915E+02	1.525E+01	4.254E+03	2.858E-01
2080	1.046E+04	5.712E+06	3.838E+02	1.495E+01	4.170E+03	2.802E-01
2081	1.025E+04	5.599E+06	3.762E+02	1.465E+01	4.087E+03	2.746E-01
2082	1.005E+04	5.488E+06	3.687E+02	1.436E+01	4.006E+03	2.692E-01
2083	9.847E+03	5.379E+06	3.614E+02	1.408E+01	3.927E+03	2.639E-01
2084	9.652E+03	5.273E+06	3.543E+02	1.380E+01	3.849E+03	2.586E-01
2085	9.461E+03	5.168E+06	3.473E+02	1.352E+01	3.773E+03	2.535E-01
2086	9.274E+03	5.066E+06	3.404E+02	1.326E+01	3.698E+03	2.485E-01
2087	9.090E+03	4.966E+06	3.337E+02	1.299E+01	3.625E+03	2.436E-01
2088	8.910E+03	4.867E+06	3.270E+02	1.274E+01	3.553E+03	2.387E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2089	8.734E+03	4.771E+06	3.206E+02	1.248E+01	3.483E+03	2.340E-01
2090	8.561E+03	4.677E+06	3.142E+02	1.224E+01	3.414E+03	2.294E-01
2091	8.391E+03	4.584E+06	3.080E+02	1.199E+01	3.346E+03	2.248E-01
2092	8.225E+03	4.493E+06	3.019E+02	1.176E+01	3.280E+03	2.204E-01
2093	8.062E+03	4.404E+06	2.959E+02	1.152E+01	3.215E+03	2.160E-01
2094	7.902E+03	4.317E+06	2.901E+02	1.130E+01	3.151E+03	2.117E-01
2095	7.746E+03	4.232E+06	2.843E+02	1.107E+01	3.089E+03	2.076E-01
2096	7.593E+03	4.148E+06	2.787E+02	1.085E+01	3.028E+03	2.034E-01
2097	7.442E+03	4.066E+06	2.732E+02	1.064E+01	2.968E+03	1.994E-01
2098	7.295E+03	3.985E+06	2.678E+02	1.043E+01	2.909E+03	1.955E-01
2099	7.150E+03	3.906E+06	2.625E+02	1.022E+01	2.852E+03	1.916E-01
2100	7.009E+03	3.829E+06	2.573E+02	1.002E+01	2.795E+03	1.878E-01
2101	6.870E+03	3.753E+06	2.522E+02	9.821E+00	2.740E+03	1.841E-01
2102	6.734E+03	3.679E+06	2.472E+02	9.626E+00	2.686E+03	1.804E-01
2103	6.601E+03	3.606E+06	2.423E+02	9.435E+00	2.632E+03	1.769E-01
2104	6.470E+03	3.535E+06	2.375E+02	9.249E+00	2.580E+03	1.734E-01
2105	6.342E+03	3.465E+06	2.328E+02	9.066E+00	2.529E+03	1.699E-01
2106	6.216E+03	3.396E+06	2.282E+02	8.886E+00	2.479E+03	1.666E-01
2107	6.093E+03	3.329E+06	2.237E+02	8.710E+00	2.430E+03	1.633E-01
2108	5.973E+03	3.263E+06	2.192E+02	8.538E+00	2.382E+03	1.600E-01
2109	5.854E+03	3.198E+06	2.149E+02	8.369E+00	2.335E+03	1.569E-01
2110	5.738E+03	3.135E+06	2.106E+02	8.203E+00	2.288E+03	1.538E-01
2111	5.625E+03	3.073E+06	2.065E+02	8.040E+00	2.243E+03	1.507E-01
2112	5.513E+03	3.012E+06	2.024E+02	7.881E+00	2.199E+03	1.477E-01
2113	5.404E+03	2.952E+06	1.984E+02	7.725E+00	2.155E+03	1.448E-01
2114	5.297E+03	2.894E+06	1.944E+02	7.572E+00	2.112E+03	1.419E-01
2115	5.192E+03	2.837E+06	1.906E+02	7.422E+00	2.071E+03	1.391E-01
2116	5.089E+03	2.780E+06	1.868E+02	7.275E+00	2.030E+03	1.364E-01
2117	4.989E+03	2.725E+06	1.831E+02	7.131E+00	1.989E+03	1.337E-01
2118	4.890E+03	2.671E+06	1.795E+02	6.990E+00	1.950E+03	1.310E-01
2119	4.793E+03	2.618E+06	1.759E+02	6.852E+00	1.911E+03	1.284E-01
2120	4.698E+03	2.567E+06	1.724E+02	6.716E+00	1.874E+03	1.259E-01
2121	4.605E+03	2.516E+06	1.690E+02	6.583E+00	1.837E+03	1.234E-01
2122	4.514E+03	2.466E+06	1.657E+02	6.453E+00	1.800E+03	1.210E-01
2123	4.425E+03	2.417E+06	1.624E+02	6.325E+00	1.764E+03	1.186E-01
2124	4.337E+03	2.369E+06	1.592E+02	6.200E+00	1.730E+03	1.162E-01
2125	4.251E+03	2.322E+06	1.560E+02	6.077E+00	1.695E+03	1.139E-01
2126	4.167E+03	2.276E+06	1.529E+02	5.956E+00	1.662E+03	1.117E-01
2127	4.084E+03	2.231E+06	1.499E+02	5.839E+00	1.629E+03	1.094E-01
2128	4.003E+03	2.187E+06	1.470E+02	5.723E+00	1.597E+03	1.073E-01

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases:

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

VRLRF does not meet the criteria for GHG reporting for existing Title V sources applying for operating permit renewal per 20.2.70.7 NMAC. Calculations of GHG emissions for VRLRF have been estimated by Waste Management of New Mexico, Inc. (WMNM), and those values have been determined to be below the reporting threshold for landfills. Landfill GHG emissions (accounting for oxidation) were calculated to be approximately 14,308 tons/year (12,980 Mg/year) CO2e for emissions year 2017.

Additionally, VRLRF is not subject to the requirements of 20.2.74 NMAC (Prevention of Significant Deterioration, PSD), as the facility is not an existing major PSD source, or a modification of a minor source. Determination of PSD applicability for existing minor Title V sources will be determined upon recalculation of annual GHG generation by WMNM annually.

Section 7

Information Used To Determine Emissions

<u>Information Used to Determine Emissions</u> shall include the following:

- ☑ If manufacturer data are used, include specifications for emissions units <u>and</u> control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- ☐ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- ☑ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☐ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specifications sheet.
- ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

7.0 Introduction

Multiple sources of equipment and activity-specific data, equations, and emissions factors were used in determining potential emissions produced by activities at VRLRF. Information used to determine emissions is outlined in the following sections and attachments. As necessary, engineering calculations were used to supplement and/or support the data used to determine emissions estimates.

7.1 Manufacturer Data

When necessary, available manufacturer data were used in determining emissions rates from heavy equipment operations at the facility. Equipment weight and soil density data from the Caterpillar Performance Handbook (Edition 42, January 2012) were used to determine particulate emissions from water wagon, scraper, and motor grader operations. **Attachment 7.1** provides copies of manufacturer specifications.

7.2 EPA Emissions Factors and AP-42

The most recent version of the Environmental Protection Agency's Emissions Factors and AP-42 (5th Edition and associated updates) were used in determining particulate emissions for this Application. Pages containing relevant equations, emissions factors, and tables are included in **Attachment 7.2**.

7.3 Other Modeling and Emissions Determination

No computer models were used to determine particulate emissions. VOC/HAP emissions that could potentially occur from the remediation of petroleum contaminated soils (PCS) have been estimated as demonstrated in **Section 6** using the previous AQB-approved mass-balance method. This approach is demonstrated in **Section 6.6**, and an example PCS shipment/HAP tracking sheet, which continually calculates HAP emissions potentially produced during landfarming of PCS, is provided as **Table 6.6**, **Section 6**.

The EPA Landfill Gas Emissions Model (LandGEM) Version 3.02 (USEPA, May, 2005) was used to calculate total landfill gas production, as well as the uncontrolled NMOC, VOC, and HAP emission rates from landfill gas. The Model estimates emissions resulting from the biodegradation of refuse in landfills, and is recommended by EPA for use in developing estimates for state inventories. The Model uses a first-order decay rate equation, and estimates annual emissions over a time period specified by the user. The time period specified for waste acceptance at VRLRF was 1988 (the first year of waste acceptance) through 2025. This conservative timeframe was selected to project emissions estimates through the 5-year Operating Permit term, as well as the anticipated 18-month Permit review/issuance period; and is conservative for arid landfills.

Air Dispersion Modeling was performed in support of this Application for Renewal. The accompanying Air Dispersion Modeling Analysis Report, which is submitted concurrent with this Application as UA4, demonstrates compliance with applicable regulations, specifically 40 CFR 50 (National Ambient Air Quality Standards); 40 CFR 52 (Prevention of Significant Deterioration); and 20.2.3 NMAC (New Mexico Ambient Air Quality Standards).

7.4 Insignificant Activities and Equipment

Several activities conducted at VRLRF are considered “insignificant” or “trivial”. Consistent with 20.2.70.300.D(6) NMAC, this Section evaluates the insignificance of each activity utilizing guidance furnished by NMED Air Quality Bureau (AQB). Specifically, AQB has developed a List of Insignificant Activities (dated March 24, 2005) and a List of Trivial Activities (dated September 15, 2008), which enumerate activities and equipment that are considered insignificant or trivial on the basis of size, emissions, or production rate. **Table 2-B** in **Section 2** provides a list of these activities, and a copy of each List is provided in **Attachment 7.3**.

- **Diesel Fuel Storage Tank and Generator** – VRLRF maintains an above-ground, 8,000-gallon diesel fuel (distillate fuel oil #2) storage tank that is used exclusively for on-site consumptive use in landfill operations. Tanks used solely for fueling company-owned equipment which have a capacity of less than 25,000 gallons are considered insignificant, as stated in Item 8 of the List of Insignificant Activities (**Attachment 7.3**). Fuel is pumped from the storage tank into on-site equipment by a pump powered by a 13 hp Generac Diesel generator. Item 6 of the List of Insignificant Activities states that portable diesel engines that have a design capacity of less than 200 hp, and gasoline engines that have a design capacity of less than 500 hp, are considered insignificant.

- **Scalehouse and Water Well Generators** – VRLRF utilizes two Cummins generators for the production of electricity. One generator is located at the Scalehouse, and the second is located at the facility's water well. Each generator is powered by a 90 hp diesel engine. Item 6 of the List of Insignificant Activities states that portable diesel engines that have a design capacity of less than 200 hp, and gasoline engines that have a design capacity of less than 500 hp are considered insignificant.

  As defined per 20.2.72 NMAC, the Scalehouse and water well generator engines are stationary sources. Under NMAC 20.2.72.202(B)(3), the Scalehouse generator (Unit 5a) qualifies for an exemption as an emergency standby generator operated less than 500 hours per year only during the unavoidable loss of commercial utility power. The water well generator (Unit 5b) does not qualify for an exemption under 20.2.70.202 NMAC. As requested by the NMED AQB, emissions calculations for Unit 5b have been provided as **Table 2-D-1** for NSR applicability purposes, but emission rates are not provided within Tables **2-D** and **2-E**. Unit 5a record keeping is provided as **Attachment 7.4**.

- **Shop Equipment** – The Shop Area utilizes various air compressors, parts washers, generators, and pumps for daily maintenance activities and support to landfill operations. These pieces of equipment are considered insignificant due to the small size of their power plants (i.e., less than 200 hp). Item 6 of the List of Insignificant Activities states that portable diesel engines that have a design capacity of less than 200 hp, and gasoline engines that have a design capacity of less than 500 hp are considered insignificant. These pieces of equipment are listed below, and in **Section 2, Table 2-B**.

  - **ALKOTA High Pressure Power Washer** – Powered by a 20 hp gas engine
  - **Ingersoll Rand Air Compressor** – Powered by a 69 hp diesel engine
  - **Generac Diesel Fuel Storage Tank Generator** – Powered by 13 hp gas engine
  - **SiteLite Portable Light Tower** – Powered by a 29 hp diesel engine
  - **Yamaha Trash Pump** – Powered by a 10 hp gas engine
  - **Generac Portable Generator** – Powered by a 18 hp gas engine

- **Tarpomatic Portable Tarping Machine** – Powered by a 24 hp diesel engine
- **Generac Small Generator** – Powered by a 7 hp gas engine

- **Vehicle Maintenance Fluids Use and Storage** – Motor oil, antifreeze, hydraulic oil, and automatic transmission fluid are stored and used at VRLRF. These materials exhibit vapor pressures considerably less than the 0.2 psi threshold value specified in Item 5 of the List of Insignificant Activities. Therefore, storage of these materials is also considered an insignificant activity. Individual MSDSs for these products are provided in **Attachment 7.5**.

7.5 Dust Control

As described in **Section 6.1.3**, a dust control efficiency of 80% is allowed on the unpaved portions of the Disposal Route at VRLRF treated with recycled basecourse (cold millings) and daily application of water. Unpaved portions of the Disposal Route and access roads which are only watered are allowed a 60% control efficiency. Additionally, the posted speed limit on facility roads is 15 mph, and Soil Borrow Area 2 and the Disposal Area are watered periodically to limit the production of fugitive dust during daily cover soil excavation, spreading, and waste disposal/compaction operations.

7.6 References

Caterpillar® Performance Handbook, Edition 42, Caterpillar®, Inc., Peoria, Illinois, 2012.

LandGEM (Landfill Gas Emissions Model), Version 3.02, Control Technology Center, US Environmental Protection Agency, Research Triangle Park, NC, 27711, and Office of Research and Development, Washington, DC 20460, May 2005.

AP-42: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition, Office of Air Quality Planning and Standards/Office of Air and Radiation, US Environmental Protection Agency, Research Triangle Park, NC 27711, October 2008 (Draft), November 2006; September, October, and November 1998; January 1995; and September 1991.

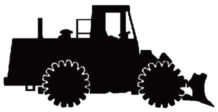
ATTACHMENT 7.1

EQUIPMENT MANUFACTURER'S SPECIFICATION SHEETS

2012 CATERPILLAR® PERFORMANCE HANDBOOK SECTIONS

Wheel Tractor-Scrapers (cont'd)

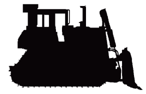
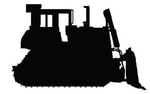
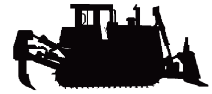
Model	Product Ident. No. Prefix	Years Built	Horse-power Max/ Rated	Capacity Struck/ Heaped m³ (yd³)	Approx. Shipping Weight kg (lb)	Dimensions m (ft) Length	Width	Height	Width of Tread	Tire Size (Standard) & ply rating Tractor & Scraper	Turning Circle m (ft)
627	54K	68-74	T/225 S/225	10.7/15.3 **(14/20)**	29 900 **(66,000)**	12.00 **(36'9")**	3.50 **(11'7")**	3.60 **(11'8")**	2.20 **(7'3")**	29.5 × 29-28	13.30 **(43'9")**
627B	14S	73-86	T/225 S/225	10.7/15.3 **(14/20)**	34 610 **(76,300)**	13.3 **(43'9")**	3.45 **(11'4")**	3.63 **(11'11")**	2.18 **(7'2")**	29.5-29, 28 PR (E-3)	11.10 **(36'6")**
627E	6EB	86-90	T/225 S/225	10.7/15.3 **(14/20)**	34 670 **(76,435)**	12.89 **(42'3")**	3.47 **(11'4")**	3.71 **(12'2")**	2.21 **(7'3")** 2.18 **(7'2")**	33.25-29, 26 PR (E-3)	10.90 **(35'9")**
627E	7CG	90-93	T/330 S/225	10.7/15.3 **(14/20)**	35 160 **(77,500)**	12.93 **(42'5")**	3.47 **(11'4")**	3.71 **(12'2")**	2.21 **(7'3")**	33.25-29, 26 PR (E-3)	10.9 **(35'8")**
627F Series II	1DL	93-00	T/330 S/225	10.7/15.3 **(14/20)**	37 060 **(81,640)**	12.9 **(42'5")**	3.47 **(11'4")**	3.71 **(12'2")**	2.21 **(7'3")**	33.25-R29 ★★ (E-2/E-3)	10.9 **(35'9")**
627B/PP	15S	73-86	T/225 S/225	10.7/15.3 **(14/20)**	35 660 **(78,620)**	14.91 **(48'11")**	3.45 **(11'4")**	3.63 **(11'11")**	2.18 **(7'2")**	29.5-29, 28 PR (E-3)	11.1 **(36'6")**
627E/PP	6GB	86-89	T/225 S/225	10.7/15.3 **(14/20)**	36 130 **(79,655)**	12.89 **(42'3")**	3.47 **(11'4")**	3.71 **(12'2")**	2.21 **(7'3")** 2.18 **(7'2")**	33.25-29, 26 PR (E-3)	10.90 **(35'9")**
627E/PP	7CG	90-93	T/330 S/225	10.7/15.3 **(14/20)**	36 620 **(80,735)**	15.2 **(49'7")**	3.47 **(11'4")**	3.71 **(12'2")**	2.21 **(7'3")**	33.25-29, 26 PR (E-3)	10.9 **(35'8")**
627F/PP Series II	1DL	93-00	T/330 S/225	10.7/15.3 **(14/20)**	38 103 **(84,000)**	15.2 **(49'7")**	3.47 **(11'4")**	3.71 **(12'2")**	2.21 **(7'3")**	33.25-R29 ★★ (E-2/E-3)	10.9 **(35'9")**
627G/PP	AXF	00-02	T/330/365 S/225	10.7/15.3 **(14/20)**	38 140 **(84,075)**	15.2 **(49'7")**	3.47 **(11'4")**	3.71 **(12'2")**	2.20 **(7'3")**	33.25R29	11.7 **(38'5")**
627G/PP	CEX	02-05	T/330/365 S/225/249	12/17 **(15.7/22)**	39 186 **(86,390)**	15.2 **(49'7")**	3.47 **(11'4")**	3.71 **(12'2")**	2.20 **(7'3")**	33.25R29	11.7 **(38'5")**
627G P/P	DBD	05-10	T/330/365 S/239/266	12/17 **(15.7/22)**	39 443 **(86,957)**	15.2 **(49'7")**	3.58 **(11'9")**	3.81 **(12'6")**	2.23 **(7'4")** Tractor 2.20 **(7'3")** Scraper	33.25R29**E3	11.7 **(38'5")**
630A & 482C Scraper	52F	60-62	420/335	21/27 **(27/35)**	35 830 **(79,000)**	14.63 **(48'0")**	3.91 **(12'10")**	4.01 **(13'2")**	2.39 **(7'10")** Scraper	16.0 × 25-16 29.5 × 35-28 33.5 × 33-26	11.89 **(39'0")**
630A	52F	60-62	420/335	16/21.4 **(21/28)**	31 430 **(69,300)**	13.82 **(45'4")**	3.58 **(11'9")**	3.73 **(12'3")**	2.21 **(7'3")**	16.0 × 25-16 29.5 × 35-28	11.89 **(39'0")**
630B	14G	62-63	420/335	16/23 **(21/30)**	33 520 **(73,900)**	14.12 **(46'4")**	3.81 **(12'6")**	3.71 **(12'2")**	2.41 **(7'11")**	16.0-25, 16 29.5-35, 28	13.36 **(43'10")**
630B	14G	63-66	400/360	16/23 **(21/30)**	33 570 **(74,000)**	14.30 **(46'11")**	3.81 **(12'6")**	3.94 **(12'11")**	2.41 **(7'11")**	16.0-25, 16 29.5-35, 34	13.36 **(43'10")**
630B	10G	62-69	/400	16/23 **(21/30)**	35 750 **(78,800)**	14.35 **(47'1")**	3.81 **(12'6")**	3.94 **(12'11")**	2.40 **(7'10")**	16.0-25, 16 29.5-35, 34	13.36 **(43'10")**



COMPACTORS

Model	Product Ident. No. Prefix	Years Built	Flywheel Kilowatts (Horsepower)	Approx. Oper. Wt. kg (lb)	Drum Width m (ft)	Articulated Steering Angle, Maximum	Transmission	Maximum Speeds Fwd. km/h (mph)	Maximum Speeds Rev. km/h (mph)	
815	91P	70-81	127	17 300	0.97	44°	Power Shift	30.1	35.7	*
			(170)	**(38,200)**	**(3'2")**	Either Side	4F-4R	**(18.7)**	**(22.2)**	
815B	17Z	81-95	161	20 035	0.98	45°	Power Shift	37.5	42.9	*
			(216)	**(44,175)**	**(3'2")**	Either Side	4F-4R	**(23.3)**	**(26.6)**	
815F	1GN	96-02	164	20 952	0.98	36°	Power Shift	37.6	43.0	
			(220)	**(46,096)**	**(3'2")**	Either Side	4F-4R	**(23.3)**	**(26.7)**	
815F	BKL	03-06	179	20 755	0.98	36°	Power Shift	17.9	19.5	
			(240)	**(45,765)**	**(3'2")**	Either Side	3F-3R	**(11.1)**	**(12.1)**	
815F II	BYN	06	173	20 755	0.99	42°	Power Shift	17.6	19.5	
			(232)	**(45,756)**	**(3'3")**	Either side	3F-3R	**(11)**	**(12.2)**	
816	57U	72-81	127	18 550	1.02	44°	Power Shift	30.1	35.7	**
			(170)	**(40,900)**	**(3'4")**	Either Side	4F-4R	**(18.6)**	**(22.4)**	
816B	15Z	81-95	161	20 628	1.02		Power Shift	35.3	40.4	**
			(216)	**(45,477)**	**(3'4")**		4F-4R	**(22.0)**	**(25.1)**	
816F	5FN	96-02	164	20 879	1.02	42°	Power Shift	36.3	41.4	
			(220)	**(45,934)**	**(3'4")**	Either Side	4F-4R	**(22.5)**	**(25.7)**	
816F II	BZR	06	173	23 748	1.016	42°	Power Shift	9.5	10.6	
			(232)	**(52,364)**	**(3'4")**	Either side	2F-2R	**(5.9)**	**(6.6)**	
825B	43N	70-78	224	30 075	1.13	44°	Power Shift	29.8	29.8	
			(300)	**(66,300)**	**(3'8")**	Either Side		**(18.5)**	**(18.5)**	
825C	86X	78-96	231	32 400	1.13	42°	Power Shift	29.8	33.9	
			(310)	**(71,432)**	**(3'8")**	Either Side	4F-4R	**(18.5)**	**(21.1)**	
825G	6RN	96-02	235	31 740	1.13	42°	Power Shift	15.6	17.2	
			(315)	**(69,828)**	**(3'8")**	Either Side	3F-3R	**(9.7)**	**(10.7)**	
825G II	AXB	03-04	253	32 734	1.13	42°	Power Shift	15.6	17.2	
			(339)	**(72,164)**	**(3'8")**	Either Side	3F-3R	**(9.7)**	**(10.7)**	
825H	AZW	05	264	32 734	1.125	42°	Power Shift	15.6	17.2	
			(354)	**(72,164)**	**(3'7")**	Either side	3F-3R	**(9.7)**	**(10.7)**	
826C	87X	78-95	235	34 920	1.20	42°	Power Shift	32.5	37.2	
			(315)	**(76,990)**	**(3'11")**	Either Side	4F-4R	**(20.2)**	**(23.1)**	
826G	7LN	96-02	235	33 350	1.2	42°	Power Shift	11.2	13.5	
			(315)	**(73,537)**	**(3'11")**	Either Side	2F-2R	**(6.9)**	**(8.4)**	
826H	AWF	05	264	36 967	1.2	42°	Power Shift	9.7	10.6	
			(354)	**(81,498)**	**(3'11")**	Either side	2F-2R	**(6.03)**	**(6.59)**	
835	44N	70-74	298	35 900	1.22	44°	Power Shift	32.2	34.8	
			(400)	**(79,100)**	**(4'0")**	Either Side	3F-3R	**(20.0)**	**(21.6)**	
836	3RL	93-95	336	45 450	1.4	35°	Power Shift	11.3	14.0	*
	7FR	95-98	**(450)**	**(100,000)**	**(4'7")**	Either Side	2F-2R	**(7.0)**	**(8.7)**	
836G	7MZ	98-01	351	53 680	1.4	35°	Power Shift	6.0	10.2	
			(471)	**118,348**	**(4'7")**	Either Side	2F-2R	**(3.7)**	**(6.3)**	
836H	BXD	05	372	53 682	1.4	35°	Power Shift	10.9	11.4	
			(499)	**(118,348)**	**(4'7")**	Either side	2F-2R	**(6.8)**	**(7.1)**	

*Turbocharged, Articulated Steering.
**Turbocharged, ROPS Cab, Sleeve Metering Fuel System.

						
MODEL	**D7R Series 2 WH**		**D7R LGP Series 2 WH**		**D8R WH**	
Flywheel Power	179 kW	**240 hp**	179 kW	**240 hp**	228 kW	**305 hp**
Operating Weight:*						
Power Shift Differential Steer	28 108 kg	**61,912 lb**	30 328 kg	**66,802 lb**	37 630 kg	**82,880 lb**
Engine Model	**3176C SCAC**		**3176C SCAC**		**3406E TA**	
Rated Engine RPM	**2100**		**2100**		**2100**	
No. of Cylinders	**6**		**6**		**6**	
Bore	125 mm	**4.92"**	125 mm	**4.92"**	137 mm	**5.4"**
Stroke	140 mm	**5.5"**	140 mm	**5.5"**	165 mm	**6.5"**
Displacement	10.3 L	**629 in^3**	10.3 L	**629 in^3**	14.6 L	**893 in^3**
Track Rollers (Each Side)	**7**		**7**		**8**	
ERF†	—		**9**		—	
Width of Standard Track Shoe	560 mm	**1'10"**	914 mm	**3'0"**	560 mm	**1'10"**
Length of Track on Ground	2.89 m	**9'5"**	3.16 m	**10'5"**	3.21 m	**10'6"**
Ground Contact Area (with Std. Shoe)	3.22 m^2	**4996 in^2**	5.78 m^2	**8960 in^2**	3.57 m^2	**5544 in^2**
Track Gauge	1.98 m	**6'6"**	2.24 m	**7'4"**	2.08 m	**6'10"**
GENERAL DIMENSIONS:						
Height (Stripped Top)**	2.56 m	**8'5"**	2.74 m	**9'0"**	2.67 m	**8'9"**
Height (To Top of ROPS Canopy)	3.53 m	**11'7"**	3.52 m	**11'6"**	3.51 m	**11'6"**
Height (To Top of ROPS Cab)	3.43 m	**11'2"**	3.58 m	**11'9"**	3.45 m	**11'3"**
Overall Length (with SU Blade)***	—		—		6.91 m	**22'8"**
(without Blade)	—		—		4.93 m	**16'2"**
Overall Length (with S Blade)	5.69 m	**18'8"**	5.78 m	**19'0"**	—	
(without Blade)	4.67 m	**15'4"**	4.67 m	**15'4"**	—	
Width (over Trunnion)	2.87 m	**9'5"**	3.37 m	**11'1"**	3.05 m	**10'0"**
Width (without Trunnion — Std. Shoe)	2.54 m	**8'4"**	3.15 m	**10'4"**	2.70 m	**8'8"**
Ground Clearance	414 mm	**16.3"**	496 mm	**1'7.5"**	606 mm	**1'11"**
Blade Types and Widths:						
Straight	3.52 m	**11'7"**	4.55 m	**14'11"**	—	
Angle Straight	4.50 m	**14'9"**	—		4.99 m	**16'4"**
Full 25° Angle	4.12 m	**13'6"**	—		4.52 m	**14'10"**
Universal	3.98 m	**13'1"**	—		4.26 m	**14'0"**
Semi-U	3.69 m	**12'2"**	—		3.94 m	**12'11"**
Fuel Tank Refill Capacity	479 L	**127 U.S. gal**	479 L	**127 U.S. gal**	625 L	**165 U.S. gal**

* Operating Weight includes ROPS canopy, operator, lubricants, coolant, full fuel tank, hydraulic controls and fluid, straight dozer with tilt, horn, back-up alarm, retrieval hitch and front pull hook.
— D8R equipped with track guides, ROPS/FOPS cab, single shank ripper and SU blade.
** Height (stripped top) — without ROPS canopy, exhaust, seat back or other easily removed encumbrances.
*** Includes drawbar.
† ERF — Extended Track Roller Frame. Extends frame 366 mm **(14.4")**, adds 3 track sections and 2 rollers/side.

Motor Graders (cont'd)

Model	Product Ident. No. Prefix	Years Built	Horse-power, Rated	Approx. Ship Wt. kg (lb)	Wheel-base m (ft)	Length m (ft)	Width m (ft)	Mold-board Length m (ft)	Turning Radius m (ft)	Controls	Maximum Speed km/h (mph) Forward	Maximum Speed km/h (mph) Rev.
140	14U(U.S.)	71-74	150	13 109	5.84	7.95	2.44	3.66	10.97	Mech.	38.8	47.0
	11R(U.S.)	70-74		**(28,900)**	**(19'2")**	**(26'1")**	**(8'0")**	**(12'0")**	**(36'0")**		**(24.1)**	**(29.2)**
	55F(AUSTL)	71-75										
	24R(CAN)	71-74										
140B	61S(BRAZ)	81-87	150	13 620	6.14	8.07	2.39	3.96	11.60	Mech.	37.6	25.6
				(30,003)	**(20'2")**	**(26'6")**	**(7'10")**	**(13'0")**	**(38'0")**		**(23.4)**	**(15.9)**
140G	72V(U.S.)	73-95	150	14 102	5.92	8.33	2.45	3.66	7.30	Hyd.	41.0	41.0
	5MD(BRAZ)	87-95		**(31,090)**	**(19'5")**	**(27'4")**	**(8'0")**	**(12'0")**	**(24'0")**		**(25.5)**	**(25.5)**
	13W(AUSTL)	75-95										
	81V(CAN)	74-80										
140G	72V(U.S.)	73-95	150	14 914	5.92	8.33	2.45	3.66	7.30	Hyd.	41.0	41.0
AWD				**(32,880)**	**(19'5")**	**(27'4")**	**(8'0")**	**(12'0")**	**(24'0")**		**(25.5)**	**(25.5)**
140H	2ZK(U.S.)	95-02	165/185	14 724	6.10	8.60	2.46	3.66	7.40	Hyd.	41.1	32.4
	8KM(U.S.)			**(32,460)**	**(20'0")**	**(28'3")**	**(8'1")**	**(12'0")**	**(24'3")**		**(25.5)**	**(20.2)**
	9TN(BRAZ)											
	3AS(BRAZ)											
	9ZN(AUSTL)											
	APM(U.S.)	02-07										
	CCA(BRAZ)	02-07										
	126(AUSTL)	03-05										
140H	APM(U.S.)	02-07	165/205	14 677	6.17	8.71	2.46	3.66	7.5	Hyd.	44.0	34.7
	CCA(BRAZ)	02-07		**(32,357)**	**(20'3")**	**(28'7")**	**(8'1")**	**(12'0")**	**(24'7")**		**(27.4)**	**(21.6)**
	126(AUSTL)	03-05										
140H	8JM(U.S.)	96-99	165/185	14 661	6.09	8.60	2.46	3.66	7.4	Hyd.	41.1	32.4
STD	5HM(BRAZ)	96-09		**(32,321)**	**(20'0")**	**(28'3")**	**(8'1")**	**(12'0")**	**(24'3")**		**(25.5)**	**(20.2)**
	XZH(CHINA)	05-10										
143H	1AL(U.S.)	95-02	165/185	15 023	6.10	8.60	2.46	3.66	7.40	Hyd.	41.1	32.4
	APN(U.S.)	02-07		**(33,120)**	**(20'0")**	**(28'3")**	**(8'1")**	**(12'0")**	**(24'3")**		**(25.5)**	**(20.2)**
143H	APN(U.S.)	02-07	165/205	15 270	6.17	8.71	2.55	3.66	7.5	Hyd.	44.0	34.7
				(33,670)	**(20'3")**	**(28'7")**	**(8'5")**	**(12'0")**	**(24'7")**		**(27.4)**	**(21.6)**
14B	78E(U.S.)	59-59	150	13 300	5.84	8.03	2.44	3.66	10.97	Mech.	34.8	11.3
	64C(U.S.)	59-69		**(29,280)**	**(19'2")**	**(26'4")**	**(8'0")**	**(12'0")**	**(36'0")**		**(21.6)**	**(7.0)**
14C	35F(U.S.)	59-61	150	12 973	5.84	8.03	2.44	3.66	10.97	Mech.	34.8	11.3
				(28,600)	**(19'2")**	**(26'4")**	**(8'0")**	**(12'0")**	**(36'0")**		**(21.6)**	**(7.0)**
14D	96F(U.S.)	61-65	150	13 700	6.15	8.33	2.44	3.96	11.58	Mech.	34.1	23.5
				(30,300)	**(20'2")**	**(27'4")**	**(8'0")**	**(13'0")**	**(38'0")**		**(21.2)**	**(14.6)**
14E	99G(U.S.)	65-68	150	13 699	6.15	8.33	2.44	3.96	11.58	Hyd.	36.4	24.9
				(30,200)	**(20'2")**	**(27'4")**	**(8'0")**	**(13'0")**	**(38'0")**	Mech.	**(22.6)**	**(15.5)**
14E	12K(U.S.)	67-73	150	14 300	6.10	8.30	2.44	3.96	11.60	Hyd.	39.1	47.3
	72G(U.S.)	69-73		**(31,600)**	**(20'2")**	**(27'4")**	**(8'0")**	**(13'0")**	**(38'0")**	Mech.	**(24.3)**	**(29.4)**
14G	96U(U.S.)	73-95	200	20 688	6.45	9.21	2.83	4.27	7.90	Hyd.	43.0	50.1
				(45,610)	**(21'2")**	**(30'3")**	**(9'3")**	**(14'0")**	**(25'11")**		**(26.8)**	**(31.1)**
14H	7WJ(U.S.)	95-02	215	18 784	6.45	9.21	2.70	4.27	7.90	Hyd.	42.7	47.3
	ASE(U.S.)	02-07		**(41,410)**	**(21'2")**	**(30'2")**	**(8'10")**	**(14'0")**	**(25'11")**		**(26.5)**	**(29.4)**
14H	ASE(U.S.)	02-07	220/240	18 809	6.56	9.34	2.82	4.27	8.0	Hyd.	46.1	51.1
				(41,465)	**(21'6")**	**(30'8")**	**(9'3")**	**(14'0")**	**(26'4")**		**(28.7)**	**(31.8)**

PRODUCTION

The motor grader is used in a variety of applications in a variety of industries. Therefore, there are many ways to measure its operating capacity, or production. One method expresses a motor grader's production in relation to the area covered by the moldboard.

Formula:

$$A = S \times (L_e - L_o) \times 1000 \times E \quad \text{(Metric)}$$
$$A = S \times (L_e - L_o) \times 5280 \times E \quad \text{(English)}$$

where A: Hourly operating area (m^2/h or ft^2/h)
S: Operating speed (km/h or mph)
L_e: Effective blade length (m or ft)
L_o: Width of overlap (m or ft)
E: Job efficiency

Operating Speeds:

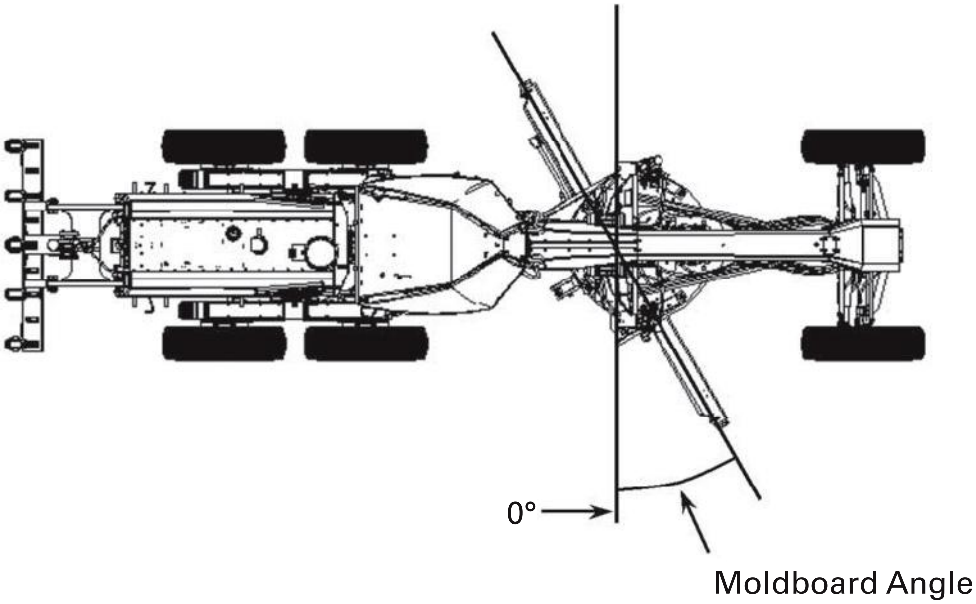
Typical operating speeds by application

Finish Grading:	0-4 km/h	(0-2.5 mph)
Heavy Blading:	0-9 km/h	(0-6 mph)
Ditch Repair:	0-5 km/h	(0-3 mph)
Ripping:	0-5 km/h	(0-3 mph)
Road Maintenance:	5-16 km/h	(3-9.5 mph)
Haul Road Maintenance:	5-16 km/h	(3-9.5 mph)
Snow Plowing:	7-21 km/h	(4-13 mph)
Snow Winging:	15-28 km/h	(9-17 mph)

Effective Blade Length:

Since the moldboard is usually angled when moving material, an effective blade length must be computed to account for this angle. This is the actual width of material swept by the moldboard.

NOTE: Angles are measured as shown below. The effective length becomes shorter as the angle increases.



MATERIAL DENSITY STANDARDS
(CATERPILLAR HANDBOOK, 2012)

BULLDOZER PRODUCTION OFF-THE-JOB

You can estimate bulldozer production using the production curves that follow and the correction factors that are applicable. Use this formula:

$$\text{Production } \frac{(\text{Lm}^3/\text{hr})}{(\text{LCY/hr})} = \text{Maximum production} \times \text{Correction factors}$$

The bulldozer production curves give maximum uncorrected production for universal, semi-universal, and straight blades and are based on the following conditions:

1. 100% efficiency (60 minute hour — level cycle).
2. Power shift machines with 0.05 min. fixed times.
3. Machine cuts for 15 m (50 feet), then drifts blade load to dump over a high wall. (Dump time — 0 sec.)
4. Soil density of 1370 kg/Lm^3 (2300 lb/LCY).
5. Coefficient of traction:*
   a. Track machines — 0.5 or better
   b. Wheel machines — 0.4 or better
6. Hydraulic controlled blades used.
7. Dig 1F**
   Carry 2F**
   Return 2R**

To obtain estimated production in bank cubic meters or bank cubic yards, appropriate load factor from the Tables section should be applied to the corrected production as calculated above.

$$\text{Production Bm}^3/\text{hr} = \text{Lm}^3/\text{hr} \times \text{LF}$$
$$(\text{BCY/h}) = (\text{LCY/h}) \times \text{LF}$$

*Coefficient of traction assumed to be at least 0.4. While poor traction affects both track and wheel vehicles, causing them to take smaller blade loads, wheeled units are affected more severely and production falls much more rapidly. While no fixed rules can predict this production loss, a rough rule of thumb is that wheel dozer production falls off 4% for each one-hundredth decrease in coefficient of traction below 0.40. If, for example, coefficient of traction is 0.30, the difference is ten-hundredths (0.10), and production is 60% (10 × 4% = 40% decrease).

**This gear sequence is based on level to downhill terrain, light to medium density material, and no blade extensions such as spill plates, rock guards, etc. Exceeding these conditions may require carry in 1F, but productivity should equal or exceed "standard conditions" due to the larger loads that can be carried in 1F.

ATTACHMENT 7.2

AP-42 SECTIONS

Table 2.4-2 (CONTINUED). DEFAULT CONCENTRATIONS FOR LFG CONSTITUENTS FOR LANDFILLS WITH WASTE IN PLACE PRIOR TO 1992

Compound	Molecular Weight	Default Concentration (ppmv)	Emission Factor Rating
Ethanol	46.08	27.2	E
Ethyl mercaptan (ethanethiol)	62.13	2.28	D
Ethylbenzene[a]	106.16	4.61	B
Ethylene dibromide	187.88	0.001	E
Fluorotrichloromethane	137.38	0.76	B
Hexane[a]	86.18	6.57	B
Hydrogen sulfide	34.08	35.5	B
Mercury (total)[a,d]	200.61	2.92×10^{-4}	E
Methyl ethyl ketone[a]	72.11	7.09	A
Methyl isobutyl ketone[a]	100.16	1.87	B
Methyl mercaptan	48.11	2.49	C
Pentane	72.15	3.29	C
Perchloroethylene (tetrachloroethylene)[a]	165.83	3.73	B
Propane	44.09	11.1	B
t-1,2-dichloroethene	96.94	2.84	B
Toluene[a]	92.13		
Co-disposal (SCC 50300603)		165	D
No or Unknown co-disposal (SCC 50100402)		39.3	A
Trichloroethylene (trichloroethene)[a]	131.38	2.82	B
Vinyl chloride[a]	62.50	7.34	B
Xylenes[a]	106.16	12.1	B

NOTE: This is not an all-inclusive list of potential LFG constituents, only those for which test data were available at multiple sites. References 16-82. Source Classification Codes in parentheses.

[a] Hazardous Air Pollutants listed in Title III of the 1990 Clean Air Act Amendments.

[b] Carbon monoxide is not a typical constituent of LFG, but does exist in instances involving landfill (underground) combustion. Therefore, this default value should be used with caution. Of 18 sites where CO was measured, only 2 showed detectable levels of CO.

[c] Source tests did not indicate whether this compound was the para- or ortho- isomer. The para isomer is a Title III-listed HAP.

[d] No data were available to speciate total Hg into the elemental and organic forms.

[e] For NSPS/Emission Guideline compliance purposes, the default concentration for NMOC as specified in the final rule must be used. For purposes not associated with NSPS/Emission Guideline compliance, the default VOC content at co-disposal sites can be estimated by 85 percent by weight (2,060 ppmv as hexane); at No or Unknown sites can be estimated by 39 percent by weight 235 ppmv as hexane).

Table 11.9-1 (English Units). EMISSION FACTOR EQUATIONS FOR UNCONTROLLED OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES[a]

Operation	Material	Emissions By Particle Size Range (Aerodynamic Diameter)[b,c]				Units	EMISSION FACTOR RATING
		Emission Factor Equations		Scaling Factors			
		TSP ≤30 µm	≤15 µm	≤10 µm[d]	≤2.5 µm/TSP[e]		
Blasting[f]	Coal or overburden	$0.000014(A)^{1.5}$	ND	0.52[e]	0.03	lb/blast	C_DD
Truck loading	Coal	$\frac{1.16}{(M)^{1.2}}$	$\frac{0.119}{(M)^{0.9}}$	0.75	0.019	lb/ton	BBCC
Bulldozing	Coal	$\frac{78.4\ (s)^{1.2}}{(M)^{1.3}}$	$\frac{18.6\ (s)^{1.5}}{(M)^{1.4}}$	0.75	0.022	lb/hr	CCDD
	Overburden	$\frac{5.7\ (s)^{1.2}}{(M)^{1.3}}$	$\frac{1.0\ (s)^{1.5}}{(M)^{1.4}}$	0.75	0.105	lb/hr	BCDD
Dragline	Overburden	$\frac{0.0021\ (d)^{1.1}}{(M)^{0.3}}$	$\frac{0.0021\ (d)^{0.7}}{(M)^{0.3}}$	0.75	0.017	lb/yd^3	BCDD
Vehicle traffic[g]							
Grading		$0.040\ (S)^{2.5}$	$0.051\ (S)^{2.0}$	0.60	0.031	lb/VMT	CCDD
Active storage pile[h] (wind erosion and maintenance)	Coal	0.72 u	ND	ND	ND	$\frac{lb}{(acre)(hr)}$	C[i]_ _ _

[a] Reference 1, except as noted. VMT = vehicle miles traveled. ND = no data. Quality ratings coded where "Q, X, Y, Z" are ratings for ≤30 µm, ≤15 µm, ≤10 µm, and ≤2.5 µm, respectively. See also note below.

[b] Particulate matter less than or equal to 30 µm in aerodynamic diameter is sometimes termed "suspendable particulate" and is often used as a surrogate for TSP (total suspended particulate). TSP denotes what is measured by a standard high volume sampler (see Section 13.2).

[c] Symbols for equations:

- A = horizontal area (ft^2), with blasting depth ≤ 70 ft. Not for vertical face of a bench.
- M = material moisture content (%)
- s = material silt content (%)
- u = wind speed (mph)
- d = drop height (ft)
- W = mean vehicle weight (tons)
- S = mean vehicle speed (mph)
- w = mean number of wheels

Table 11.9-4 (English And Metric Units). UNCONTROLLED PARTICULATE EMISSION FACTORS FOR OPEN DUST SOURCES AT WESTERN SURFACE COAL MINES

Source	Material	Mine Location[a]	TSP Emission Factor[b]	Units	EMISSION FACTOR RATING
Drilling	Overburden	Any	1.3 0.59	lb/hole kg/hole	C C
	Coal	V	0.22 0.10	lb/hole kg/hole	E E
Topsoil removal by scraper	Topsoil	Any	0.058 0.029	lb/ton kg/Mg	E E
		IV	0.44 0.22	lb/ton kg/Mg	E E
Overburden replacement	Overburden	Any	0.012 0.0060	lb/ton kg/Mg	C C
Truck loading by power shovel (batch drop)[c]	Overburden	V	0.037 0.018	lb/ton kg/Mg	E E
Train loading (batch or continuous drop)[c]	Coal	Any	0.028 0.014	lb/ton kg/Mg	E E
		III	0.0002 0.0001	lb/ton kg/Mg	E E
Bottom dump truck unloading (batch drop)[c]	Overburden	V	0.002 0.001	lb/ton kg/Mg	E E
	Coal	IV	0.027 0.014	lb/ton kg/Mg	E E
		III	0.005 0.002	lb/ton kg/Mg	E E
		II	0.020 0.010	lb/ton kg/Mg	E E
		I	0.014 0.0070	lb/T kg/Mg	E E
		Any	0.066 0.033	lb/T kg/Mg	D D

Table 11.9-4 (cont.).

Source	Material	Mine Location[a]	TSP Emission Factor[b]	Units	EMISSION FACTOR RATING
End dump truck unloading (batch drop)[c]	Coal	V	0.007 0.004	lb/T kg/Mg	E E
Scraper unloading (batch drop)[c]	Topsoil	IV	0.04 0.02	lb/T kg/Mg	E E
Wind erosion of exposed areas[d]	Seeded land, stripped overburden, graded overburden	Any	0.38	$\frac{T}{(acre)(yr)}$	C
			0.85	$\frac{Mg}{(hectare)(yr)}$	C

[a] Roman numerals I through V refer to specific mine locations for which the corresponding emission factors were developed (Reference 5). Tables 11.9-4 and 11.9-5 present characteristics of each of these mines. See text for correct use of these "mine-specific" emission factors. The other factors (from Reference 7, except for overburden drilling from Reference 1) can be applied to any western surface coal mine.
[b] Total suspended particulate (TSP) denotes what is measured by a standard high volume sampler (see Section 13.2).
[c] Predictive emission factor equations, which generally provide more accurate estimates of emissions, are presented in Chapter 13.
[d] To estimate wind erosion on a shorter time scale (e. g., worst-case day), see Section 13.2.5.

Table 13.2.2-1. TYPICAL SILT CONTENT VALUES OF SURFACE MATERIAL ON INDUSTRIAL UNPAVED ROADS[a]

Industry	Road Use Or Surface Material	Plant Sites	No. Of Samples	Silt Content (%)	
				Range	Mean
Copper smelting	Plant road	1	3	16 - 19	17
Iron and steel production	Plant road	19	135	0.2 - 19	6.0
Sand and gravel processing	Plant road	1	3	4.1 - 6.0	4.8
	Material storage area	1	1	-	7.1
Stone quarrying and processing	Plant road	2	10	2.4 - 16	10
	Haul road to/from pit	4	20	5.0-15	8.3
Taconite mining and processing	Service road	1	8	2.4 - 7.1	4.3
	Haul road to/from pit	1	12	3.9 - 9.7	5.8
Western surface coal mining	Haul road to/from pit	3	21	2.8 - 18	8.4
	Plant road	2	2	4.9 - 5.3	5.1
	Scraper route	3	10	7.2 - 25	17
	Haul road (freshly graded)	2	5	18 - 29	24
Construction sites	Scraper routes	7	20	0.56-23	8.5
Lumber sawmills	Log yards	2	2	4.8-12	8.4
Municipal solid waste landfills	Disposal routes	4	20	2.2 - 21	6.4

[a]References 1,5-15.

The following empirical expressions may be used to estimate the quantity in pounds (lb) of size-specific particulate emissions from an unpaved road, per vehicle mile traveled (VMT):

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation:

$$E = k\ (s/12)^a (W/3)^b \tag{1a}$$

and, for vehicles traveling on publicly accessible roads, dominated by light duty vehicles, emissions may be estimated from the following:

$$E = \frac{k\ (s/12)^a (S/30)^d}{(M/0.5)^c} - C \tag{1b}$$

where k, a, b, c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)
M = surface material moisture content (%)
S = mean vehicle speed (mph)
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

The source characteristics s, W and M are referred to as correction parameters for adjusting the emission estimates to local conditions. The metric conversion from lb/VMT to grams (g) per vehicle kilometer traveled (VKT) is as follows:

1 lb/VMT = 281.9 g/VKT

The constants for Equations 1a and 1b based on the stated aerodynamic particle sizes are shown in Tables 13.2.2-2 and 13.2.2-4. The PM-2.5 particle size multipliers (k-factors) are taken from Reference 27.

Table 13.2.2-2. CONSTANTS FOR EQUATIONS 1a AND 1b

Constant	Industrial Roads (Equation 1a)			Public Roads (Equation 1b)		
	PM-2.5	PM-10	PM-30*	PM-2.5	PM-10	PM-30*
k (lb/VMT)	0.15	1.5	4.9	0.18	1.8	6.0
a	0.9	0.9	0.7	1	1	1
b	0.45	0.45	0.45	-	-	-
c	-	-	-	0.2	0.2	0.3
d	-	-	-	0.5	0.5	0.3
Quality Rating	B	B	B	B	B	B

*Assumed equivalent to total suspended particulate matter (TSP)
"-" = not used in the emission factor equation

Table 13.2.2-2 also contains the quality ratings for the various size-specific versions of Equation 1a and 1b. The equation retains the assigned quality rating, if applied within the ranges of source conditions, shown in Table 13.2.2-3, that were tested in developing the equation:

Table 13.2.2-3. RANGE OF SOURCE CONDITIONS USED IN DEVELOPING EQUATION 1a AND 1b

Emission Factor	Surface Silt Content, %	Mean Vehicle Weight		Mean Vehicle Speed		Mean No. of Wheels	Surface Moisture Content, %
		Mg	ton	km/hr	mph		
Industrial Roads (Equation 1a)	1.8-25.2	1.8-260	2-290	8-69	5-43	4-17[a]	0.03-13
Public Roads (Equation 1b)	1.8-35	1.4-2.7	1.5-3	16-88	10-55	4-4.8	0.03-13

[a] See discussion in text.

As noted earlier, the models presented as Equations 1a and 1b were developed from tests of traffic on unpaved surfaces. Unpaved roads have a hard, generally nonporous surface that usually dries quickly after a rainfall or watering, because of traffic-enhanced natural evaporation. (Factors influencing how fast a road dries are discussed in Section 13.2.2.3, below.) The quality ratings given above pertain to the mid-range of the measured source conditions for the equation. A higher mean vehicle weight and a higher than normal traffic rate may be justified when performing a worst-case analysis of emissions from unpaved roads.

The emission factors for the exhaust, brake wear and tire wear of a 1980's vehicle fleet (*C*) was obtained from EPA's MOBILE6.2 model [23]. The emission factor also varies with aerodynamic size range average uncontrolled conditions (but including natural mitigation) under the simplifying assumption that annual average emissions are inversely proportional to the number of days with measurable (more than 0.254 mm [0.01 inch]) precipitation:

$$E_{ext} = E\ [(365 - P)/365] \tag{2}$$

where:

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation, lb/VMT

E = emission factor from Equation 1a or 1b

P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation (see below)

Figure 13.2.2-1 gives the geographical distribution for the mean annual number of "wet" days for the United States.

Equation 2 provides an estimate that accounts for precipitation on an annual average basis for the purpose of inventorying emissions. It should be noted that Equation 2 does not account for differences in the temporal distributions of the rain events, the quantity of rain during any event, or the potential for the rain to evaporate from the road surface. In the event that a finer temporal and spatial resolution is desired for inventories of public unpaved roads, estimates can be based on a more complex set of assumptions. These assumptions include:

1. The moisture content of the road surface material is increased in proportion to the quantity of water added;
2. The moisture content of the road surface material is reduced in proportion to the Class A pan evaporation rate;
3. The moisture content of the road surface material is reduced in proportion to the traffic volume; and
4. The moisture content of the road surface material varies between the extremes observed in the area. The CHIEF Web site (http://www.epa.gov/ttn/chief/ap42/ch13/related/c13s02-2.html) has a file which contains a spreadsheet program for calculating emission factors which are temporally and spatially resolved. Information required for use of the spreadsheet program includes monthly Class A pan evaporation values, hourly meteorological data for precipitation, humidity and snow cover, vehicle traffic information, and road surface material information.

It is emphasized that <u>the simple assumption underlying Equation 2 and the more complex set of assumptions underlying the use of the procedure which produces a finer temporal and spatial resolution</u> have not been verified in any rigorous manner. For this reason, the quality ratings for either approach should be downgraded one letter from the rating that would be applied to Equation 1.

13.2.2.3 Controls[18-22]

A wide variety of options exist to control emissions from unpaved roads. Options fall into the following three groupings:

1. <u>Vehicle restrictions</u> that limit the speed, weight or number of vehicles on the road;

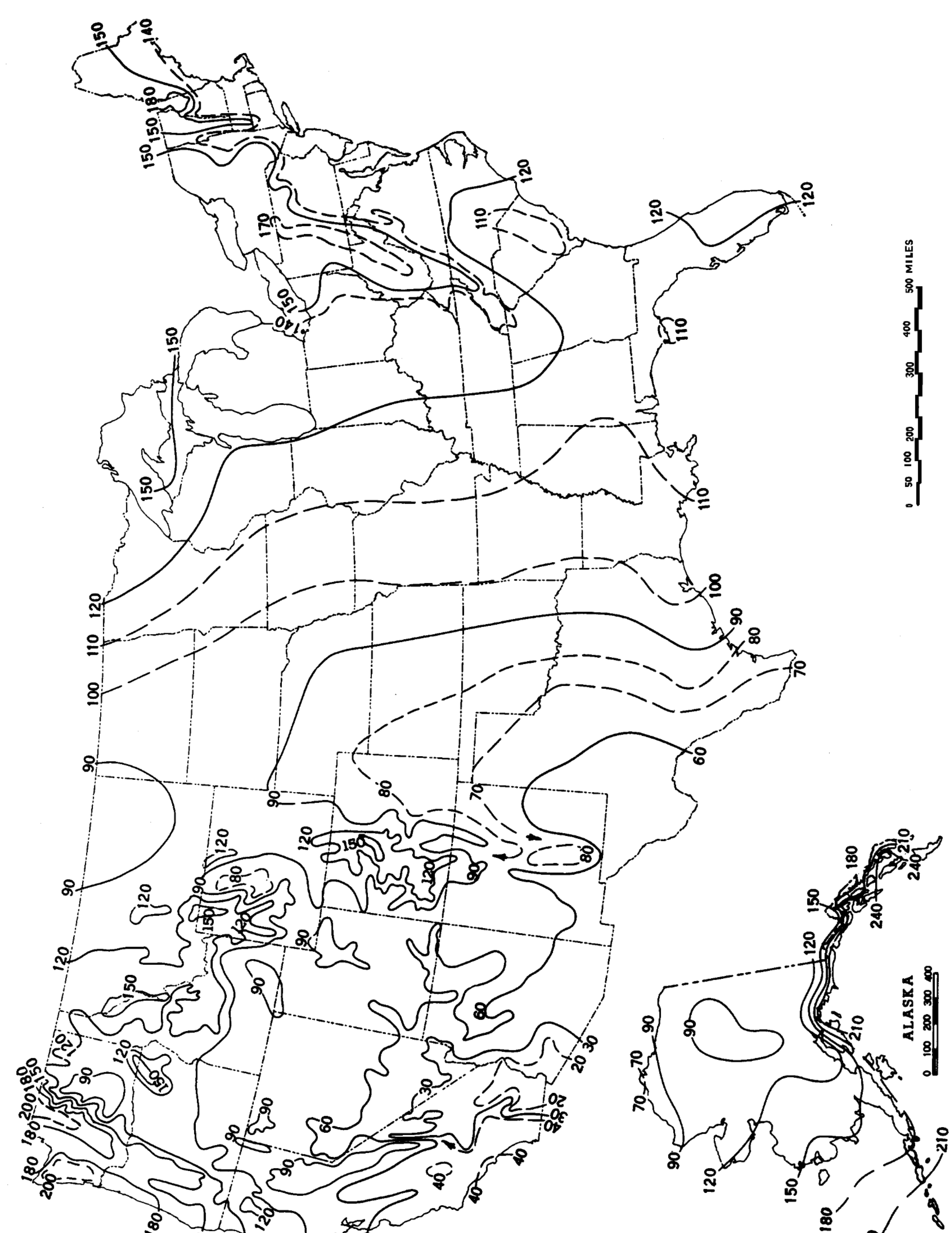


Figure 13.2.2-1. Mean number of days with 0.01 inch or more of precipitation in United States.

Table 13.2.3-1 (cont.).

Construction Phase	Dust-generating Activities	Recommended Emission Factor	Comments	Rating Adjustment[b]
II. Site Preparation (earth moving)	1. Bulldozing	Dozer equation (overburden) in Tables 11.9-1 and 11.9-2		-1/-2[c]
	2. Scrapers unloading topsoil	Scraper unloading factor in Table 11.9-4		-1
	3. Scrapers in travel	Scraper (travel mode) expression in Tables 11.9-1 and 11.9-2		-0/-1[c]
	4. Scrapers removing topsoil	5.7 kg/vehicle kilometer traveled (VKT) (20.2 lb/vehicle mile traveled [VMT])		E[d]
	5. Loading of excavated material into trucks	Material handling emission factor equation in Section 13.2.4		-0/-1[c]
	6. Truck dumping of fill material, road base, or other materials	Material handling emission factor equation in Section 13.2.4	May occur offsite	-0/-1[c]
	7. Compacting	Dozer equation in Tables 11.9-1 and 11.9-2	Emission factor downgraded because of differences in operating equipment	-1/-2[c]
	8. Motor grading	Grading equation in Tables 11.9-1 and 11.9-2		-1/-2[c]

The quantity of particulate emissions generated by either type of drop operation, per kilogram (kg) (ton) of material transferred, may be estimated, with a rating of A, using the following empirical expression:[11]

$$E = k(0.0016) \frac{\left(\frac{U}{2.2}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (kg/megagram [Mg])}$$

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (pound [lb]/ton)} \qquad (1)$$

where:

E = emission factor
k = particle size multiplier (dimensionless)
U = mean wind speed, meters per second (m/s) (miles per hour [mph])
M = material moisture content (%)

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

Aerodynamic Particle Size Multiplier (k) For Equation 1				
< 30 µm	< 15 µm	< 10 µm	< 5 µm	< 2.5 µm
0.74	0.48	0.35	0.20	0.053[a]

[a] Multiplier for < 2.5 µm taken from Reference 14.

The equation retains the assigned quality rating if applied within the ranges of source conditions that were tested in developing the equation, as follows. Note that silt content is included, even though silt content does not appear as a correction parameter in the equation. While it is reasonable to expect that silt content and emission factors are interrelated, no significant correlation between the 2 was found during the derivation of the equation, probably because most tests with high silt contents were conducted under lower winds, and vice versa. It is recommended that estimates from the equation be reduced 1 quality rating level if the silt content used in a particular application falls outside the range given:

Ranges Of Source Conditions For Equation 1			
Silt Content (%)	Moisture Content (%)	Wind Speed	
		m/s	mph
0.44 - 19	0.25 - 4.8	0.6 - 6.7	1.3 - 15

To retain the quality rating of the equation when it is applied to a specific facility, reliable correction parameters must be determined for specific sources of interest. The field and laboratory procedures for aggregate sampling are given in Reference 3. In the event that site-specific values for

ATTACHMENT 7.3

NMED AQB LISTS OF INSIGNIFICANT AND TRIVIAL ACTIVITIES

NMED AQB INSIGNIFICANT ACTIVITIES LIST

(MARCH 24, 2005)

New Mexico Environment Department (NMED) Air Quality Bureau (AQB)
Operating Permit Program
List of Insignificant Activities
March 24, 2005

Insignificant activities are those activities, which are listed herein by the Environment Department and approved by the Administrator of the US Environmental Protection Agency as insignificant on the basis of size, emissions or production rate. Any activity for which applicable requirements apply, is not insignificant, regardless of whether the activity meets the criteria listed below.

Operating permit applications submitted under 20.2.70 NMAC for sources, which include any of the following emissions units, operations or activities must provide the information required for emissions units under Subsection D.6 of 20.2.70.300 NMAC:

1.a. Any emissions unit, operation or activity that has the potential to emit no more than one (1) ton per year of any regulated air pollutant, excluding 112(b) hazardous air pollutants (see item 1.b), but including 112(r) flammable and toxic regulated pollutants that are not listed in Sections 500 – 502 of 20.2.72 NMAC. Regulated 112(r) pollutants that are listed in Sections 500 – 502 of 20.2.72 NMAC are insignificant if they are emitted in quantities less than the threshold (pound per hour) of that regulation.

1.b. Any emissions unit, operation or activity that has the potential to emit no more than the lesser of either one (1) ton per year or the de minimis level of any 112(b) hazardous air pollutants listed in the U.S. EPA document "Documentation of De Minimis Rates for Proposed 40 CFR part 63 subpart B", EPA-453/R-93-035 or de minimis levels established under subsequent rulemaking for 112(g).

2. Surface coating of equipment, including spray painting and roll coating, for sources with facility-wide total clean-up solvent and coating actual emissions of less than two (2) tons per year.

3. Fuel burning equipment which uses gaseous fuel, has a design rate less than or equal to five (5) million BTU per hour, and is used solely for heating buildings for personal comfort or for producing hot water for personal use.

4. Fuel burning equipment which uses distillate oil, has a design rate less than or equal to one (1) million BTU per hour, and is used solely for heating buildings for personal comfort or for producing hot water for personal use.

5. Any emissions unit, operation, or activity that handles or stores a liquid with a vapor pressure less than 10 mm Hg or in quantities less than 500 gallons.

6. Portable engines and portable turbines that have a design capacity (based on sea level specifications) or a physically derated capacity less than or equal to:

200 HP engine if fueled by diesel or natural gas;
500 HP engine if fueled by gasoline;
650 HP engine if fueled by JP-4 or JP-8;
1,500 HP turbine if fueled by natural gas.

A certification of physical engine deration must accompany the portable source and be kept by the Operator or Owner. Physical deration is a result of equipment design, such as combining an engine with a compressor that has an rpm limit. Physical deration is not a result of environmental conditions such as altitude or temperature.

OR

Portable engines, portable turbines, or fixed and portable emergency generators for which the Operator or Owner can adequately demonstrate through actual test data (using EPA approved methods) or manufacturer emissions data that at maximum sea level horsepower the units produce no more that 25 tons per year nitrogen oxides (NOx). In such a case, the documentary information is to be kept with the portable engine, portable turbine, or fixed and portable emergency generator.

To be classified as emergency, a generator's sole function is to provide electrical power when power from the local utilities is interrupted.

OR

Portable Aerospace Ground Equipment (such as power generators, compressors, heaters, air conditioners, lighting units) in direct support of aircraft operations on or in the immediate vicinity of an airfield.

To be classified as portable, the engine must comply with the definition of portable source in 20.2.70 NMAC.

7. Emergency generators which on a temporary basis replaces equipment used in normal operation, and which either has an allowable emission rate or potential to emit for each fee pollutant that is equal to or less than the equipment replaced, or which does not operate for a period exceeding 500 hours per calendar year. (revised 3/4/05)

8. Emissions from fuel storage and dispensing equipment operated solely for company-owned, company-leased or company-rented vehicles, which have a capacity of less than 25,000 gallons.

NMED AQB TRIVIAL ACTIVITIES LIST

(SEPTEMBER 15, 2008)

New Mexico Environment Department (NMED) Air Quality Bureau (AQB)
Operating Permit Program
List of Trivial Activities
September 15, 2008

These specific activities are established and approved by the Environment Department. These activities need not be included in an operating permit application. Similar activities may be excluded from operating permit applications with written authorization from the Department. <u>Any activity for which applicable requirements apply, other than ambient air standards, is not trivial, regardless of whether the activity meets the criteria listed below.</u>

1. Any activity that is not a source of regulated pollutants.

2. Activities that occur strictly for maintenance of grounds or buildings, including: lawn care, pest control, grinding, cutting, welding, painting, woodworking, sweeping, general repairs, janitorial activities, plumbing, re-tarring roofs, installing insulation, steam cleaning and water washing activities, and paving of roads, parking lots and other areas.

3. Activities for maintenance and repair of equipment, pollution control equipment, or motor vehicles either inside or outside of a building.

4. Combustion emissions from mobile sources, such as forklifts, courier vehicles, front loaders, graders, carts, and maintenance trucks.

5. Use of fire control equipment, including maintenance, testing, and training.

6. Use of office equipment and products, not including printers or businesses primarily involved in photographic reproduction.

7. Characterization of waste disposal sites (not waste treatment).

8. Non-anthropogenic wind blown dust.

9. Residential activities such as fireplaces, woodstoves, barbecue cookers, and emergency (backup) electrical generators.

10. Routine calibration and maintenance of laboratory equipment or other analytical instruments, including gases used as part of those processes.

11. Laundry activities, except for dry cleaning and steam boilers.

12. Food service and cafeteria activities.

13. Paint or non-paint materials dispensed from prepackaged aerosol cans of 16 ounce or less capacity.

14. Emissions from solid waste containers (pails, drums, and dumpsters).

15. Emissions from engine crankcase vents and equipment lubricating pumps.

16. Emissions from equipment lubricating systems (i.e., oil mist).

17. Air-conditioning units used for human comfort.

18. Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process.

19. Vent emissions from sanitary sewer plumbing traps not within the boundary of publicly owned sewage treatment plant.

20. Tobacco smoking rooms and areas.

21. Portable electrical generators that can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device from one location to another.

22. Pneumatically operated equipment.

23. Batteries and battery charging stations, except at battery manufacturing plants.

24. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any volatile organic compound (VOC) or hazardous air pollutant (HAP).

25. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.

26. Vents from continuous emissions monitors and other analyzers.

27. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.

28. Hand-held applicator equipment for hot-melt adhesives with no volatile organic compound (VOC) in the adhesive formulation.

29. Laser trimmers using dust collection to prevent fugitive emissions.

30. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents.

31. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.

32. Hydraulic and hydrostatic testing equipment.

33. Fugitive emissions related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.

34. Boiler water treatment operations, not including cooling towers.

35. Oxygen scavenging (de-aeration) of water.

~~36. Emissions from blow down of compressors and other vessels containing pipeline quality natural gas for the purpose of maintenance or due to emergency circumstances.~~

37. Pipeline quality natural gas emissions from safety relief valves.

Record of Changes:
a) 9/15/08, Item 36 deleted due to revisions to 20.2.70 NMAC.

ATTACHMENT 7.4

SCALE HOUSE GENERATOR RECORD KEEPING 2015 - 2018

Scalehouse Generator - Emission Unit 5a Hours Log - 2015 VRLF					
Month	**Start Hrs**	**End hrs**	**Hrs Ran**	**Maintenance**	**Emergency Use**
Jan	4915.25	4916.60	1.35	1.35	0.00
Feb	4916.60	4918.50	1.90	1.90	0.00
Mar	4918.50	4921.25	2.75	2.75	0.00
Apr	4921.25	4922.60	1.35	1.35	0.00
May	4922.60	4924.00	1.40	1.40	0.00
Jun	4924.00	4924.90	0.90	0.90	0.00
Jul	4924.90	4929.40	4.50	2.00	2.50
Aug	4929.40	4930.00	0.60	0.60	0.00
Sep	4930.00	4934.60	4.60	4.60	0.00
Oct	4934.60	4939.50	4.90	3.50	1.40
Nov	4939.50	4941.50	2.00	1.60	0.00
Dec	4940.50	4942.50	2.00	2.00	0.00
Total hours 2015 =			28.25	23.95	3.90

WASTE MANAGEMENT

Scalehouse Generator - Emission Unit 5a
Hours Log - 2016 VRLF

Month	Start Hrs	End hrs	Hrs Ran	Maintenance	Emergency Use
Jan	4942.50	4944.20	1.70	1.70	0.00
Feb	4944.20	4944.90	0.70	0.70	0.00
Mar	4944.90	4945.80	0.90	0.90	0.00
Apr	4945.80	4948.30	2.50	2.50	0.00
May	4948.30	4949.20	0.90	0.90	0.00
Jun	4949.20	4952.20	3.00	3.00	0.00
Jul	4952.20	4952.40	0.20	0.20	0.00
Aug	4952.40	4953.50	1.10	1.10	0.00
Sep	4953.50	4954.20	0.70	0.70	0.00
Oct	4954.20	4954.40	0.20	0.15	0.05
Nov	4954.40	4954.70	0.30	0.30	0.00
Dec	4954.70	4954.90	0.20	0.20	0.00
Total hours 2016 =			12.40	12.35	0.05

WASTE MANAGEMENT

Scalehouse Generator - Emission Unit 5a Hours Log - 2017 VRLF					
Month	Start Hrs	End hrs	Hrs Ran	Maintenance	Emergency Use
Jan	4954.90	4954.90	0.00	0.00	0.00
Feb	4954.90	4955.10	0.20	0.20	0.00
Mar	4955.10	4955.10	0.00	0.00	0.00
Apr	4955.10	4955.10	0.00	0.00	0.00
May	4955.10	4955.10	0.00	0.00	0.00
Jun	4955.10	4955.30	0.20	0.20	0.00
Jul	4955.30	4956.00	0.70	0.70	0.00
Aug	4956.00	4956.30	0.30	0.30	0.00
Sep	4956.30	4957.10	0.80	0.80	0.00
Oct	4957.10	4958.50	1.40	1.40	0.00
Nov	4958.50	4959.80	1.30	1.30	0.00
Dec	4959.80	4960.90	1.10	1.10	0.00
Total hours 2017 =			6.00	6.00	0.00

WASTE MANAGEMENT

Scalehouse Generator - Emission Unit 5a

Hours Log - 2018 VRLF

Month	Start Hrs	End hrs	Hrs Ran	Maintenance	Emergency Use
Jan	4960.90	4962.40	1.50	1.50	0.00
Feb	4962.40	4969.50	7.10	0.00	7.10
Mar	4969.50	4976.10	6.60	0.00	6.60
Apr	4976.10	4980.00	3.90	0.00	3.90
May	4980.00	4982.00	2.00	0.00	2.00
Jun	4982.00	4986.00	4.00	0.00	4.00
Jul	4986.00	4991.20	5.20	0.00	5.20
Aug	4991.20	4992.00	0.80	0.80	0.00
Sep	4992.00	4993.00	1.00	1.00	0.00
Oct			0.00		
Nov			0.00		
Dec			0.00		
Total hours 2018 =			32.10	3.30	28.80

WASTE MANAGEMENT

ATTACHMENT 7.5

MOTOR OIL AND VEHICLE MAINTENANCE FLUIDS MSDS DATA

CASTROL HYPURON 15W-40

SYNTHETIC MOTOR OIL MSDS

Material Safety Data Sheet

1. Product and company identification

Product name	Castrol Hypuron 15W-40
MSDS #	465215
Historic MSDS #:	465215-US06
Code	465215-US06 US12 US13 CA01
Product use	Diesel engine oil. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Hazards identification

Physical state	Liquid.
Color	Brown.
Emergency overview	CAUTION ! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Base oil - highly refined	Varies	85 - 90
Zinc alkyl dithiophosphate	93819-94-4	1 - 5

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point Closed cup: 190°C (374°F) [Pensky-Martens.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
phosphorus oxides
metal oxide/oxides
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
sulfur oxides (SO_2, SO_3 etc.)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Other information Sulfur compounds in this material may decompose when heated to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of gas may not be apparent. Exposure to concentrations of hydrogen sulfide vapor above 500 ppm may cause rapid death. Do not rely on the sense of smell to detect hydrogen sulfide.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state Liquid.

Color Brown.

Flash point Closed cup: 190°C (374°F) [Pensky-Martens.]

Density 870 kg/m³ (0.87 g/cm³) at 15°C

Viscosity	Kinematic: 110 to 115 mm^2/s (110 to 115 cSt) at 40°C Kinematic: 14.3 to 15.5 mm^2/s (14.3 to 15.5 cSt) at 100°C
Solubility	insoluble in water.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	This product may release hydrogen sulfide (H_2S) if it is heated to high temperatures.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other Toxicity Data

USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Other information

This product contains low levels of para-dodecylphenol. Para-dodecylphenol given orally to rats repeatedly at high dose levels caused adverse reproductive effects. The relevance of these findings to humans is uncertain. These effects are not expected to occur with the use of this product as intended when good personal hygiene is practiced.

Contains low concentration of zinc alkyl dithiophosphate (ZDDP). Concentration is not expected to cause eye or skin irritation.

Potential chronic health effects

Carcinogenicity No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Castrol Hypuron 15W-40: Immediate (acute) health hazard

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Zinc alkyl dithiophosphate	93819-94-4	0.845 - 1.6731
Supplier notification	Zinc alkyl dithiophosphate	93819-94-4	0.845 - 1.6731

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): CERCLA: Hazardous substances.: Zinc alkyl dithiophosphate; Benzene: 10 lbs. (4.54 kg); Arsenic: 1 lb. (0.454 kg); Cadmium (Non-pyrophoric): 10 lbs. (4.54 kg); lead: 10 lbs. (4.54 kg);

State regulations

Massachusetts Substances: The following components are listed: MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED LIGHT PARAFFINIC

New Jersey Hazardous Substances: The following components are listed: ZINC compounds

Pennsylvania RTK Hazardous Substances: The following components are listed: ZINC COMPOUNDS

California Prop. 65: **WARNING:** This product contains a chemical known to the State of California to cause cancer.
Arsenic

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.
Cadmium (Non-pyrophoric); lead; Benzene

Other regulations

Canada inventory: All components are listed or exempted.

REACH Status: For the REACH status of this product please consult your company contact, as identified in Section 1.

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory (ENCS): At least one component is not listed.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

16. Other information

Label requirements CAUTION !

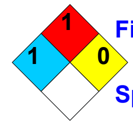
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

HMIS® Rating :

Health	**1**
Flammability	**1**
Physical Hazard	**0**
Personal protection	**X**

National Fire Protection Association (U.S.A.)

Health



Fire hazard
Instability
Specific hazard

History

Date of issue 02/22/2011.

Date of previous issue 07/08/2010.

Prepared by Product Stewardship

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

CASTROL TRANS C 30

AUTOMATIC TRANSMISSION FLUID MSDS

Material Safety Data Sheet

1. Product and company identification

Product name	Castrol Trans C 30
MSDS #	459081
Code	459081-US06 US13
Product use	Transmission fluid For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Hazards identification

Physical state	Liquid.
Color	Green.
Emergency overview	CAUTION ! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.

Potential health effects

Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (section 11)

3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	90 - 95
Zinc alkyl dithiophosphate	68649-42-3	1 - 5

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point Closed cup: 212°C (413.6°F) [Pensky-Martens.]
Open cup: 160°C (320°F) [Cleveland.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
phosphorus oxides
metal oxide/oxides
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
sulfur oxides (SO_2, SO_3 etc.)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Other information Sulfur compounds in this material may decompose when heated to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of gas may not be apparent. Exposure to concentrations of hydrogen sulfide vapor above 500 ppm may cause rapid death. Do not rely on the sense of smell to detect hydrogen sulfide.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Green.
Odor	Mild.
Flash point	Closed cup: 212°C (413.6°F) [Pensky-Martens.] Open cup: 160°C (320°F) [Cleveland.]
Specific gravity	0.89
Viscosity	Kinematic: 90 mm^2/s (90 cSt) at 40°C Kinematic: 11 mm^2/s (11 cSt) at 100°C
Solubility	insoluble in water.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	This product may release hydrogen sulfide (H2S) if it is heated to high temperatures.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other information

Contains low concentration of zinc alkyl dithiophosphate (ZDDP). Concentration is not expected to cause eye or skin irritation.

This product contains low levels of para-dodecylphenol. Para-dodecylphenol given orally to rats repeatedly at high dose levels caused adverse reproductive effects. The relevance of these findings to humans is uncertain. These effects are not expected to occur with the use of this product as intended when good personal hygiene is practiced.

Potential chronic health effects

Carcinogenicity No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b)	All components are listed or exempted.
	SARA 302/304/311/312 extremely hazardous substances: No products were found. **SARA 302/304 emergency planning and notification**: No products were found. **SARA 302/304/311/312 hazardous chemicals**: No products were found. **SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: Castrol Trans C 30: Immediate (acute) health hazard

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Zinc alkyl dithiophosphate	68649-42-3	1.196
Supplier notification	Zinc alkyl dithiophosphate	68649-42-3	1.196

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):	CERCLA: Hazardous substances.: Zinc alkyl dithiophosphate: 1 lb. (0.454 kg); xylene: 100 lbs. (45.4 kg); Ethylbenzene: 1000 lbs. (454 kg);

State regulations

Massachusetts Substances	None of the components are listed.
New Jersey Hazardous Substances	The following components are listed: ZINC compounds
Pennsylvania RTK Hazardous Substances	The following components are listed: ZINC COMPOUNDS
California Prop. 65	**WARNING:** This product contains a chemical known to the State of California to cause cancer. Ethylbenzene

Inventories

Canada inventory	All components are listed or exempted.
Europe inventory	All components are listed or exempted.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.

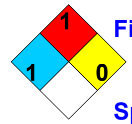
16. Other information

Label requirements CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

HMIS® Rating :	**Health**	**1**
	Flammability	**1**
	Physical Hazard	**0**
	Personal protection	**X**

National Fire Protection Association (U.S.A.)



Fire hazard
Health
Instability
Specific hazard

History

Date of issue 11/23/2010.

Date of previous issue 06/26/2009.

Prepared by Product Stewardship

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

CASTROL DUAL RANGE HV 46

HYDRAULIC FLUID MSDS

Material Safety Data Sheet

1. Product and company identification

Product name	Dual Range HV 46
MSDS #	460278
Code	460278-CA01
Product use	Hydraulic fluid For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563
Supplier	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563 Product Information: +1-877-641-1600
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)

2. Hazards identification

Physical state	Liquid.
Color	Purple.
Emergency overview	CAUTION ! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Base oil - highly refined	Varies	95 - 100

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis.
Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state Liquid.

Color Purple.

Specific gravity 0.872

Viscosity Kinematic: 44.8 mm^2/s (44.8 cSt) at 40°C
Kinematic: 7.8 mm^2/s (7.8 cSt) at 100°C

Solubility insoluble in water.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other information

Potential chronic health effects

Carcinogenicity No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b) All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Dual Range HV 46 : Immediate (acute) health hazard

SARA 313

Form R - Reporting requirements	This product does not contain any hazardous ingredients at or above regulated thresholds.
Supplier notification	This product does not contain any hazardous ingredients at or above regulated thresholds.
CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):	CERCLA: Hazardous substances.: Zinc dialkyl dithiophosphate; Ethyl acrylate: 1000 lbs. (454 kg); Naphthalene: 100 lbs. (45.4 kg);

State regulations

Massachusetts Substances	None of the components are listed.
New Jersey Hazardous Substances	None of the components are listed.
Pennsylvania RTK Hazardous Substances	None of the components are listed.
California Prop. 65	**WARNING:** This product contains a chemical known to the State of California to cause cancer. Naphthalene; Ethyl acrylate

Other regulations

Canada inventory	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.

16. Other information

Label requirements

CAUTION !

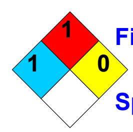
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

HMIS® Rating :

Health	**1**
Flammability	**1**
Physical Hazard	**0**
Personal protection	**X**

National Fire Protection Association (U.S.A.)

Health



Fire hazard
Instability
Specific hazard

History

Date of issue	03/07/2011.
Date of previous issue	No previous validation.
Prepared by	Product Stewardship

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the *product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.*

CASTROL HEAVY-DUTY 50/50

COOLANT/ANTIFREEZE MSDS

Material Safety Data Sheet

1. Chemical product and company identification

Product name	CASTROL HEAVY DUTY 50/50 PREDILUTED EXTENDED LIFE COOLANT / ANTIFREEZE
MSDS#	0000001870
Historic MSDS#:	None.
Code	0000001870
Product use	Automotive coolant system (antifreeze/anticorrosion). For specific application advice see appropriate Technical Data Sheet or consult your Castrol representative
Supplier	Castrol Heavy Duty Lubricants 9300 Pulaski Highway Baltimore, Maryland 21220-2495
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight	Exposure limits
Ethylene glycol	107-21-1	45-47	**ACGIH TLV (United States, 2002).** CEIL: 100 mg/m^3 CEIL: 100 mg/m^3 Form: Aerosol **OSHA PEL 1989 (United States, 3/1989).** CEIL: 125 mg/m^3 Form: All forms CEIL: 50 ppm Form: All forms
DIETHYLENE GLYCOL	111-46-6	0-2.5	None assigned.
Water	7732-18-5	50	None assigned.

3. Hazards identification

Physical state	Liquid.
Color	Red.
Emergency overview	WARNING! HARMFUL IF SWALLOWED. SLIGHTLY IRRITATING TO THE EYES. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling.
Routes of entry	Skin contact. Eye contact. Inhalation. Ingestion.

Potential Health Effects

Eyes	Slightly irritating to the eyes.
Skin	Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	Exposure to vapor or mist may cause respiratory tract irritation.
Ingestion	Harmful if swallowed. Symptoms similar to alcohol intoxication. Contains material which may cause damage to the following organs: kidneys. See Toxicological Information (section 11)

See toxicological Information (section 11)

4. First aid measures

Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Get medical attention urgently informing the doctor that a product containing ethylene glycol has been ingested and specific treatment may be required (see Advice to physicians).
Notes to Physician	Gastric lavage is indicated if significant quantities have been ingested in the previous 4 hours. The metabolism of the glycol to oxalic acid may be delayed by the intravenous administration of ethanol (give as a 5% solution in physiological saline to maintain a blood level of 1-2mg/ml). This has been shown to be an effective antidote provided treatment is started within about 6 hours of exposure. The glycol may be removed by dialysis but oxalates are not readily removed.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Products of combustion	These products are carbon oxides (CO, CO2).
Unusual fire/explosion hazards	This material is not explosive as defined by established regulatory criteria.
Fire fighting media and instructions	In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet.
Protective clothing (fire)	Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.
Special remarks on fire hazards	Containers may rupture from pressure build-up.

6. Accidental release measures

Personal Precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling Do not ingest. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Avoid breathing vapor or mist. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Ethylene glycol	**ACGIH TLV (United States, 2002).** CEIL: 100 mg/m^3 CEIL: 100 mg/m^3 Form: Aerosol **OSHA PEL 1989 (United States, 3/1989).** CEIL: 125 mg/m^3 Form: All forms CEIL: 50 ppm Form: All forms
DIETHYLENE GLYCOL	None assigned.
Water	None assigned.

Control Measures Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protection

Eyes Chemical splash goggles.

Skin and Body Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.

Respiratory Use with adequate ventilation. Avoid breathing vapor or mist. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

Hands Wear gloves that cannot be penetrated by chemicals or oil. (PVC, neoprene, Rubber gloves.)

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state Liquid.

pH 8.6 (Basic.)

Odor Mild

Color Red.

Boiling point / Range 106 to 108 °C

Melting point / Range -37 °C

Specific Gravity	1.07
Volatility	50% v/v
Solubility	Easily soluble in cold water, hot water.

10. Stability and reactivity

Stability and Reactivity	The product is stable.
Conditions to avoid	High temperatures. Keep away from water.
Incompatibility with various substances	Extremely reactive or incompatible with oxidizing agents. Slightly reactive to reactive with acids, moisture. Hygroscopic; keep container tightly closed.
Hazardous Decomposition Products	carbon oxides (CO, CO2)
Hazardous polymerization	Will not occur.

11. Toxicological information

Acute toxicity

May be fatal if swallowed. Contains material which causes damage to the following organs: kidneys.

Ingestion may cause nausea, weakness and central nervous system effects. May cause convulsions.

At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility.

Ingredient name	Test	Result	Route	Species
Ethylene glycol	LD50	5890 mg/kg	Oral	Rat
	LD50	13400 mg/kg	Oral	Rat
	LD50	10600 mg/kg	Dermal	Rabbit
DIETHYLENE GLYCOL	LD50	12565 mg/kg	Oral	Rat
	LD50	4400 mg/kg	Oral	Rabbit
	LD50	11890 mg/kg	Dermal	Rabbit

Chronic toxicity

Carcinogenic effects

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

Mutagenic effects

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

Reproductive effects

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.

Teratogenic effects

No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

12. Ecological information

Ecotoxicity No testing has been performed by the manufacturer.

Persistence/degradability Readily biodegradable

Mobility Spillages may penetrate the soil causing ground water contamination.

Soil/water partition coefficient (K_{OC}) This product is not likely to partition to organic material in the environment because its Log (Kow) is: -1.36

Bioaccumulative potential This product shows a low bioaccumulation potential.

Other ecological information Miscible in water.

13. Disposal considerations

Waste information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

14. Transport information

International transport regulations

Regulatory Information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)	9	III	Not determined.	**Reportable quantity** **5000 lbs. (2268 kg)**
TDG Classification	Not regulated.	-----	-----	-----	Not determined.	
IMDG Classification	Not regulated.	-----	-----	-----	Not determined.	-----
IATA Classification	Not regulated.	-----	-----	-----	Not determined.	-----

Nonbulk Shipping Information

D O T Nonbulk Shipping Information	Not regulated. (Quantities <5000 lbs. (2268 kg))

15. Regulatory information

U.S. Federal regulations US INVENTORY (TSCA): In compliance.

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 313

Product name	CAS number	Concentration

Form R - Reporting requirements	Ethylene glycol	107-21-1	45 - 47
Supplier notification	Ethylene glycol	107-21-1	45 - 47

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: Ethylene glycol: 5000 lbs. (2268 kg);

State regulations

Massachusetts RTK:Ethylene glycol
New Jersey:Ethylene glycol
Pennsylvania RTK:Ethylene glycol (environmental hazard, generic environmental hazard); DIETHYLENE GLYCOL (generic environmental hazard)

California prop. 65: No products were found.

Inventories

AUSTRALIAN INVENTORY (AICS): Not determined.

CANADA INVENTORY (DSL): In compliance.

CHINA INVENTORY (IECS): Not determined.

EC INVENTORY (EINECS/ELINCS): Not determined.

JAPAN INVENTORY (ENCS): Not determined.

KOREA INVENTORY (ECL): Not determined.

PHILIPPINE INVENTORY (PICCS): Not determined.

16. Other information

Label Requirements

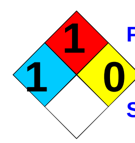
WARNING!

HARMFUL IF SWALLOWED.
SLIGHTLY IRRITATING TO THE EYES.

HMIS® Rating :

Health	**2**
Flammability	**1**
Physical Hazard	**0**
Personal protection	**X**

National Fire Protection Association (U.S.A.)



History

Date of issue 07/19/2004.

Date of previous issue No Previous Validation.

Prepared by Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.

Section 8

Map(s)

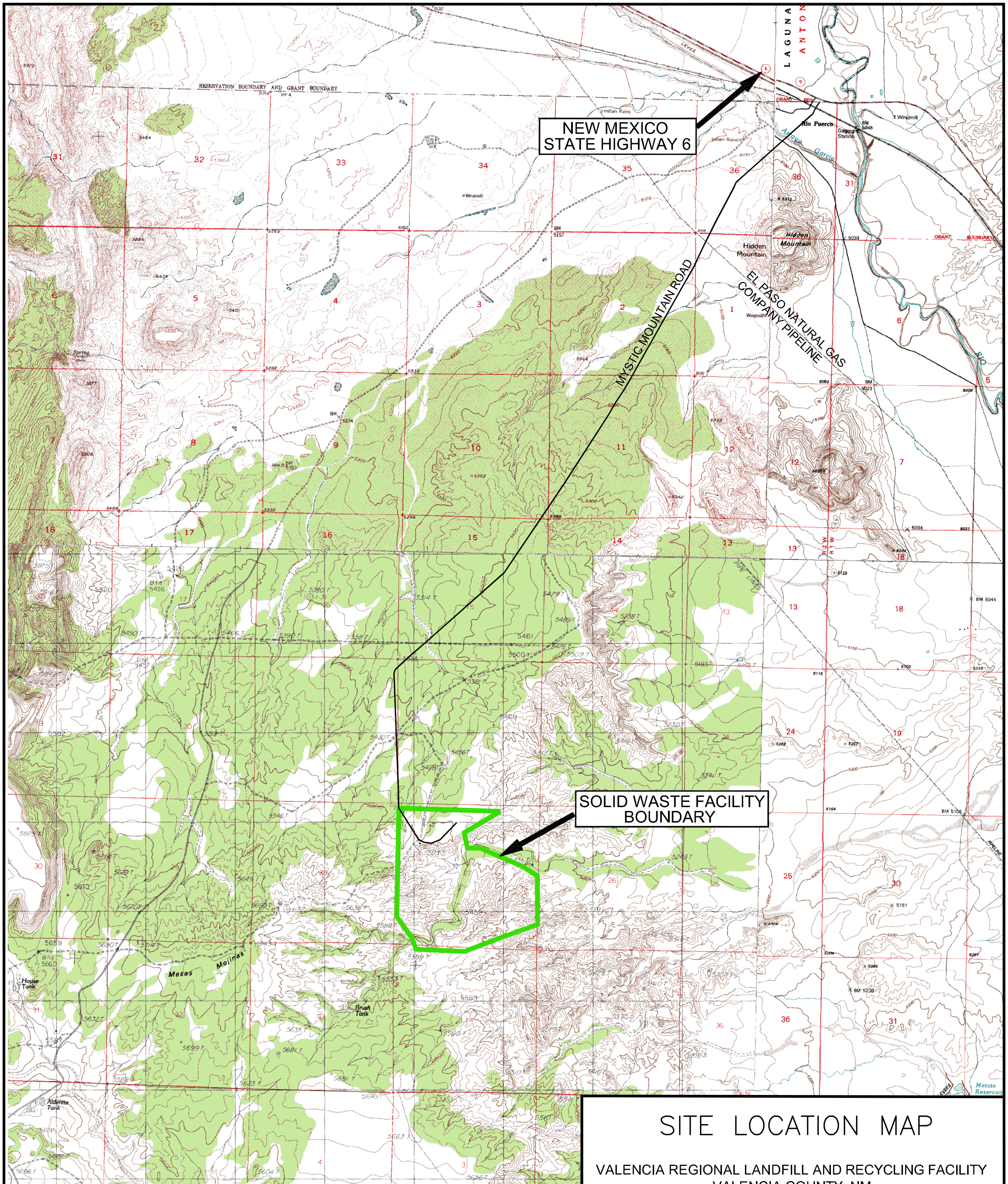
A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	

Two maps (Figures) of the Valencia Regional Landfill and Recycling Facility are included in this Section. Depending on the specific figure, these figures address the items denoted above; and include the following:

Figure 8.1 Site Location Map

Figure 8.2 Site Plan



BASED ON MESAS MOJINAS, NM (PROVISIONAL EDITION 1985);
S.GARCIA SE, NM (1954, PHOTOREVISED 1975); BELEN, NM (1991);
RIO PUERCO, NM (1991) QUADRANGLES, USGS 7.5' SERIES (1:24,000 SCALE).

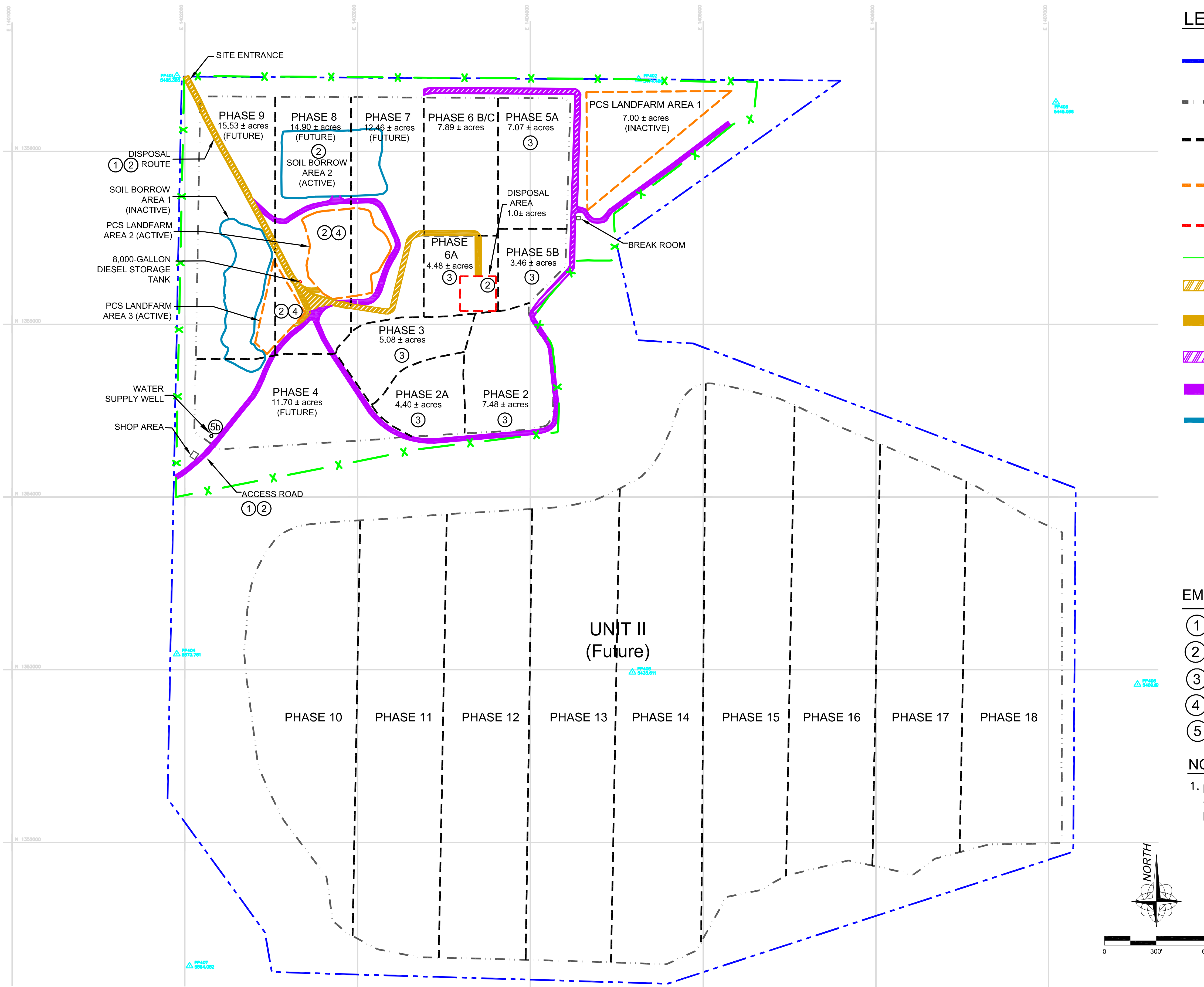
SITE LOCATION MAP

VALENCIA REGIONAL LANDFILL AND RECYCLING FACILITY
VALENCIA COUNTY, NM

GORDON ENVIRONMENTAL PSC
333 Rio Rancho Blvd. NE
Rio Rancho, NM 87124
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 11/05/18	CAD: SITE QUAD.dwg	PROJECT #: 0254.18
DRAWN BY: LC	REVIEWED BY: MJC	FIGURE 8.1
APPROVED BY: MJC	www.team-PSC.com	

Drawing:X:\2018\0254.18\03_DSGN\01_DWG\050_CIVIL\01_MODEL\WRKG_FLDR\SITE_LOC.dwg
Date/Time:Nov. 05, 2018-13:54:15



LEGEND

- SOLID WASTE FACILITY BOUNDARY
- PERMITTED LIMIT OF WASTE
- PHASE SEPARATION BOUNDARY
- PETROLEUM CONTAMINATED SOILS REMEDIATION AREA BOUNDARY
- DISPOSAL AREA
- X LANDFILL FENCE
- DISPOSAL ROUTE (COLD MILLINGS)
- DISPOSAL ROUTE (UNPAVED)
- ACCESS ROAD (COLD MILLINGS)
- ACCESS ROAD (UNPAVED)
- SOIL BORROW AREA
- 1 EMISSION UNIT
- PP401 5485.385 CONTROL POINT AND ELEVATION
- N 1355000 E 1403000 SITE GRID NM STATE PLANE NAD83 FT

EMISSION UNITS

1. DISPOSAL ROUTE AND ACCESS ROAD TRAVEL
2. GENERAL LANDFILL OPERATIONS
3. LANDFILL GAS GENERATION
4. PETROLEUM CONTAMINATED SOILS LANDFARM
5. ENGINES

NOTES

1. EXISTING MAP INFORMATION PROVIDED BY WMNM, AND COMPILED FROM AERIAL PHOTOGRAPHY DATED NOVEMBER, 2017 BY MILLER CREEK ASSOCIATES, INC.

SITE PLAN

VALENCIA REGIONAL LANDFILL AND RECYCLING FACILITY
VALENCIA COUNTY, NM

GORDON ENVIRONMENTAL PSC
333 Rio Rancho Blvd. NE
Suite 400, Rio Rancho NM
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 11/01/2018	CAD: SITE PLAN.dwg	PROJECT #: 010254.18
DRAWN BY: LC	REVIEWED BY: LC	FIGURE 8.2
APPROVED BY: MJC	www.team-psc.com	

Drawing:X:\2018\0254.18\03_DSGN\01_DWG\050_CIVIL\01_MODEL\WRKG_FLDR\PLOT-PLAN-TV-0254-18.dwg
Date/Time:Nov. 07, 2018-13:09:08 ; LAYOUT: B (LS)

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)
(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

☑ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**
This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. ☐ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. ☐ A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
3. ☐ A copy of the property tax record (20.2.72.203.B NMAC).
4. ☐ A sample of the letters sent to the owners of record.
5. ☐ A sample of the letters sent to counties, municipalities, and Indian tribes.
6. ☐ A sample of the public notice posted and a verification of the local postings.
7. ☐ A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. ☐ A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. ☐ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
10. ☐ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
11. ☐ A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.

Public notification is not required by the Applicant for Title V Permit Applications/Renewals.

Section 10

Written Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

10.0 Operational Plan

10.1 Solid Waste Permit Operational Plans

The April 2004 Application for Solid Waste Permit (Updated April 2005) for the Valencia Regional Landfill and Recycling Facility (VRLRF) includes detailed operating and construction plans for the Landfill. For example, the following Plans are included in Volume II of the Permit Application:

Volume II, Section 1: Engineering Drawings
Volume II, Section 2: Plan of Operations
Volume II, Section 3: Contingency Plan
Volume II, Section 4: Construction Quality Assurance (CQA) Plan
Volume II, Section 5: Closure/Post-Closure Plan
Volume II, Section 6: Landfill Gas Management Plan
Volume II, Section 7: Leachate Management Plan
Volume II, Section 8: Special Waste Disposal Management Plan
Volume II, Section 9: Petroleum Contaminated Soils Disposal Management Plan
Volume II, Section 10: Oil Conservation Division Waste Management Plan
Volume II, Section 11: Transportation Plan

These Plans have been approved by NMED Solid Waste Bureau (SWB), and are incorporated by reference in the facility's Permit (Solid Waste Facility ID No. SWM-013229, dated November 20, 2006; with subsequent updates). Copies of the Plans are available at SWB, and will be made available by VRLRF upon request. **Section 14** contains a description of measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies for landfill operations that have the potential to emit pollutants of concern (e.g., particulates, NMOCs, VOCs, HAPs). There are no known major bottlenecks that limit production at VRLRF.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe)**:**

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☑ **Yes** ☐ **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☑ **Yes** ☐ **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☑ **Yes** ☐ **No**

C. Make a determination:

☑ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☐ **a minor PSD source before and after this modification (if so, delete C and D below).**
- ☐ **a major PSD source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

This document represents an Application for Permit Renewal for a minor source under the provisions of 20.2.70 NMAC. The Valencia Regional Landfill and Recycling Facility is not subject to the requirements of either 20.2.72 NMAC or 20.2.74 NMAC.

Section 13

Determination of State & Federal Air Quality Regulations

This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

Required Information for Specific Equipment:
For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply**. **For example**, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

Required Information for Regulations that Apply to the Entire Facility:
See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

Regulatory Citations for Regulations That Do Not, but Could Apply:
If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation. For example** if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not. For example,** if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

Regulatory Citations for Emission Standards:
For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard. Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

Federally Enforceable Conditions:
All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVENT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc: http://cfpub.epa.gov/adi/

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	All Units	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes for NSR, No for TV	All Units	Compliance with NMAAQS is demonstrated in the Air Dispersion Modeling Analysis Report (Submitted to NMED AQB as part of this application). The requirements of this part are not applicable requirements under 20.2.70 NMAC, as defined by that part.
20.2.7 NMAC	Excess Emissions	Yes	All Units	Records kept of any excess emission periods and notifications provided to NMED. Verbal (< 24 hrs) and written (< 10 days) notice of excess emissions.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	No affected facilities
20.2.34 NMAC	Oil Burning Equipment: NO_2	No	N/A	No affected facilities
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	No affected facilities
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	No	N/A	No affected facilities
20.2.38 NMAC	Hydrocarbon Storage Facility	No	N/A	No significant hydrocarbon storage tanks at this facility
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	No affected facilities
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	Unit 5b	Unit 5b is a certified Stationary Combustion Equipment.
20.2.64 NMAC	Municipal Solid Waste Landfills	Yes	Facility	The Facility is subject to the provisions of 20.2.64 NMAC. The Permit Renewal satisfies applicable requirements.
20.2.70 NMAC	Operating Permits	Yes	Facility	This Application for Permit Renewal satisfies applicable requirements
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	Will submit required fees when assessed by NMED.
20.2.72 NMAC	Construction Permits	No	N/A	Not an affected facility as defined under 20.2.72 NMAC.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility will submit emissions inventory as requested by NMED.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is not a new major source or major modification to an existing source.
20.2.75 NMAC	Construction Permit Fees	No	N/A	No affected facilities.

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.77 NMAC	New Source Performance	Yes	Units subject to 40 CFR 60	This is a stationary source which is subject to the requirements of 40 CFR Part 60. See discussion of NSPS below (40 CFR 60)
20.2.78 NMAC	Emission Standards for HAPS	No	Units Subject to 40 CFR 61	See discussion of NESHAPS below (40 CFR 61 & 63)
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	No affected facilities.
20.2.80 NMAC	Stack Heights	No	N/A	No affected facilities.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	All Units Subject to 40 CFR 63	The facility is not a major source for HAPs (NMOC emissions are < 50 Mg/yr, facility-wide HAP emissions <10tpy individually and < 25tpy in the aggregate).

Example of a Table for Applicable FEDERAL REGULATIONS (Note: This is not an exhaustive list):

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	All Units	Compliance with NAAQS is demonstrated in the Air Dispersion Modeling Analysis Report (Submitted to NMED AQB as part of this application).
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	All Units	Facility will comply with applicable sections.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	N/A	The facility does not own or operate **Electric Utility Steam Generating Units**

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	No	N/A	The facility does not own or operate **Electric Utility Steam Generating Units**
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	N/A	The facility does not own or operate **Small Industrial-Commercial-Institutional Steam Generating Units**
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for **Storage Vessels for Petroleum Liquids** for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and **Prior** to July 23, 1984	No	N/A	The facility does not own any storage vessels with capacities > 40,000 gallons.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for **Volatile Organic Liquid Storage Vessels** (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984	No	N/A	The facility does not own any storage vessels with capacities > 75 m^3.
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	No	N/A	No affected facilities
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from **Onshore Gas Plants**	No	N/A	No affected facilities
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**:	No	N/A	No affected facilities

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
	SO_2 Emissions			
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No	N/A	No affected facilities
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	No	N/A	No affected facilities
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	Units 5b	Stationary compression ignition internal combustion engine Unit 5b is subject to this subpart.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No	N/A	Engines located at this facility are considered portable, non-road internal combustion engines or stationary compression ignition internal combustion engines and are not subject to this subpart.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	No affected facilities
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	No affected facilities
NSPS 40 CFR 60, Subparts WWW, XXX, Cc,	Standards of performance for Municipal Solid Waste (MSW)	Yes	All Units	Operating Permit will satisfy NSPS Subpart WWW, XXX, Cc, and Cf requirements.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
and Cf	Landfills			
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	No affected facilities
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No	N/A	No affected facilities
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks** (Fugitive Emission Sources)	No	N/A	No affected facilities
MACT 40 CFR 63, Subpart A	General Provisions	Yes	All Units	This facility is not a major source for HAPs as facility-wide HAP emissions are <10 tpy individually and < 25 tpy in the aggregate.
MACT 40 CFR 63.760 Subpart HH	No	N/A	No affected facilities	No
MACT 40 CFR 63 Subpart HHH	No	N/A	No affected facilities	No
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	No affected facilities
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	No affected facilities
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)	Yes	Units 5b	Stationary compression ignition internal combustion engine Unit 5b is subject to this subpart. Unit 5b meets Subpart ZZZZ requirements by meeting 40 CFR 60 Subpart IIII requirements.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 64	**Compliance Assurance Monitoring**	No	N/A	This facility does not have an emissions source subject to the provisions of 40 CFR 64.
40 CFR 68	**Chemical Accident Prevention**	Yes	All Units (68.10)	Facility-wide Risk Management Plan in Place.
40 CFR 70	**Operating Permit**	No	N/A	Not applicable. Administered under 20.2.70 NMAC.
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	No	N/A	Not an affected source under 40 CFR 72.
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	No	N/A	Not an affected source under 40 CFR 73.
Title IV-Acid Rain 40 CFR 75	**Continuous Emissions Monitoring**	No	N/A	Not an affected source under 40 CFR 75.
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission Reduction Program**	No	N/A	Not an affected source under 40 CFR 76.
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	No	N/A	Facility does not produce, transfer, destroy, import, or export substances controlled under this regulation.

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

☑ **Title V Sources** (20.2.70 NMAC)**:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **Title V** (20.2.70 NMAC)**, NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

Landfill operations associated with the potential emission of particulate matter (e.g., TSP, PM_{10}, and $PM_{2.5}$) consist of vehicle travel on treated and unpaved landfill roads, and general landfill operations (e.g., heavy equipment operations, wind erosion). The measures taken to mitigate excessive fugitive particulate emissions during startups, shutdowns, and emergencies consist of a Peterbilt 348 water wagon (5,000-gallon capacity) which serves as the site's primary dust suppression mode, and is used on a daily basis when the landfill is operational. A CAT 613C water wagon (5,000-gallon capacity) is available as backup. The source of the water for the wagon is the VRLRF water well located at the western boundary of the facility (**Figure 5.1**). In addition, the site's Disposal Route is treated with recycled asphalt basecourse (cold millings) from the facility entrance throughout most of the Disposal Route. Control efficiencies relating to water application and types of road material (e.g., recycled basecourse, unpaved) are presented in **Sections 6.1** and **6.2**. Additional equipment can be leased from local suppliers, or another WMNM facility in the region (i.e., Rio Rancho Landfill). VRLRF may also utilize processed green waste as a soil amendment to promote vegetative growth and minimize soil erosion on areas requiring intermediate/final cover.

In addition to the above procedures, VRLRF currently implements dust control measures outlined in the Plan of Operations Dust Control section (**Volume II, Section 7.2**), which is maintained as part of the Landfill's NMED-approved April 2004 (Updates August 2005) Application for Permit at the Scalehouse.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: https://www.env.nm.gov/aqb/permit/aqb_pol.html. Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title "Construction Scenarios", specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc.

Alternative Operating Scenarios

The Valencia Regional Landfill and Recycling Facility (VRLRF) is a municipal solid waste (MSW) landfill operating pursuant to NMED Solid Waste Facility Permit Nos. SWM-013229 and SWM-013230(SP). The facility is currently authorized to dispose of MSW and the following approved special wastes:

- Chemical Spill Residue
- Petroleum Contaminated Soils (PCS)
- Sludge
- Packing House & Killing Plant Offal
- Industrial Solid Waste
- Treated, Formerly Characteristic Hazardous Waste
- Oil Conservation Division Waste

With the expanding population of the Landfill's service area, it is reasonable to expect an increase in the acceptance rates of MSW, sludge, and PCS at the Landfill over the lifetime of the facility. Beyond the various waste types described above, VRLRF does not anticipate changes in processes, materials, operations or products during the 5-year Permit term.

Section 16

Air Dispersion Modeling

1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. **Note:** Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	X
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

☐ See attached, approved modeling **waiver for all** pollutants from the facility.
☐ See attached, approved modeling **waiver for some** pollutants from the facility.
☑ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.
☐ No modeling is required.

Due to the dynamic nature of the MSW Disposal Area as fill progresses, the location of the active MSW Disposal Area has been estimated to be within Phase 6A during the Permit period. The worst-case scenario was modeled to ensure potential emissions are representative of active MSW areas nearest to the solid waste facility boundary, since the orientation of roads will likely change depending on the location of the active MSW area. Air Dispersion modeling was performed for VRLRF to support this Application for renewal and the UA4 form is attached to this section.

ATTACHMENT 16.1

UNIVERSAL APPLICATION 4 (UA4)

Universal Application 4

Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

16-A: Identification

1	Name of facility: **Valencia Regional Landfill & Recycling Facility (VRLRF)**
2	Name of company: **Waste Management of New Mexico, Inc. (WMNM)**
3	Current Permit number: **P247L-R1**
4	Name of applicant's modeler: **James Newby**
5	Phone number of modeler: **(801) 544-5275**
6	E-mail of modeler: **jnewby@cirrusllc.com**

16-B: Brief

1	Why is the modeling being done? **Moving equipment**		
2	Describe the permit changes relevant to the modeling. **The location of disposal operations during the five-year term of new Title V operating permit will vary. These changes will impact the locations of the fill face, borrow area and some of the roads. In addition, there have been changes to the projected amount of waste that will be taken to the landfill**.		
3	What geodetic datum was used in the modeling? **NAD83**		
4	How long will the facility be at this location? ≈ **150 years**		
5	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	☐ Yes	☑ No
6	Identify the Air Quality Control Region (AQCR) in which the facility is located. **156**		
7	List the PSD baseline dates for this region (minor or major, as appropriate). **Not applicable (N/A). Per the NMAQB modeling guidelines, landfills do not need to model for PSD (see Section 7.2).**		
8	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). **N/A. Per the NMAQB modeling guidelines, landfills do not need to model for PSD (see Section 7.2).**		

9	Is the facility located in a non-attainment area? **No** If so, describe. **N/A**
10	Describe any special modeling requirements, such as streamline permit requirements. **N/A**

The VRLRF is an existing solid waste facility. The landfill is located within Section 27, Township 6 North, Range 2 West, in Valencia County, approximately 17 miles west of Los Lunas, New Mexico and 6 miles south of State Highway 6. The property on which the landfill is located is owned by WMNM.

The landfill will be in operation from 0600–1900 Monday through Friday and from 0630-1700 on Saturday. During these times the company equipment (scraper, grader, compactor, bulldozer and miscellaneous vehicles) will be in operation. The landfill will be open to receive waste from 0700-1700 Monday through Friday and from 0700-1600 on Saturdays.

Emissions within the fill face area were modeled using area sources. Emissions included those from disposal vehicles, miscellaneous vehicles, the scraper, the grader, the compactor, the bulldozer, and wind erosion.

Emissions within the borrow area were also modeled using area sources. Emissions included those from miscellaneous vehicles, the scraper, the grader, and wind erosion.

The road dust emissions from vehicle traffic and wind erosion were modeled using volume sources in accordance with Section 5.3.3 of the Modeling Guidelines. Because the roads at the landfill are long, they were represented by alternating volume sources.

The water well generator was modeled as a point source.

There are no startup, shutdown and maintenance (SSM) emissions associated with the landfill.

Figure 1 at the end of this report provides a plot of the fence line, roads and active areas used in the modeling.

16-C: Modeling History of Facility

1	Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQS), and PSD increments modeled. (Do not include modeling waivers).			
	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	**N/A**		
	NO_2	**N/A**		
	SO_2	**N/A**		
	H_2S	**N/A**		
	$PM_{2.5}$	**P247L**	**03/27/2009**	**NAAQS**
	PM_{10}	**P247L**	**03/27/2009**	**NAAQS**
	TSP	**P247L**	**03/27/2009**	**NAAQS & NMAAQS**
	Lead	**N/A**		
	Ozone (PSD only)	**N/A**		
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	**N/A**		

16-D: Modeling performed for this application

1	For each pollutant, indicate the modeling performed and submitted with this application. Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.

	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
	CO					**X**
	NO_2					**X**
	SO_2					**X**
	H_2S					**X**
	$PM_{2.5}$		**X**			
	PM_{10}		**X**			
	TSP				**X**	
	Lead					**X**
	Ozone					**X**
	State air toxic(s) (20.2.72.402 NMAC)					**X**
	Dr. Sufi Mustafa said that TSP modeling did not have to be submitted with applications, since the TSP standard is being rescinded.					

The following table identifies the applicable significant impact levels (SIL) and National Ambient Air Quality Standards (NAAQS).

Pollutant	Averaging Period	SIL ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
PM_{10}	**24-Hour**	**5.0**	**150**
$PM_{2.5}$	**Annual**	**0.3**	**12**
$PM_{2.5}$	**24-Hour**	**1.2**	**35**

The PM_{10} 24-hour NAAQS is not to be exceeded more than once per year. Since the meteorological data is representative for the area, compliance with the PM_{10} 24-hour NAAQS was determined using the high-second-high impact.

Since the facility does not emit significant amounts of secondary $PM_{2.5}$ precursors, compliance with the $PM_{2.5}$ 24-hour NAAQS was determined using the high-eighth-high impact.

16-E: New Mexico toxic air pollutants modeling

1	List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. **N/A**
	List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required. **N/A**

	Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor
	N/A					

16-F: Modeling options

1	What model(s) were used for the modeling? Why? **AERMOD was used, since it is the EPA approved near-field model.**

2	What model options were used and why were they considered appropriate to the application? **Output was set to provide concentrations. Dry and wet depletion were disabled. The HRDOW Emission Rate Flag was used to limit emissions to the appropriate time of day.** **Note: The modeling protocol stated AERMOD would be run using all EPA recommended defaults. However, when the protocol was approved, Mr. Sufi Mustafa, NMAQB, stated we should use the most recent Intel meteorological data. When running AERMOD using the default option and 2008 Intel meteorological data, a fatal error occurred (the use of turbulence data with Adj_U* is nondefault). Therefore, is was necessary to deselect the default option in order to run AERMOD. This change was approved by Mr. Eric Peters, NMAQB.**

Modeling was conducted in accordance with the protocol submitted October 30, 2018 and the NMAQB Modeling Guidelines. First, emissions from all the VRLRF sources were modeled to determine if there were significant impacts. Second, where pollutant impacts exceeded the SIL, cumulative impacts for comparison with the NAAQS were determined using the methodologies identified in the modeling guidelines.

The coordinate system used to reference both source and receptor locations was of the Universal Transverse Mercator (UTM) convention (North American Datum 1983 [NAD83]). Source elevation data was obtained from a plot plan provided by WMNM.

16-G: Surrounding source modeling

1	If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the unmerged list of sources to describe the changes. **N/A**	
2	Date of surrounding source retrieval**. August 1, 2018.**	
	AQB Source ID	Description of Corrections
	N/A	

Neighboring sources of particulate modeling were limited to those within 10 km of the facility. A workbook containing the neighboring sources used in the modeling is provided on the modeling CD submitted with this report.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	**N/A**	
2	How many above ground storage tanks are present at the facility?	**N/A**	
3	Was building downwash modeled for all buildings?	☑ Yes	☐ No
4	If not, explain why. **N/A**		
5	Building comments. **There are a number of buildings and tanks at the landfill; however, all, but one, are too far away to produce downwash effects from the one point source at the facility (the water pump generator). The structure surrounding the water pump generator will produce downwash effects and it was included in the modeling.**		

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted

	Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area. **The restricted area is completely surrounded by a fence.**		
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?	☐ Yes	☑ No
3	Are restricted area boundary coordinates included in the modeling files?	☑ Yes	☐ No
4	Describe the receptor grids and their spacing. **Note that while the facility fence encloses the active portion of the landfill, it does not enclose all the land owned by WMNM. Therefore, the fence line rather than the property boundary was used as the starting point for the receptor grid.** **A Cartesian grid with variable receptor spacing was used to evaluate significant impacts around the facility. The grid contained receptors with 25-meter spacing around the fence line, 50-meter spacing from the fence line out to at least 500 meters, 100-meter spacing from 500 meters beyond the fence line out to at least 1,000 meters, 250-meter spacing from 1,000 meters beyond the fence line out to at least 3,000 meters, and 500-meter spacing from 3,000 meters beyond the fence line out to at least 5,000 meters.** **Cumulative impact modeling was conducted using only those receptors from the grid defined in the paragraph above for which there were significant impacts. There were no cumulative impacts greater than or equal to 75 percent of the applicable standards at receptors located in the 100-meter, 250-meter, and 500-meter interval portions of the grid.**		
5	Describe receptor spacing along the fence line. **See 4 above.**		
6	Describe the PSD Class I area receptors. **N/A**		

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? This information is optional (and purposely undefined), but may help determine issues related to public notice.	☐ Yes	☑ No
2	If so, describe. **N/A**		
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	☐ Yes	☑ No

16-K: Modeling Scenarios

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3). **Disposal operations at the landfill will take place within Phase 6A during the five-year term of the permit. The size of the fill face at any one point in time will be approximately 1.0 acres. In accordance with direction provided by Eric Peters, NMAQB, modeling was conducted using a single scenario. The fill face was located in the southeast corner of Phase 6A. This placed the fill face nearest the fence line.**		
2	Which scenario produces the highest concentrations? Why? **N/A**		
3	Were emission factor sets used to limit emission rates or hours of operation?	☑ Yes	☐ No

	(This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)		

4

If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.)

The HRDOW Emission Rate Flag was used to identify operating hours for three source groupings: FACILITY, DELIVERY, and SCRAPER. For each source grouping there was one set of hours applicable for Monday through Friday and another set of hours applicable for Saturday. In the tables below, the first set of factors apply for Monday through Friday and the second set of factors apply to Saturday. Note that the water pump generator, wind erosion, and neighboring sources were not included in any of the three source groupings. All other sources are included in one of the groupings.

NOTE: The modeled pounds per hour (pph) emission rates from the various sources were modeled as the pounds per year emission rates divided by the annual hours of operation. Therefore, an HRDOW Emission Rate Flag of 1 (or 0.5 for half hours) was used for all sources.

- **Since the facility will be open to receive MSW & PCS waste for a total of 3,078 hours per year (hr/yr), the annual emission rates for those operations were divided by 3,078 hr/yr.**

- **It is estimated the scraper will operate 1 hour per day on Friday and one hour per day on Saturday, for a total of 104 hr/yr. Therefore, the annual emission rates for the scraper were divided by 104 hr/yr.**

- **It is estimated the compactor and bulldozer will each operate 7 hours per day. However, because this equipment will actually operate off and on during the entire day, the annual emission rate was divided by 3,939 hr/yr (the total facility operating time).**

- **It is estimated the miscellaneous vehicles will operate 6 hours per day. However, because this equipment will actually operate off and on during the entire day, the annual emission rates were divided by 3,939 hr/yr (the total facility operating time).**

- **It is estimated the grader will operate 2 hours per day. However, because the grader will operate at different times each day, and because the emission rates are very low, the annual emission rates for the grader were divided by 3,939 hr/yr (the total facility operating time).**

- **Though the HRDOW Emission Rate Flag was not used for wind erosion sources, it is noted that the annual wind erosion emissions were divided by 8,760 hr/yr.**

The FACILITY source grouping applies to road dust sources associated with facility vehicles and operations. These sources will operate from 0600-1900 Monday through Friday and from 0630-1700 on Saturday.

The following sources were included in the FACILITY HRDOW source grouping:

- **FFA_DZR (Fill Face Area – Compactor/Bulldozer Operation)**
- **FFA_MISC (Fill Face Area – Miscellaneous Vehicle Operation)**
- **FFA_GRDR (Fill Face Area – Grader Operation)**
- **BA_MISC (Borrow Area – Miscellaneous Vehicle Operation)**
- **BA_GRDR (Borrow Area – Grader Operation)**
- **PCS2_MSC (PCS Landfarm #2 – Miscellaneous Vehicle Operation)**
- **PCS3_MSC (PCS Landfarm #3 – Miscellaneous Vehicle Operation)**
- **MC_01 through MC_47 (Miscellaneous Route [Cold Millings])**
- **M30U_01 through M30U_11 (Miscellaneous Route [30 ft Width][Unpaved])**
- **M20U_01 through M20U_84 (Miscellaneous Route [20 ft Width][Unpaved])**
- **GC_01 through GC_24 (Grader Route [Cold Millings])**
- **GFU_01 through GFU_06 (Grader Route – To/From Fill Face Area [Unpaved])**

	• **GBU_01 through GBU_13 (Grader Route – To/From Borrow Area [Unpaved])**

	Hour of Day	Factor	Hour of Day	Factor		Hour of Day	Factor	Hour of Day	Factor			
5	**1**	**0**	**13**	**1**		**1**	**0**	**13**	**1**			
	2	**0**	**14**	**1**		**2**	**0**	**14**	**1**			
	3	**0**	**15**	**1**		**3**	**0**	**15**	**1**			
	4	**0**	**16**	**1**		**4**	**0**	**16**	**1**			
	5	**0**	**17**	**1**		**5**	**0**	**17**	**1**			
	6	**0**	**18**	**1**		**6**	**0**	**18**	**0**			
	7	**1**	**19**	**1**		**7**	**0.5**	**19**	**0**			
	8	**1**	**20**	**0**		**8**	**1**	**20**	**0**			
	9	**1**	**21**	**0**		**9**	**1**	**21**	**0**			
	10	**1**	**22**	**0**		**10**	**1**	**22**	**0**			
	11	**1**	**23**	**0**		**11**	**1**	**23**	**0**			
	12	**1**	**24**	**0**		**12**	**1**	**24**	**0**			
	If hourly, variable emission rates were used that were not described above, describe them here: **N/A**											

4	**The DELIVERY source grouping applies to road dust sources associated with public vehicles coming to and going from the landfill. These sources will operate from 0700-1700 Monday through Friday and from 0700-1600 on Saturday.** **The following sources were included in the DELIVERY HRDOW source grouping:** • **FFA_MSW (Fill Face Area – MSW Delivery)** • **PCS2_DEL (PCS Landfarm #2 – PCS Delivery)** • **PCS3_DEL (PCS Landfarm #3 – PCS Delivery)** • **MDC_01 through MDC_24 (MSW Delivery Route [Cold Millings])** • **MDU_01 through MDU_06 (MSW Delivery Route [Unpaved])** • **PDC_01 through PDC_13 (PCS Delivery Route [Cold Millings])** • **P2DU_01 through P2DU_02 (PCS Landfarm #2 Delivery Route [Unpaved])** • **P3DU_01 through P3DU_02 (PCS Landfarm #3 Delivery Route [Unpaved])**

	Hour of Day	Factor	Hour of Day	Factor		Hour of Day	Factor	Hour of Day	Factor			
5	**1**	**0**	**13**	**1**		**1**	**0**	**13**	**1**			
	2	**0**	**14**	**1**		**2**	**0**	**14**	**1**			
	3	**0**	**15**	**1**		**3**	**0**	**15**	**1**			
	4	**0**	**16**	**1**		**4**	**0**	**16**	**1**			
	5	**0**	**17**	**1**		**5**	**0**	**17**	**0**			
	6	**0**	**18**	**0**		**6**	**0**	**18**	**0**			
	7	**0**	**19**	**0**		**7**	**0**	**19**	**0**			
	8	**1**	**20**	**0**		**8**	**1**	**20**	**0**			
	9	**1**	**21**	**0**		**9**	**1**	**21**	**0**			
	10	**1**	**22**	**0**		**10**	**1**	**22**	**0**			
	11	**1**	**23**	**0**		**11**	**1**	**23**	**0**			
	12	**1**	**24**	**0**		**12**	**1**	**24**	**0**			
	If hourly, variable emission rates were used that were not described above, describe them here: **N/A**											

4	**The SCRAPER source grouping applies to emissions associated with the scraper. The scraper will typically operate 1 hour per day on Friday and Saturday. For modeling purposes, to allow for maximum operational flexibility, it was assumed the scraper will operate 1 hour per day Monday through Saturday.**

Testing was conducted to determine which hour of the day produced the highest modeled impact from the SCRAPER source grouping. Twenty-six model runs were conducted to determine the Monday through Friday high impacts, thirteen for PM_{10} and thirteen $PM_{2.5}$, one run for each hour of the operational day (0600-1900). Twenty-two model runs were conducted to determine the Saturday high impacts, eleven for PM_{10} and eleven for $PM_{2.5}$, one run for each hour (0630-0730 and 0700-1700).

Significant Impact Modeling

The high-first-high Monday through Friday 24-hour average impacts for both PM_{10} and $PM_{2.5}$ occurred from 0800 to 0900. The high-first-high Saturday 24-hour average impacts for both PM_{10} and $PM_{2.5}$ occurred from 0700 to 0800. The significant impact modeling was conducted assuming scraper operations would occur during those hours. A summary of the results is provided on the "Operating Time" tab of the "Valencia – November 2018 – Modeling Data. xlsx" workbook provided on the modeling CD submitted with this application.

Cumulative Impact Modeling

The high-second-high Monday through Friday and Saturday 24-hour average impacts for PM_{10} occurred from 1600 to 1700. The high-eighth-high Monday through Friday 24-hour average impact for $PM_{2.5}$ occurred from 1700 to 1800. The high-eighth-high Saturday 24-hour average impact for $PM_{2.5}$ occurred from 0630 to 0730. The high Monday through Friday annual average impact for $PM_{2.5}$ occurred from 1800 to 1900. The high Saturday annual average impact for $PM_{2.5}$ occurred from 1600 to 1700. The cumulative impact modeling was conducted assuming scraper operations would occur during those hours. A summary of the results is provided on the "Operating Time" tab of the "Valencia – November 2018 – Modeling Data. xlsx" workbook provided on the modeling CD submitted with this application.

The following sources were included in the SCRAPER HRDOW source grouping:

- **FFA_SCRP (Fill Face Area – Scraper Travel & Unloading Operations)**
- **BA_SCRP (Borrow Area – Scraper Travel & Loading Operations)**
- **SC_01 through SC_07 (Scraper Route [Cold Millings])**
- **SFU_01 through SFU_06 (Scraper Route – To/From Fill Face Area [Unpaved])**
- **SBU_01 through SBU_13 (Scraper Route – To/From Borrow Area [Unpaved])**

SCRAPER Source Group - Significant Impact Modeling (PM_{10} & $PM_{2.5}$)

5

Hour of Day	Factor	Hour of Day	Factor		Hour of Day	Factor	Hour of Day	Factor			
1	**0**	**13**	**0**		**1**	**0**	**13**	**0**			
2	**0**	**14**	**0**		**2**	**0**	**14**	**0**			
3	**0**	**15**	**0**		**3**	**0**	**15**	**0**			
4	**0**	**16**	**0**		**4**	**0**	**16**	**0**			
5	**0**	**17**	**0**		**5**	**0**	**17**	**0**			
6	**0**	**18**	**0**		**6**	**0**	**18**	**0**			
7	**0**	**19**	**0**		**7**	**0**	**19**	**0**			
8	**0**	**20**	**0**		**8**	**1**	**20**	**0**			
9	**1**	**21**	**0**		**9**	**0**	**21**	**0**			
10	**0**	**22**	**0**		**10**	**0**	**22**	**0**			
11	**0**	**23**	**0**		**11**	**0**	**23**	**0**			
12	**0**	**24**	**0**		**12**	**0**	**24**	**0**			

If hourly, variable emission rates were used that were not described above, describe them here: **N/A**

4 **SCRAPER Source Group – Cumulative Impact Modeling (PM_{10} 24-Hour)**

	Hour of Day	Factor	Hour of Day	Factor		Hour of Day	Factor	Hour of Day	Factor			
	1	**0**	**13**	**0**		**1**	**0**	**13**	**0**			
	2	**0**	**14**	**0**		**2**	**0**	**14**	**0**			
	3	**0**	**15**	**0**		**3**	**0**	**15**	**0**			
	4	**0**	**16**	**0**		**4**	**0**	**16**	**0**			
	5	**0**	**17**	**1**		**5**	**0**	**17**	**1**			
5	**6**	**0**	**18**	**0**		**6**	**0**	**18**	**0**			
	7	**0**	**19**	**0**		**7**	**0**	**19**	**0**			
	8	**0**	**20**	**0**		**8**	**0**	**20**	**0**			
	9	**0**	**21**	**0**		**9**	**0**	**21**	**0**			
	10	**0**	**22**	**0**		**10**	**0**	**22**	**0**			
	11	**0**	**23**	**0**		**11**	**0**	**23**	**0**			
	12	**0**	**24**	**0**		**12**	**0**	**24**	**0**			
	If hourly, variable emission rates were used that were not described above, describe them here: **N/A**											

SCRAPER Source Group – Cumulative Impact Modeling ($PM_{2.5}$ 24-Hour)

Hour of Day	Factor	Hour of Day	Factor		Hour of Day	Factor	Hour of Day	Factor			
1	**0**	**13**	**0**		**1**	**0**	**13**	**0**			
2	**0**	**14**	**0**		**2**	**0**	**14**	**0**			
3	**0**	**15**	**0**		**3**	**0**	**15**	**0**			
4	**0**	**16**	**0**		**4**	**0**	**16**	**0**			
5	**0**	**17**	**0**		**5**	**0**	**17**	**0**			
6	**0**	**18**	**1**		**6**	**0**	**18**	**0**			
7	**0**	**19**	**0**		**7**	**0.5**	**19**	**0**			
8	**0**	**20**	**0**		**8**	**0.5**	**20**	**0**			
9	**0**	**21**	**0**		**9**	**0**	**21**	**0**			
10	**0**	**22**	**0**		**10**	**0**	**22**	**0**			
11	**0**	**23**	**0**		**11**	**0**	**23**	**0**			
12	**0**	**24**	**0**		**12**	**0**	**24**	**0**			

If hourly, variable emission rates were used that were not described above, describe them here: **N/A**

SCRAPER Source Group – Cumulative Impact Modeling ($PM_{2.5}$ Annual)

Hour of Day	Factor	Hour of Day	Factor		Hour of Day	Factor	Hour of Day	Factor			
1	**0**	**13**	**0**		**1**	**0**	**13**	**0**			
2	**0**	**14**	**0**		**2**	**0**	**14**	**0**			
3	**0**	**15**	**0**		**3**	**0**	**15**	**0**			
4	**0**	**16**	**0**		**4**	**0**	**16**	**0**			
5	**0**	**17**	**0**		**5**	**0**	**17**	**1**			
6	**0**	**18**	**0**		**6**	**0**	**18**	**0**			
7	**0**	**19**	**1**		**7**	**0**	**19**	**0**			
8	**0**	**20**	**0**		**8**	**0**	**20**	**0**			
9	**0**	**21**	**0**		**9**	**0**	**21**	**0**			
10	**0**	**22**	**0**		**10**	**0**	**22**	**0**			
11	**0**	**23**	**0**		**11**	**0**	**23**	**0**			
12	**0**	**24**	**0**		**12**	**0**	**24**	**0**			

If hourly, variable emission rates were used that were not described above, describe them here: **N/A**

6	Were different emission rates used for short-term and annual modeling?	☐ Yes	☑ No
	If yes, describe. **All modeling was conducted using the short-term (higher) emission rates.**		

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply. **N/A**	
		100% NO_X to NO_2 conversion
		ARM
		PVMRM
		OLM
		ARM2
		Other:
2	Describe the NO_2 modeling. **N/A**	
3	In-stack NO_2/NO_X ratio(s) used in modeling. **N/A**	
4	Equilibrium NO_2/NO_X ratio(s) used in modeling. **N/A**	
5	Describe/justify the use of the ratios chosen. **N/A**	
6	Describe the design value used for each averaging period modeled. **N/A** **1-hour:** Choose an item.	

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.			
		$PM_{2.5}$		
		PM_{10}		
		TSP		
	X	None		
2	Describe the particle size distributions used. Include the source of information. **N/A**			
3	Was secondary PM modeled for $PM_{2.5}$? Only required for PSD major modifications that are significant for NOx and/or SOx. Optional for minor sources, but allows use of high eighth high.		☐ Yes	☑ No

Since the facility does not emit secondary $PM_{2.5}$ precursors, compliance with the $PM_{2.5}$ 24-hour NAAQS was determined using high-eighth-high impacts.

16-N: Setback Distances and Source Classification

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location. **N/A**
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling. **N/A**

3	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match?	☐ Yes	☑ No
4	Provide a cross-reference table between unit numbers if they do not match. It's ok to place the table below section 16-N for easier formatting. **There are 418 facility sources in this modeling analysis. In most cases, multiple sources are required to model each source type. The source descriptions in the BEEST (.BST) files and the "Valencia – November 2018 - Modeling Data .xlsx" workbook (on the modeling CD submitted with this application) can be used to correlate the sources with the emission rates.**		
5	The emission rates in Tables 2-E and 2-F should match the ones in the modeling files. Do these match?	☑ Yes	☐ No
6	If not, explain why. **N/A**		
7	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	☐ Yes	☑ No
8	Which units consume increment for which pollutants? **N/A**. **Per the NMAQB modeling guidelines, landfills do not need to model for PSD (see Section 7.2).**		
9	PSD increment description for sources (for unusual cases, i.e., baseline unit expanded emissions after baseline date). **N/A**		
10	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling.	☐ Yes	☑ No
11	If not please explain how increment consumption status is determined for the missing installation dates. **N/A**		

16-O: Flare Modeling

1	For each flare or flaring scenario, complete the following: **N/A**			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	N/A			

16-P: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?	☐ Yes	☑ No
2	If the dimensions of volume sources are different from standard dimensions in the AQB Modeling Guidelines, describe how the dimensions were determined. **Dimensions used were those applicable to the various sources at the facility as determined using the methods identified in the NMAQB Modeling Guidelines. See the "Conversions" tab in the "Valencia – November 2018 - Modeling Data.xlsx" workbook on the modeling CD submitted with this application.** **Note that because the roads at the landfill are very long, they were represented by alternating volume sources.**		
3	Describe the determination of sigma-Y and sigma-Z for fugitive sources. **Sigma-Y and sigma-Z were calculated in accordance with the methods outlined in the NMAQB Modeling Guidelines. See the "Conversions" tab in the "Valencia - November 2018 - Modeling Data. xlsx" workbook on the modeling CD submitted with this application.**		
4	Describe how the volume sources are related to unit numbers. Or say they are the same. **There are 401 facility volume sources in this modeling analysis. In each case, multiple sources are required to model each source type. The source descriptions in the BEEST (.BST) files and the "Valencia – November 2018 - Modeling**		

	Data .xlsx" workbook (on the modeling CD submitted with this application) can be used to correlate the modeled sources with the unit number in the tables.
5	Describe any open pits. **N/A**
6	Describe emission units included in each open pit. **N/A**

Since there are 401 facility volume sources associated with this modeling analysis, Figures 3-15 at the end of this report are provided to show the locations of the various sources.

16-Q: Background Concentrations

1	Identify and justify the background concentrations used. **In accordance with direction received from Eric Peters, NMAQB, background concentrations were obtained from the stations in the Albuquerque region with the lowest particulate concentrations. Though the Albuquerque stations are nearest the landfill, the landfill is located in a rural area over 40 kilometers from the nearest station.** **The following PM_{10} background concentration was obtained from Table 19 (Bernalillo) of the NMAQB Modeling Guidelines:** **24-Hour: 23.00 µg/m^3** **The following $PM_{2.5}$ background concentrations were obtained from Table 18 (Del Norte HS) of the NMAQB Modeling Guidelines:** **Annual: 6.59 µg/m^3** **24-Hour: 15.37 µg/m^3**		
2	Were background concentrations refined to monthly or hourly values?	☐ Yes	☑ No

16-R: Meteorological Data

1	Identify and justify the meteorological data set(s) used. **Modeling was conducted using the Intel Rio Rancho meteorological data collected in 2008. The data was obtained from the NMAQB web site and no changes were made. The profile base elevation was set at 1,595 meters above mean sea level.** **Two sources of meteorological data were considered: Bernalillo (1997) and Intel Rio Rancho (1993).** **Bernalillo is located on the eastern side of the Rio Grande basin at an elevation of approximately 5,050 feet above mean sea level. Meteorological data collected at Bernalillo is strongly influenced by the river basin. The wind flow is predominantly northeast and southwest, which mirrors the orientation of the river basin.** **The Intel Rio Rancho facility is located on a mesa approximately 2.5 kilometers northwest of the Rio Grande at an elevation of approximately 5,270 feet above mean sea level. Meteorological conditions at this site are not so strongly influenced by the river basin drainage flows. The winds observed at the Intel facility are from multiple directions, not just predominantly northeast and southwest as is the case for the Bernalillo data.** **The VRLRF is located approximately 25 kilometers west of the Rio Grande at an elevation of approximately 5,500 feet above mean sea level. The landfill and the Intel facility are both located above and to the west of the Rio Grande and are in areas of similar topography. The Intel Rio Rancho 2008 meteorological data best represents the landfill.**
2	Discuss how missing data were handled, how stability class was determined, and how the data were processed, if the Bureau did not provide the data. **N/A**

16-S: Terrain

1	Was complex terrain used in the modeling? **Yes.** If no, describe why. **N/A**
2	What was the source of the terrain data? **Terrain elevation data for the receptors was obtained using United States Geological Survey (USGS) National Elevation Dataset (NED) 1/3 arc second data. The AERMOD Terrain Preprocessor (AERMAP) was used to calculate the receptor elevations and terrain maximums. The domain used to calculate terrain maximums was sufficient to identify all terrain nodes that create a slope greater than or equal to 10 percent.** **The elevation data for sources and structures within the facility was obtained from the plot plan provided by WMNM and included in the application.** **Note: The southwestern, western and northern portions of the fence line are located in areas where the ground has not been disturbed by landfill operations. Therefore, the AERMAP elevations calculated for the receptors along the fence line in those areas appear to be accurate. The eastern and southeastern portions of the fence line are located in areas that have been disturbed by landfill operations. In those areas the AERMAP elevations do not appear to be accurate. For this reason, the elevations of the receptors along those areas of the fence line were obtained from the plot plan provided by WMNM. As expected, this change brought the affected receptor elevations very near the values obtained for the road source elevations in those areas. No changes were made to the AERMAP terrain maximums calculated for the affected receptors. The locations of the modified receptors are shown on Figure 2 at the end of this report.**

16-T: Modeling Files

1 Describe the modeling files:

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
Valencia – November 2018 – AERMAP Files.zip	**N/A**	**Calculate terrain elevations**
Valencia – November 2018 – AERMOD Files (Scraper Testing).zip	**PM_{10} & $PM_{2.5}$**	**Identify Scraper High Impacts**
Valencia – November 2018 – AERMOD Files (ROI).zip	**PM_{10} & $PM_{2.5}$**	**ROI/SIA**
Valencia – November 2018 – AERMOD Files (NAAQS).zip	**PM_{10} & $PM_{2.5}$**	**Cumulative**
Valencia – November 2018 – Modeling Protocol.zip	**N/A**	**Modeling protocol**
Valencia – November 2018 – Modeling Report.zip	**N/A**	**Modeling report files**

The zipped modeling report file contains the following:

- **Valencia – November 2018 – Modeling Report.xlsx (Microsoft Word version of this modeling report)**
- **Valencia – November 2018 – Modeling Report.pdf (Adobe Acrobat version of this modeling report [including surfer plots of the source locations])**
- **Valencia – November 2018 – Modeling Data.xlsx (Microsoft Excel workbook containing miscellaneous modeling data and calculations [source locations, parameters and emission rates; fence line coordinates; operating times; receptors; etc.])**
- **Valencia – November 2018 – Neighboring Sources.xlsx (Excel workbook identifying the neighboring sources used in the modeling)**

16-U: PSD New or Major Modification Applications

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	☐ Yes	☑ No
2	If not, did AQB approve an exemption from preconstruction monitoring?	☐ Yes	☑ No
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption. **N/A**		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC. **N/A**		
5	If required, have ozone and secondary $PM_{2.5}$ ambient impacts analyses been completed? **N/A**		

16-V: Modeling Results

1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. **N/A**
2	Identify the maximum concentrations from the modeling analysis.

Pollutant	Period	Facility Concentration (µg/m3)	Total Modeled Concentration (µg/m3)	Total Modeled Concentration (PPM)	Background Concentration	Cumulative Concentration	Standard	Value of Standard	Units of Standard, Background, and Total	Percent of Standard
PM_{10}	**24-Hour**	**41.68**	**41.76**	**--**	**23.00**	**64.76**	**NAAQS**	**150**	**µg/m^3**	**43.18**
$PM_{2.5}$	**24-Hour**	**2.67**	**2.72**	**--**	**15.37**	**18.09**	**NAAQS**	**35**	**µg/m^3**	**51.68**
$PM_{2.5}$	**Annual**	**0.48**	**0.52**	**--**	**6.59**	**7.11**	**NAAQS**	**12**	**µg/m^3**	**59.24**

Two model runs were conducted for the significant impact modeling, one for each pollutant.

Three model runs were conducted for the NAAQS modeling, one for each pollutant and averaging period.

16-W: Location of maximum concentrations

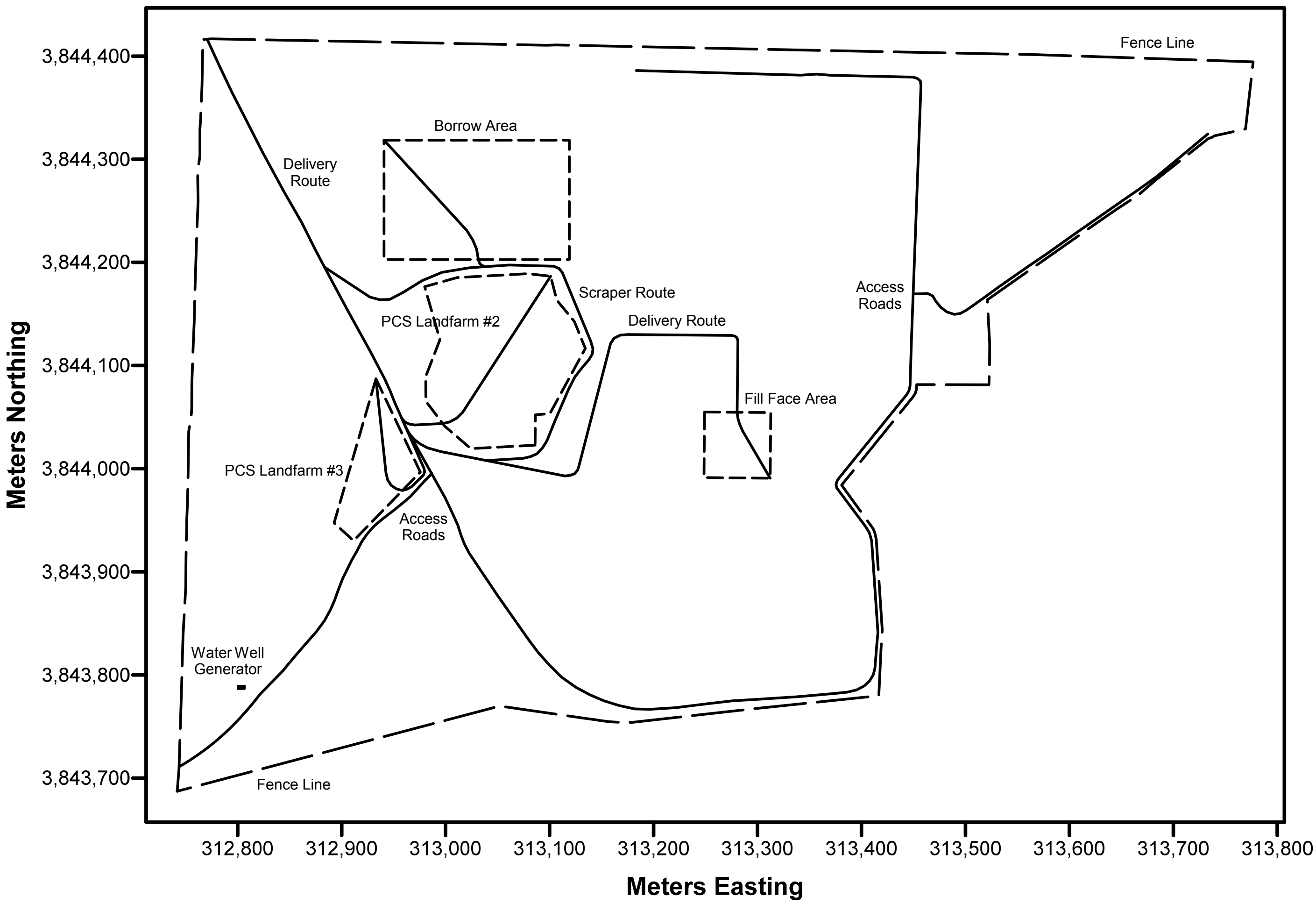
1	Identify the locations of the maximum concentrations.

Pollutant	Period	UTM East (m)	UTM North (m)	Elevation (ft)	Distance (m)	Radius of Impact (ROI) (m)
PM_{10}	**24-Hour**	**313,106**	**3,844,411**	**5,463**	**0**	**3,637**
$PM_{2.5}$	**24-Hour**	**313,032**	**3,844,412**	**5,480**	**0**	**1,607**
$PM_{2.5}$	**Annual**	**313,381**	**3,843,984**	**5,497**	**0**	**558**

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued. **The modeling requirements have been satisfied and a permit can be issued.**

Valencia Regional Landfill and Recycling Facility
Modeled Fence Line, Roads, and Active Areas

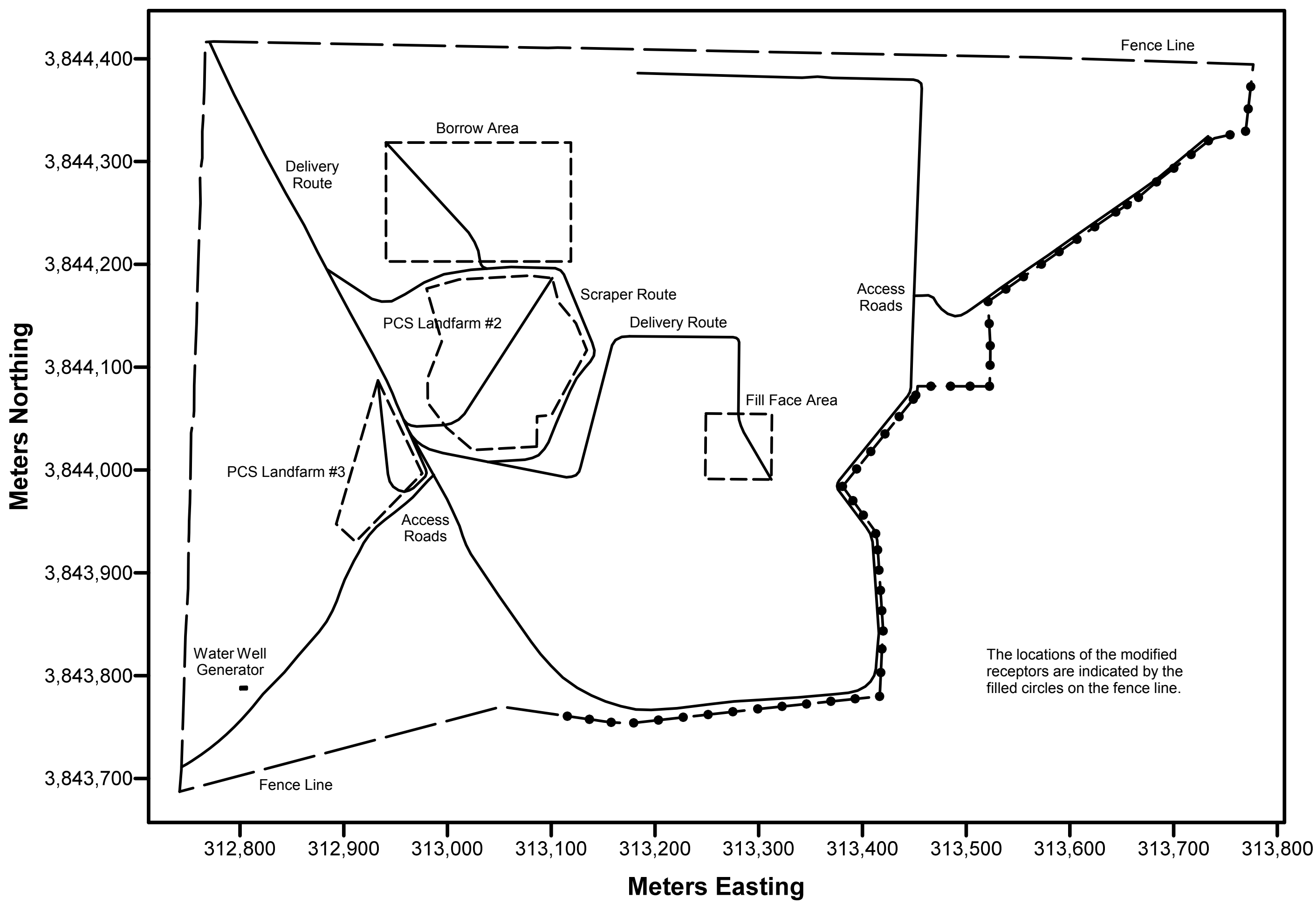


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 1

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Modified Fence Line Receptor Locations

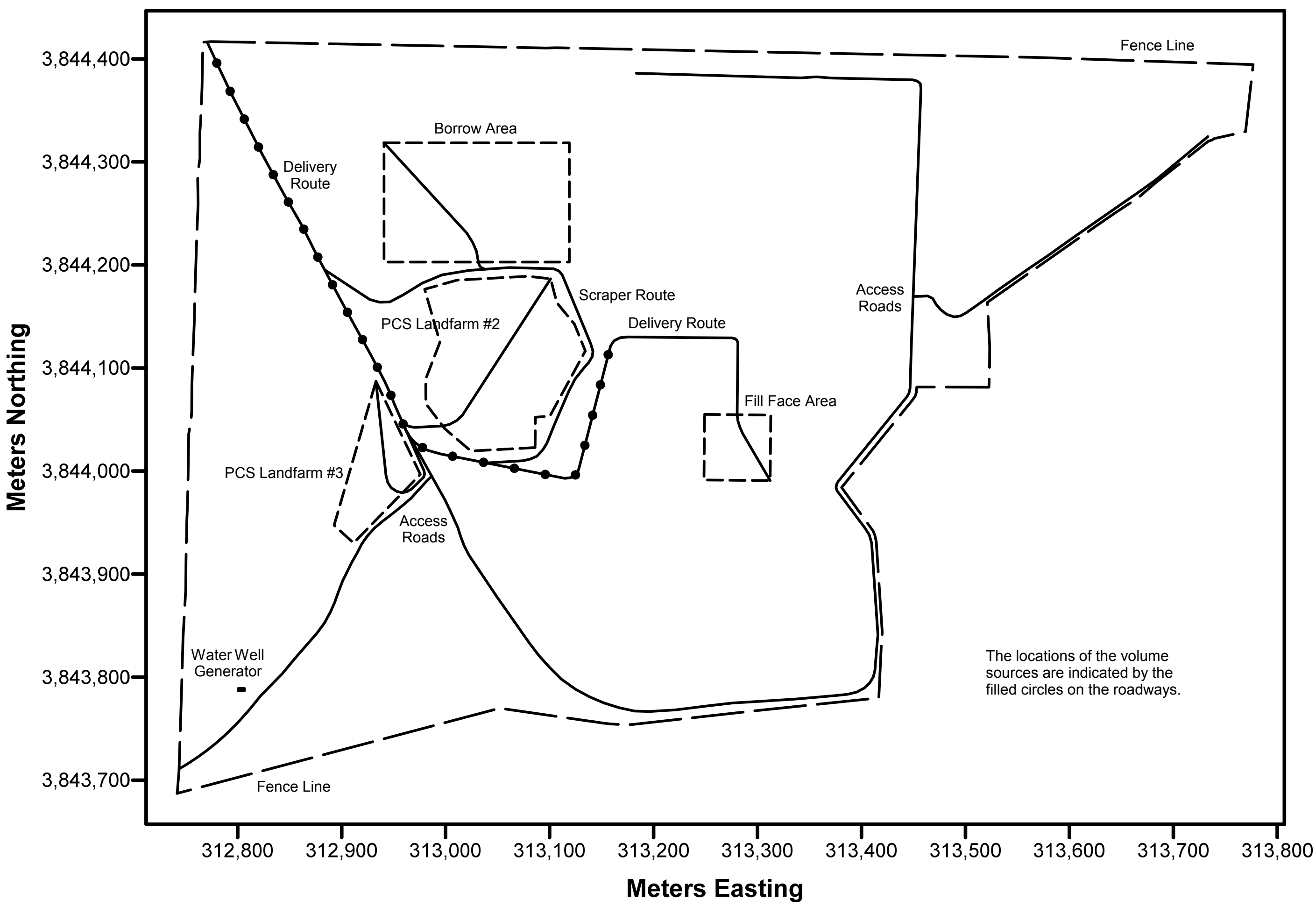


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 2

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Cold Millings MSW Delivery Route Volume Source Locations

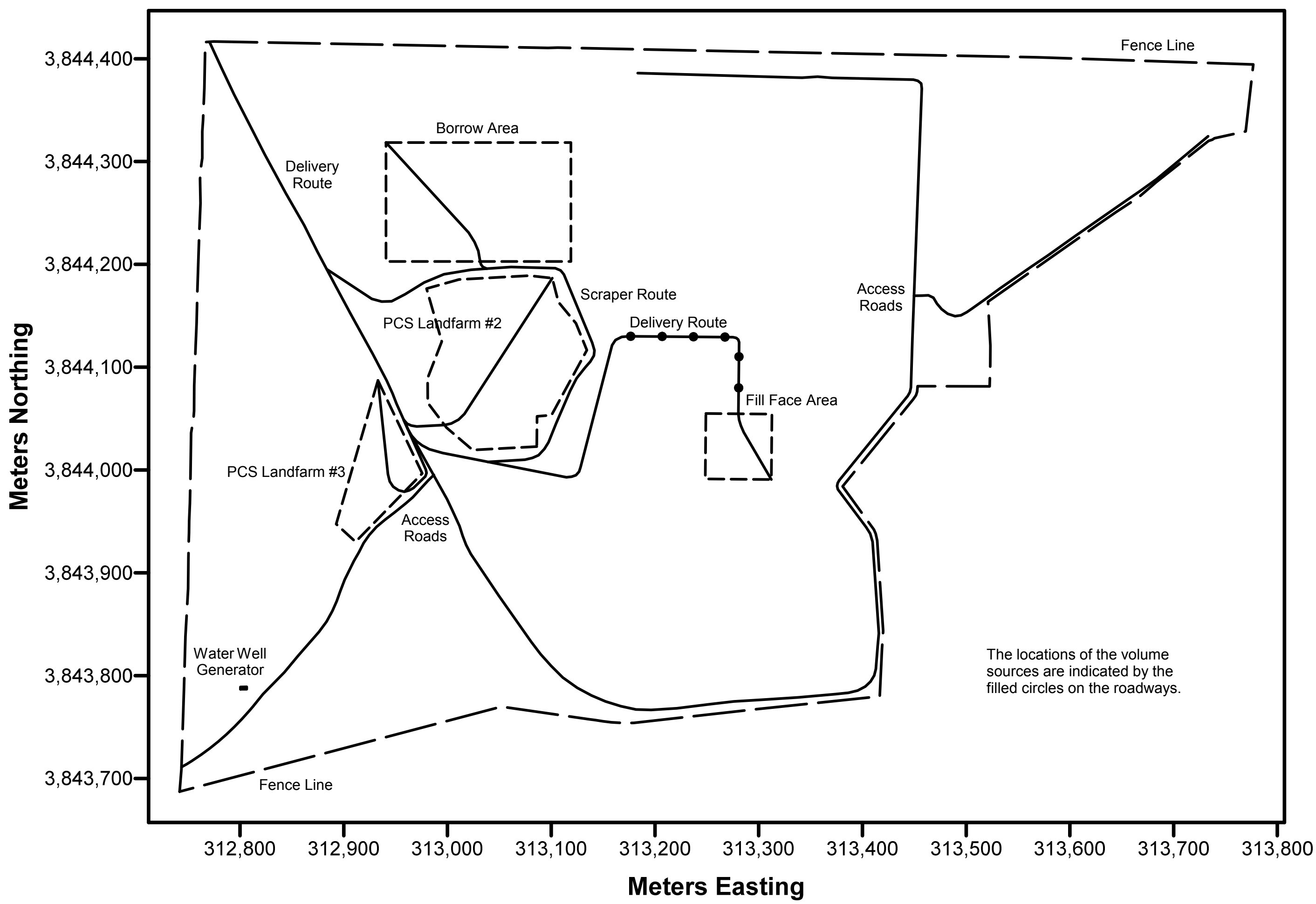


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 3

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Unpaved MSW Delivery Route Volume Source Locations

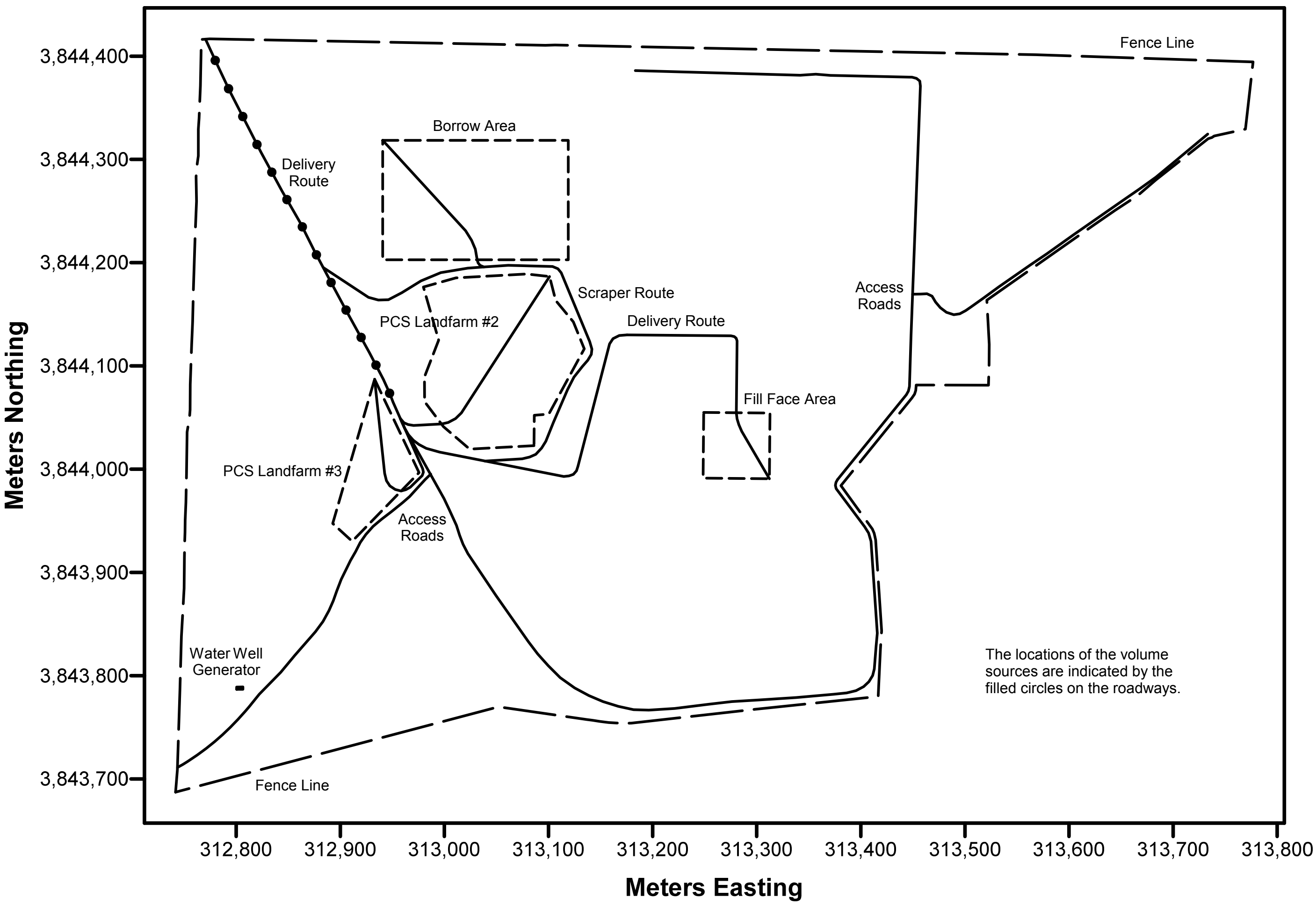


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 4

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Cold Millings PCS Delivery Route Volume Source Locations

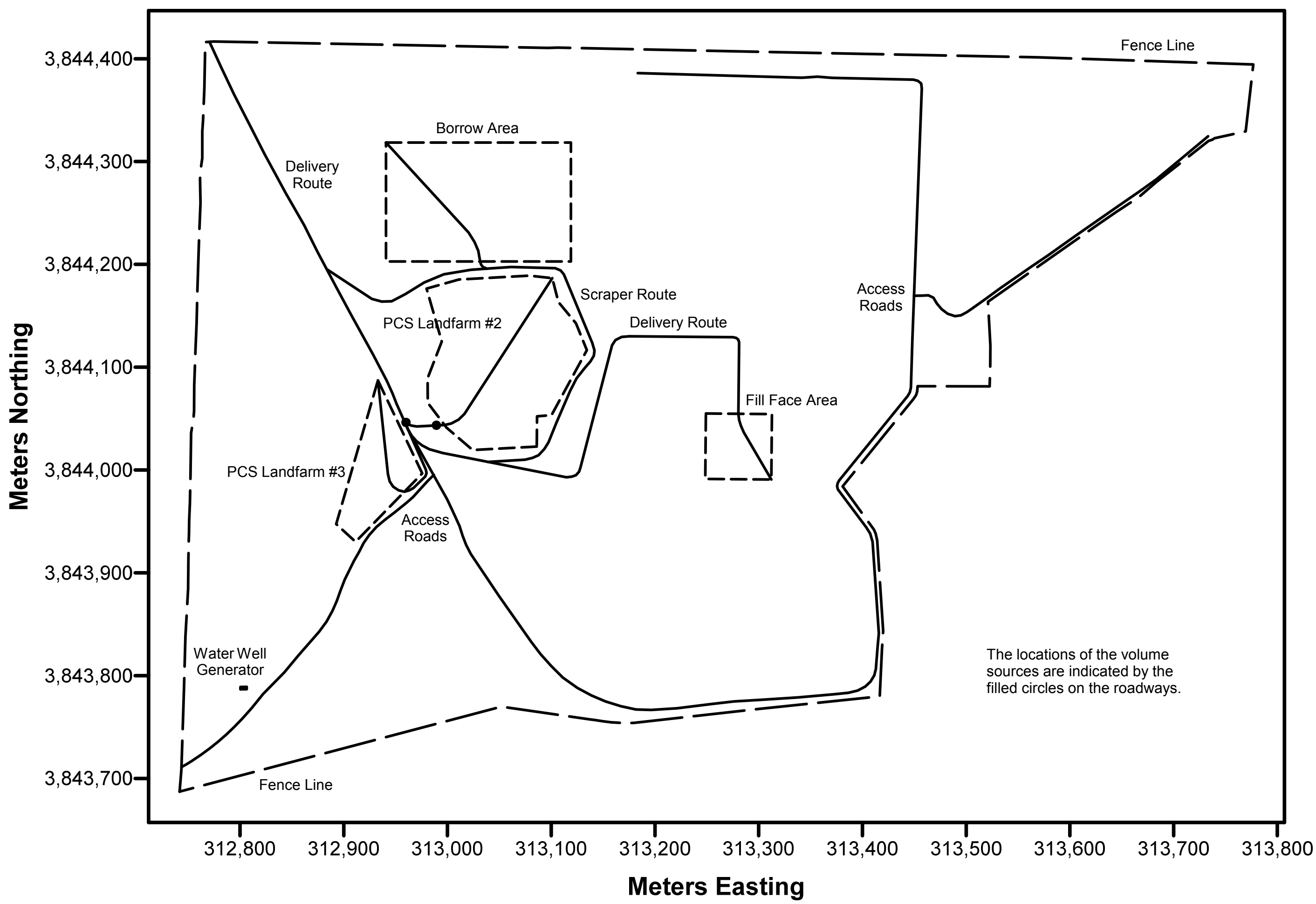


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 5

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Unpaved PCS Landfarm #2 Delivery Route Volume Source Locations

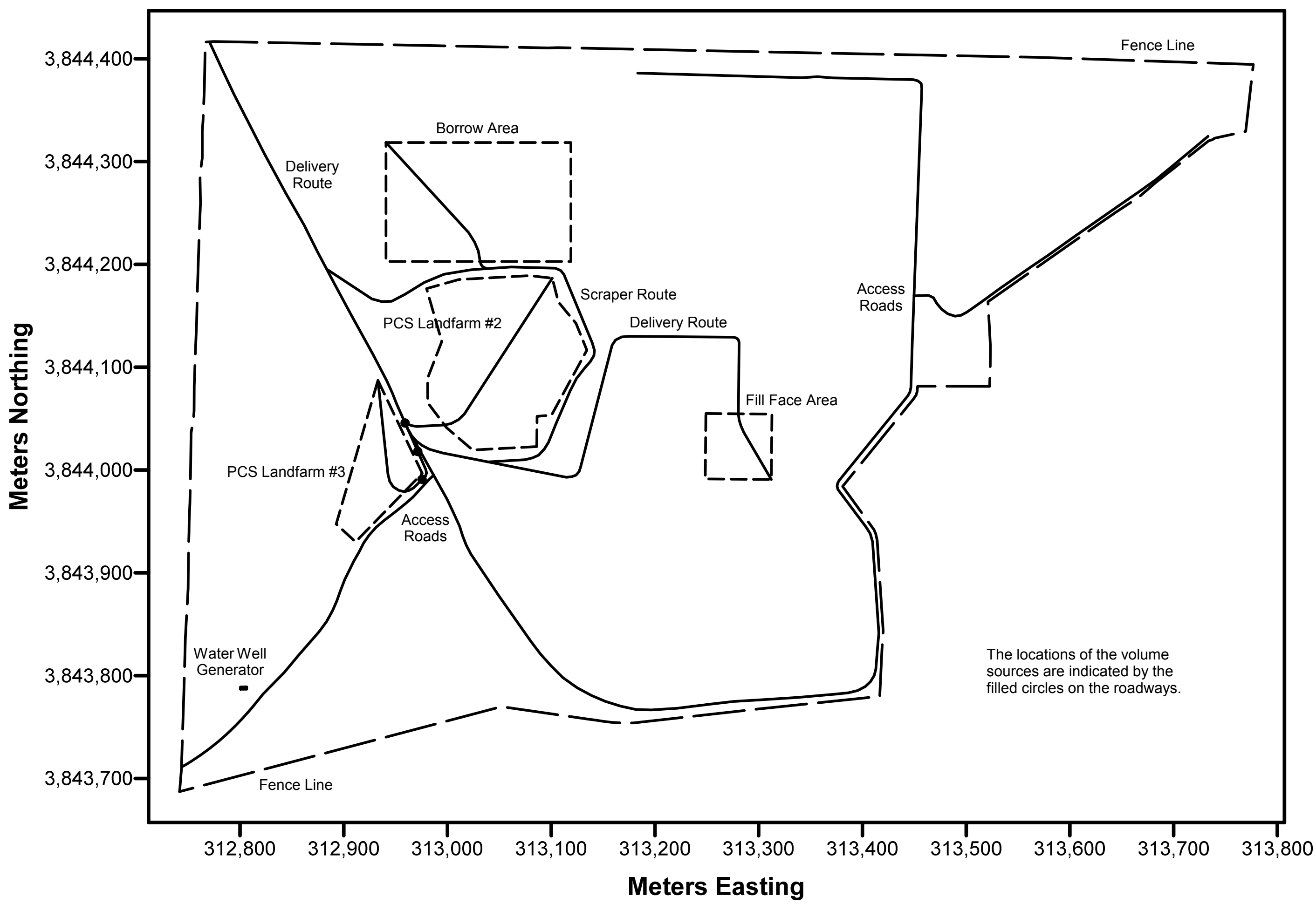


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 6

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Unpaved PCS Landfarm #3 Delivery Route Volume Source Locations

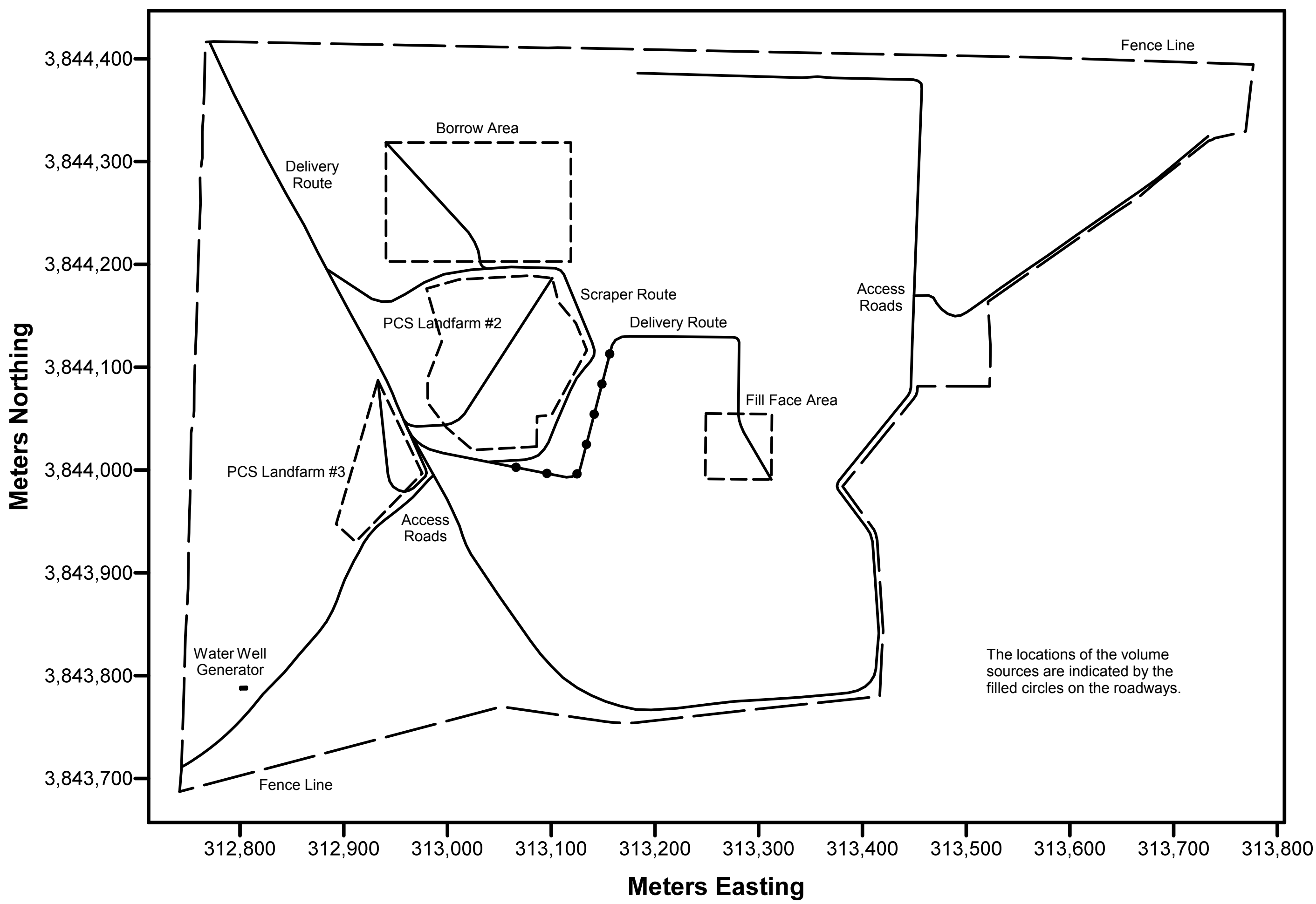


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 7

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Cold Millings Scraper Route Volume Source Locations

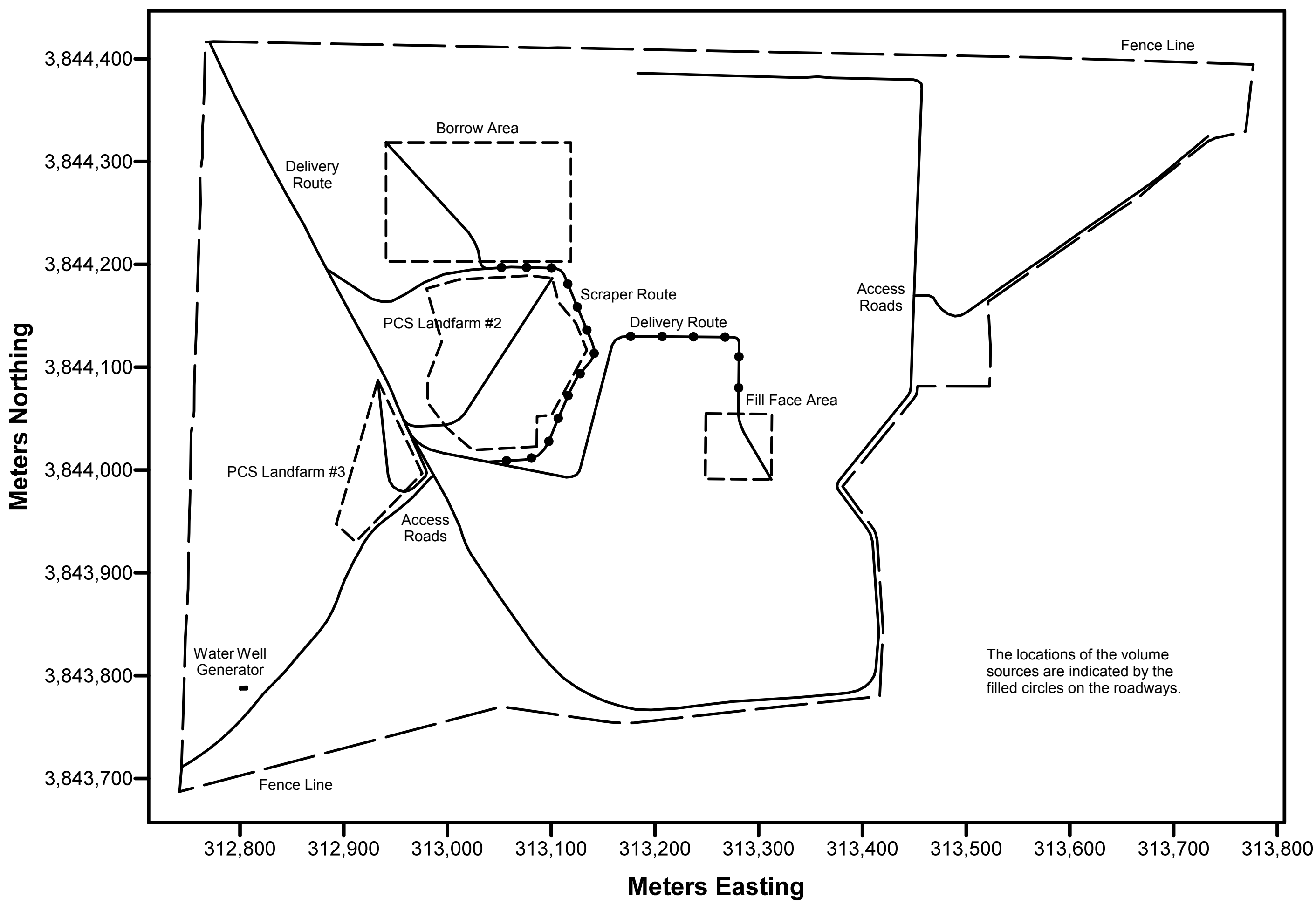


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 8

Cirrus Consulting, LLC

Valencia Regional Landfill and Recycling Facility
Unpaved Scraper Route Volume Source Locations

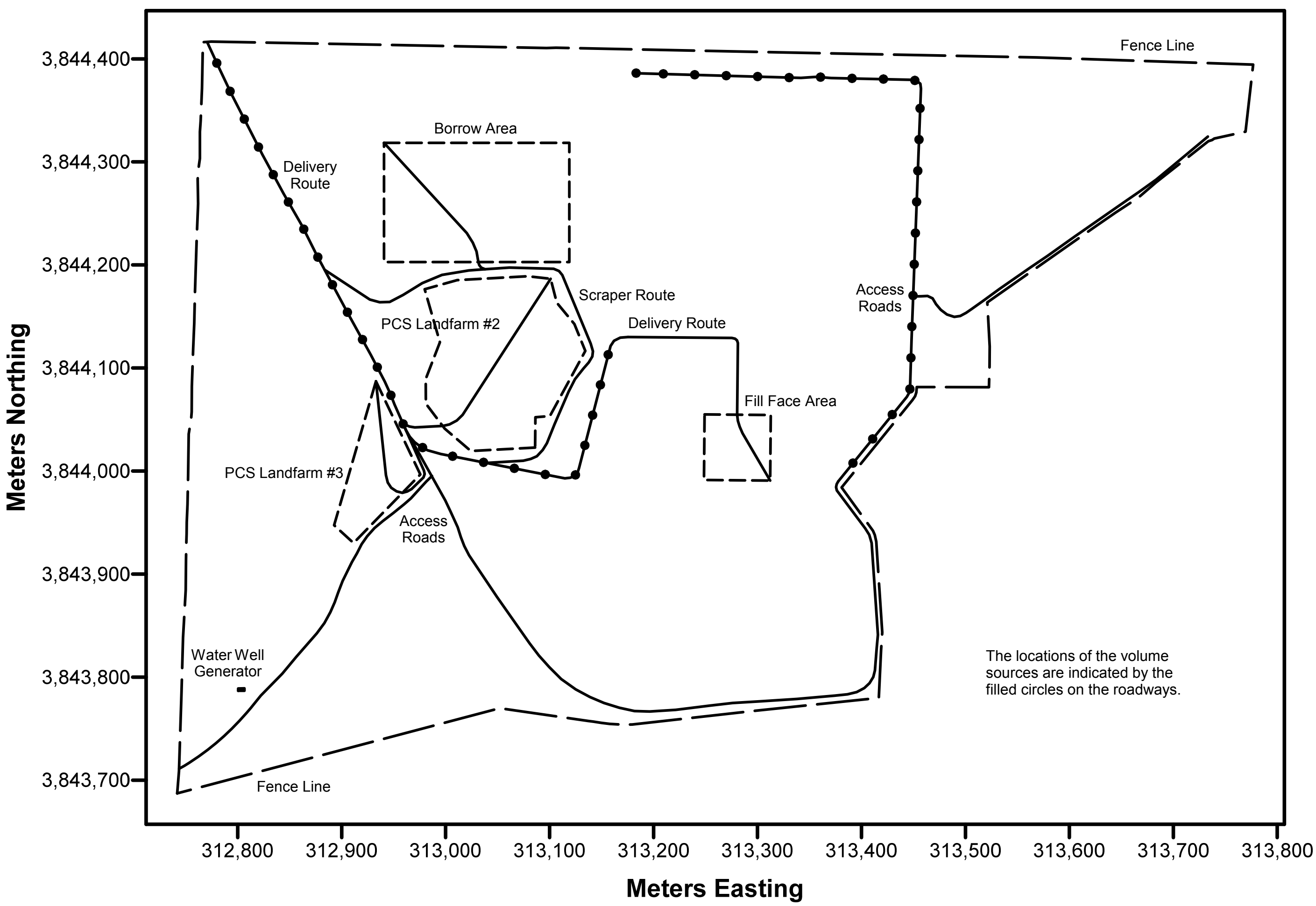


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 9

Cirrus Consulting, LLC

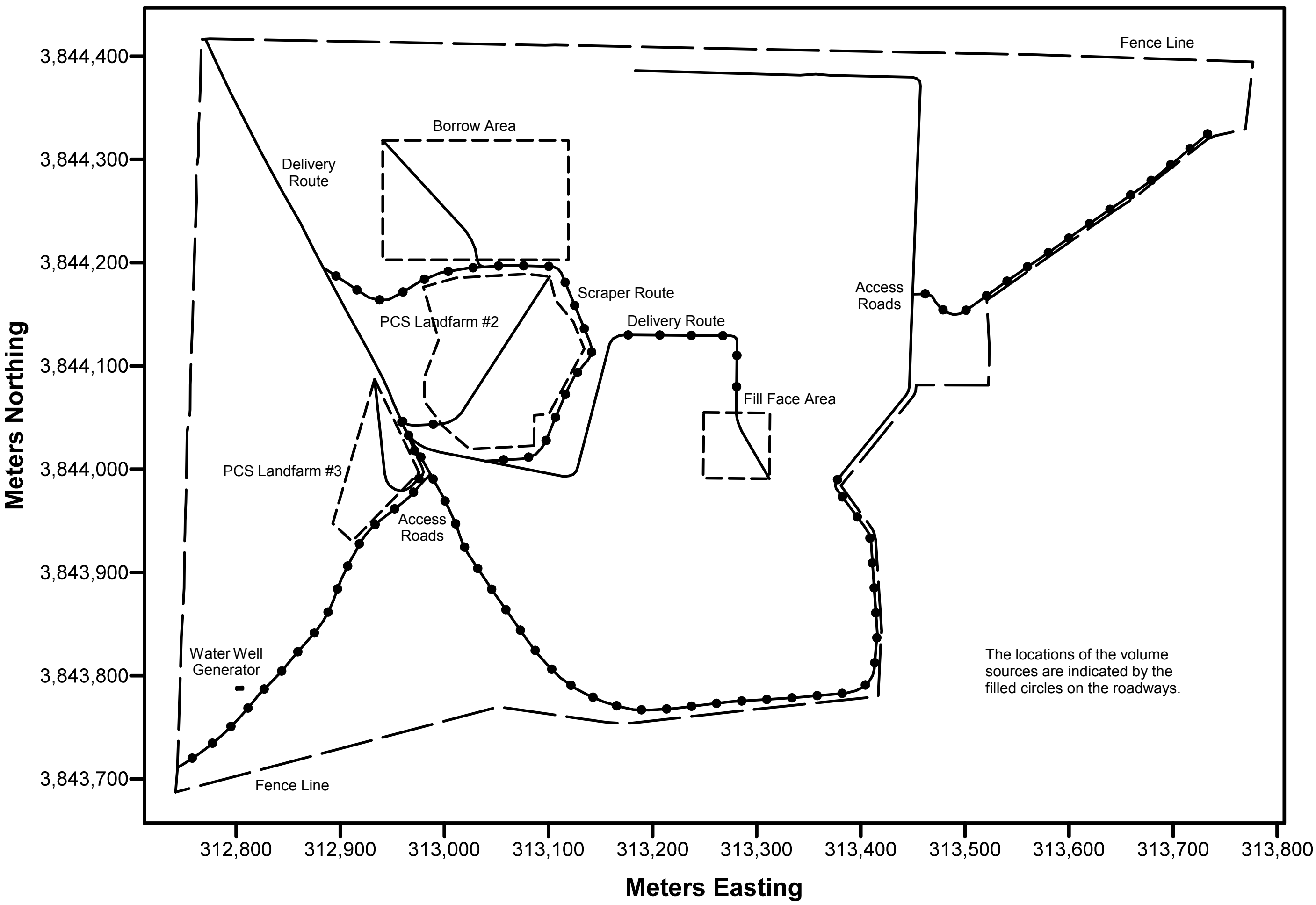
Valencia Regional Landfill and Recycling Facility
Cold Millings Miscellaneous Vehicle Route Volume Source Locations



Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 10

Valencia Regional Landfill and Recycling Facility
Unpaved Miscellaneous Vehicle Route Volume Source Locations

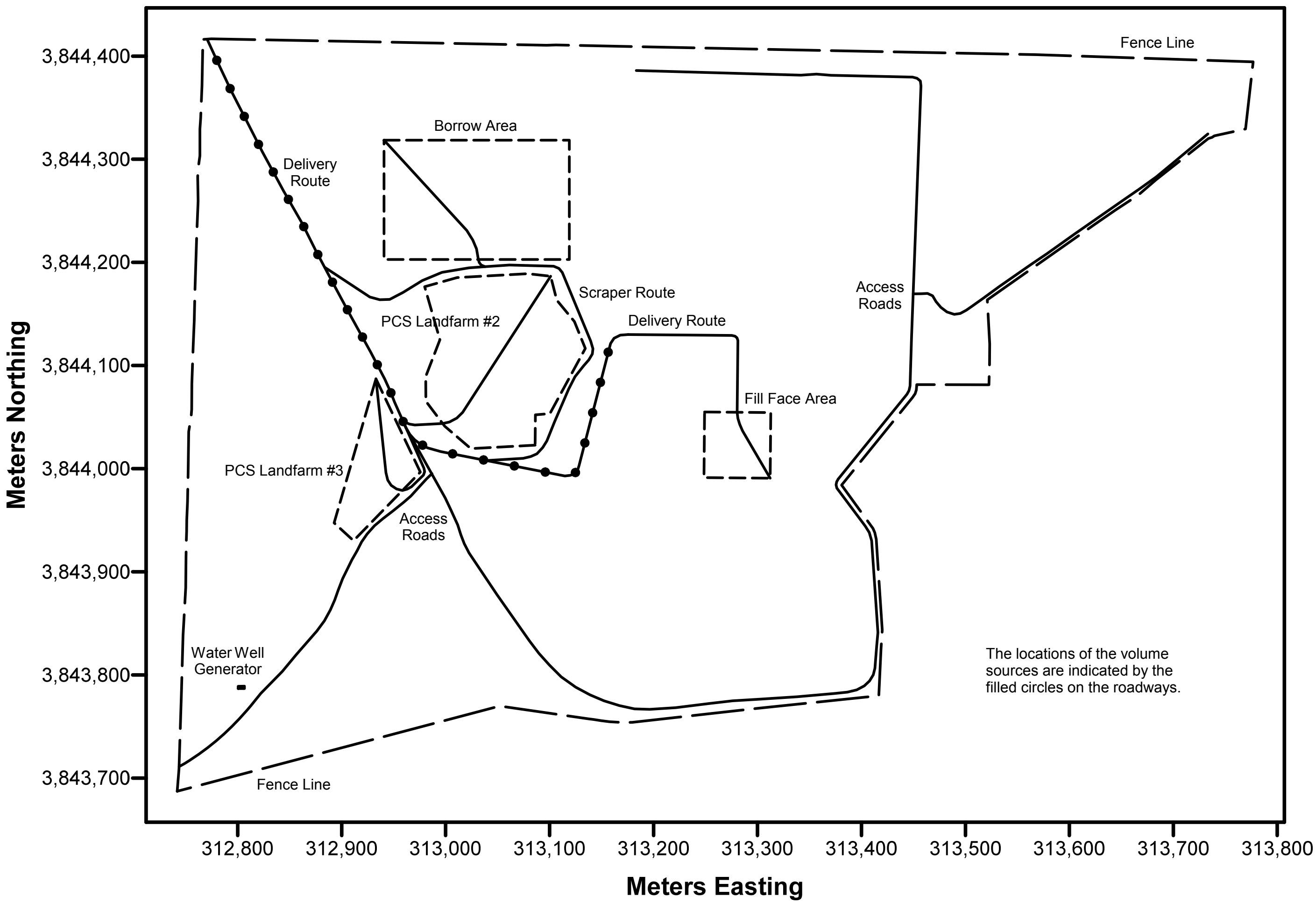


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 11

Cirrus Consulting, LLC

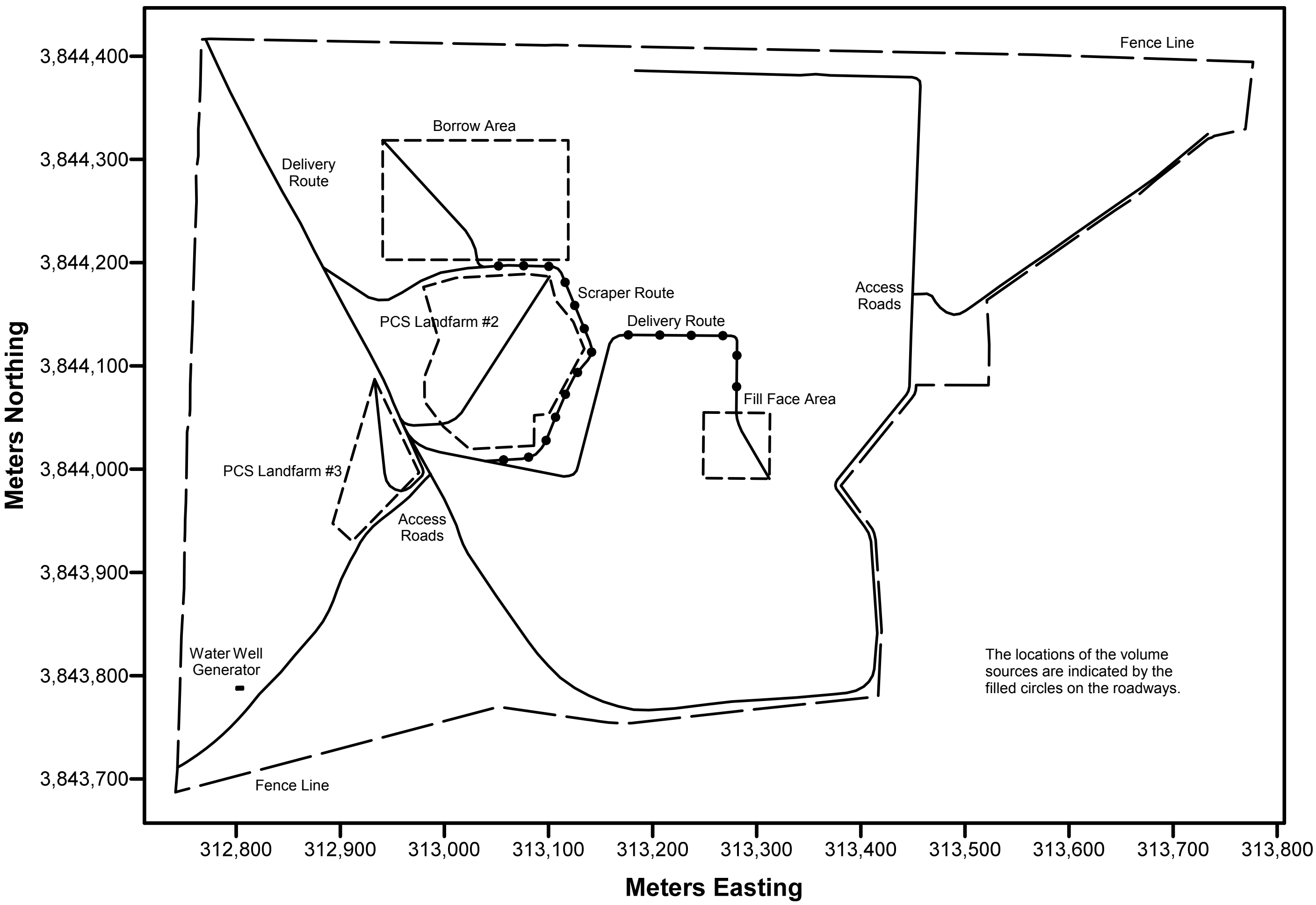
Valencia Regional Landfill and Recycling Facility
Cold Millings Grader Route Volume Source Locations



Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 12

Valencia Regional Landfill and Recycling Facility
Unpaved Grader Route Volume Source Locations

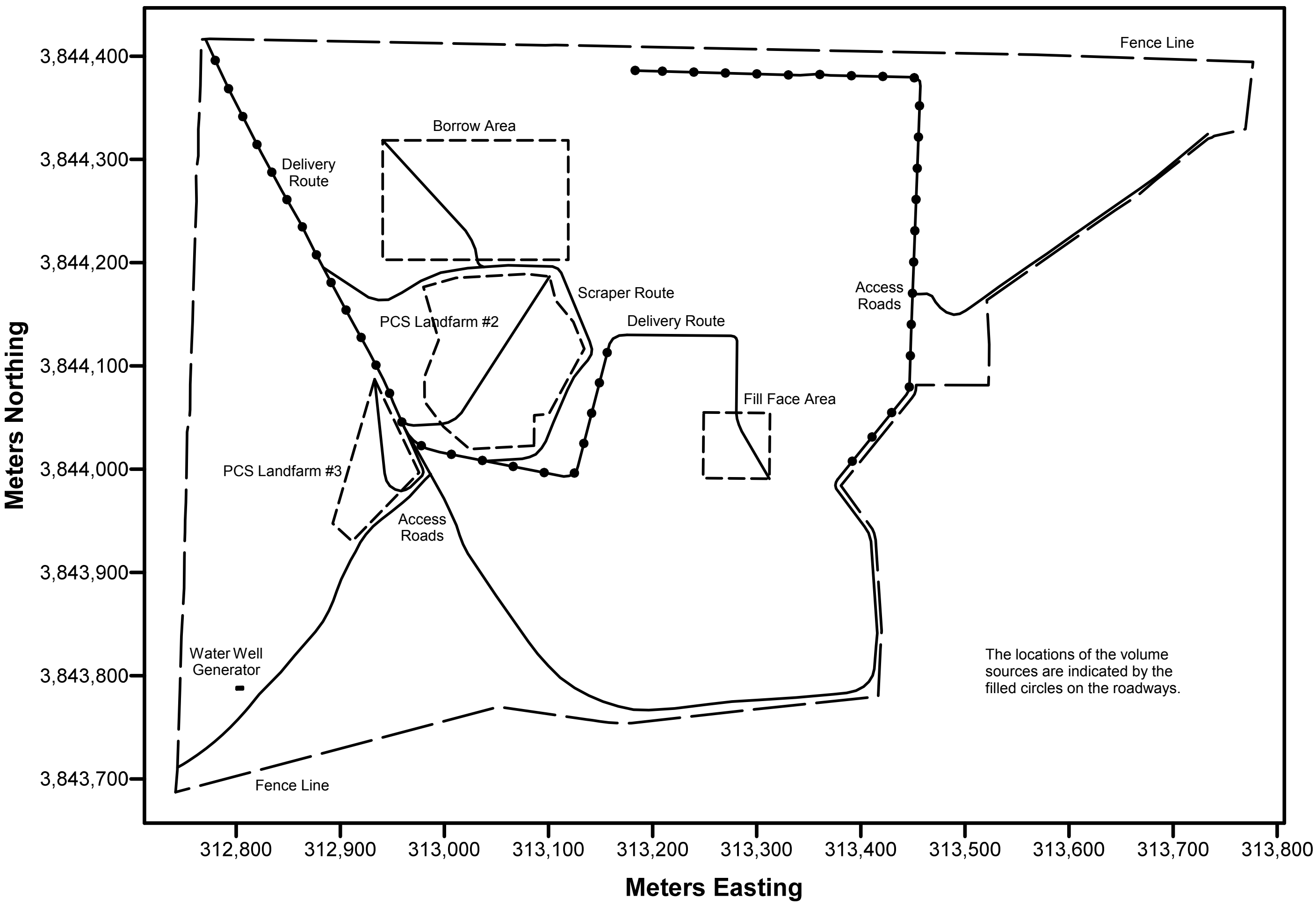


Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 13

Cirrus Consulting, LLC

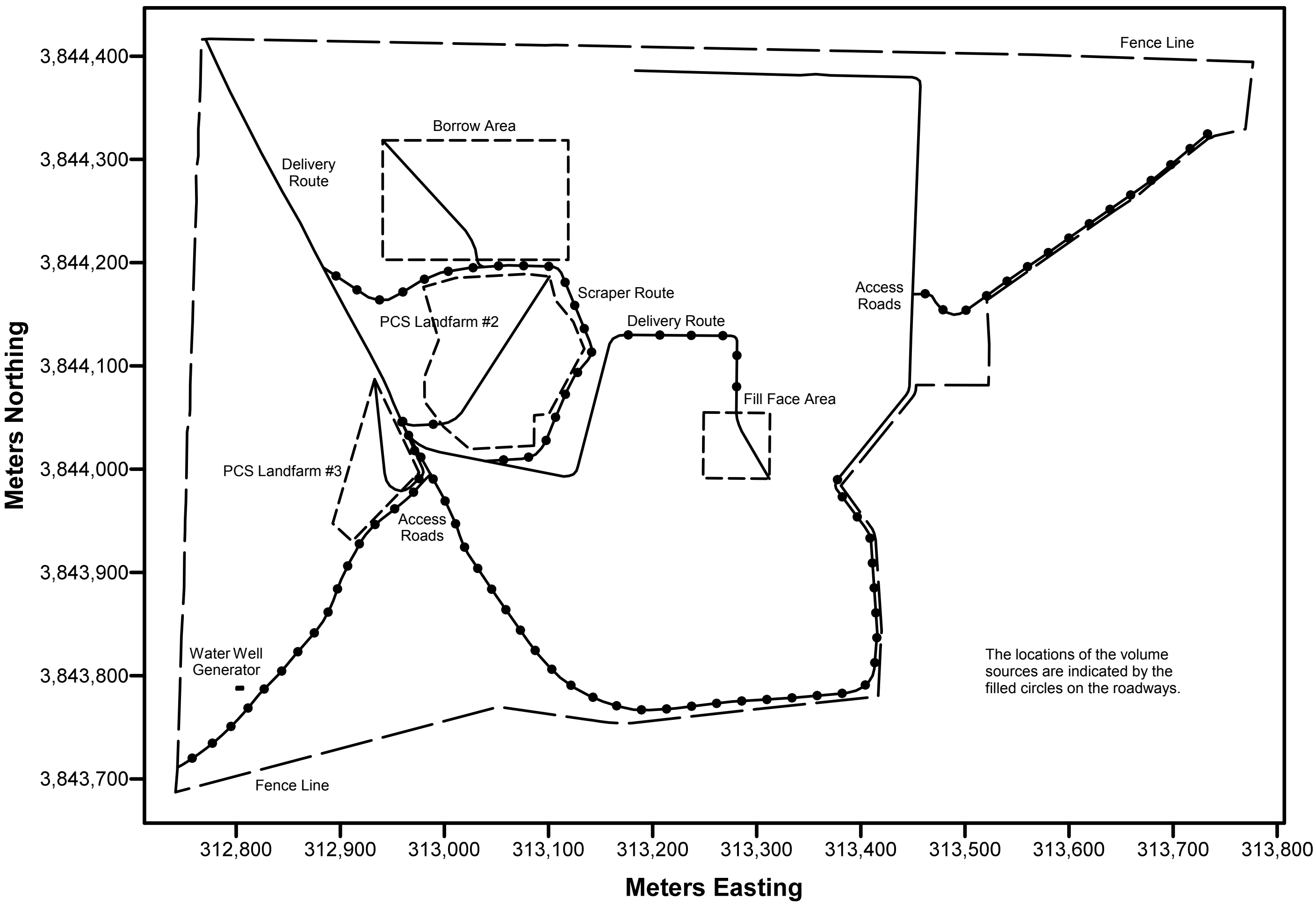
Valencia Regional Landfill and Recycling Facility
Cold Millings Road Wind Erosion Volume Source Locations



Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 14

Valencia Regional Landfill and Recycling Facility
Unpaved Road Wind Erosion Volume Source Locations



Universal Transverse Mercator Coordinates, Zone 13, NAD83

Figure 15

Cirrus Consulting, LLC

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Who Must Use this Attachment:

* Any major source as defined in 20.2.70 NMAC.
* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
* Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See http://www.env.nm.gov/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
* Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this item here.

19.1 - 40 CFR 64, Compliance Assurance Monitoring (CAM) (20.2.70.300.D.10.e NMAC)

Any source subject to 40CFR, Part 64 (Compliance Assurance Monitoring) must submit all the information required by section 64.7 with the operating permit application. The applicant must prepare a separate section of the application package for this purpose; if the information is already listed elsewhere in the application package, make reference to that location. Facilities not subject to Part 64 are invited to submit periodic monitoring protocols with the application to help the AQB to comply with 20.2.70 NMAC. Sources subject to 40 CFR Part 64, must submit a statement indicating your source's compliance status with any enhanced monitoring and compliance certification requirements of the federal Act.

Compliance assurance monitoring (CAM) is not applicable to fugitive dust emission sources where water (or surfactant) is used to control fugitive dust. These types of control measures are considered passive in that they act to prevent pollutants from forming. Passive control measures are not considered control devices under CAM.

19.2 - Compliance Status (20.2.70.300.D.10.a & 10.b NMAC)

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

The Valencia Regional Landfill and Recycling Facility (VRLRF) is committed to complying with applicable regulatory requirements. To achieve that objective, relevant regulatory citations have been compiled, and the Landfill's compliance status has been summarized for known applicable regulations (**Section 13**) at the time of this Application for Permit Renewal. Updates to the regulatory requirements cited in **Section 13**, or future regulatory requirements, will be addressed in a timely manner consistent with the schedules specified by the applicable regulatory requirement.

Consistent with Condition A109 of Title V Operating Permit No. P247L-R1 (issued on November 20, 2014), VRLRF has submitted Semi-Annual Monitoring Reports (SAMRs) to AQB since March 27, 2009. Since the Permit was issued on November 20, 2014, seven SAMRs have been submitted to AQB, with the next SAMR due to be submitted on or before April 15, 2019. On an annual basis, VRLRF continues to submit Annual Compliance Certifications (ACCs) to AQB and EPA Region 6. Since the Permit was issued on November 20, 2014, three ACCs have been submitted to AQB and EPA Region 6, with the next ACC scheduled to be submitted on or before March 31, 2019.

19.3 - Continued Compliance (20.2.70.300.D.10.c NMAC)

Provide a statement that your facility will continue to be in compliance with requirements for which it is in compliance at the time of permit application. This statement must also include a commitment to comply with other applicable requirements as they come into effect during the permit term. This compliance must occur in a timely manner or be consistent with such schedule expressly required by the applicable requirement.

Consistent with historical monitoring and reporting practices, VRLRF hereby commits to remain in compliance with applicable local, state, and federal regulations at the time of this Application for Permit Renewal. Compliance will be maintained for those regulatory elements where compliance is required, and will, in a timely manner or at such schedule expressly required by the applicable requirement, meet additional applicable requirements that become effective during the Permit term.

19.4 - Schedule for Submission of Compliance (20.2.70.300.D.10.d NMAC)

You must provide a proposed schedule for submission to the department of compliance certifications during the permit term. This certification must be submitted annually unless the applicable requirement or the department specifies a more frequent period. A sample form for these certifications will be attached to the permit.

Consistent with Condition A109 of Title V Operating Permit No. P247L-R1, VRLRF has submitted seven Semi-Annual Monitoring Reports (SAMRs) and three Annual Compliance Certifications (ACCs) to AQB and EPA Region 6 since the Permit was issued on November 20, 2014. VRLRF will continue to submit SAMRs and ACCs to AQB and EPA consistent with the existing schedule, as well as any new schedule that may arise from this permitting action. Consistent with the existing schedule, the next SAMR will be submitted to AQB on or before April 15, 2019, and the next ACC will be submitted to AQB and EPA Region 6 on or before March 31, 2019.

19.5 - Stratospheric Ozone and Climate Protection

In addition to completing the four (4) questions below, you must submit a statement indicating your source's compliance status with requirements of Title VI, Section 608 (National Recycling and Emissions Reduction Program) and Section 609 (Servicing of Motor Vehicle Air Conditioners).

---

1. Does your facility have any air conditioners or refrigeration equipment that uses CFCs, HCFCs or other ozone-depleting substances? ☑ **Yes** **No**

The Valencia Landfill has air conditioning units in the site buildings and heavy equipment are also equipped with on-board air conditions, for employee comfort. Additionally, there are several refrigeration units for keeping ice and chilling of employee meals. These units are outlined below.

<u>Site Buildings:</u>

- Scalehouse:
  - Air conditioner unit – Goodman model GSC130301AA, R22 refrigerant, 123 oz. charge
  - Standard size refrigerator - Americana model A3316AB5ARWW, R134a refrigerant, 4.12 oz. charge
  - Small chest freezer – Idylis model IF50CM23NW, R600a 1.76 oz. charge.
- Employee Breakroom:
  - Window-mounted air conditioner – Frigidaire model FRA106CV1, R410a refrigerant, 15.17 oz. charge

<u>Heavy Equipment:</u>

- All heavy equipment have air conditioner units designed for mobile equipment utilizing R134a refrigerant.

2. Does any air conditioner(s) or any piece(s) of refrigeration equipment contain a refrigeration charge greater than 50 lbs? **Yes** ☑ **No**
(If the answer is yes, describe the type of equipment and how many units are at the facility.)

3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)? **Yes** ☑ **No**

The Valencia Regional Landfill and Recycling Facility (VRLRF) does not service, repair, or dispose of motor vehicle air conditioners (MVACs). MVACs for equipment and company-owned pick-up trucks used at the Landfill are serviced on-site by a third-party contractor. VRLRF does not accept for disposal items that were designed to harbor refrigerant, regardless of whether the refrigerant has been removed.

4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.)

VRLRF is not subject to the requirements of 40 CFR Part 82, Subparts A through G.

19.6 - Compliance Plan and Schedule

Applications for sources, which are not in compliance with all applicable requirements at the time the permit application is submitted to the department, must include a proposed compliance plan as part of the permit application package. This plan shall include the information requested below:

A. Description of Compliance Status: (20.2.70.300.D.11.a NMAC)
A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

B. Compliance plan: (20.2.70.300.D.11.B NMAC)
A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

C. Compliance schedule: (20.2.70.300D.11.c NMAC)
A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

D. Schedule of Certified Progress Reports: (20.2.70.300.D.11.d NMAC)
A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

E. Acid Rain Sources: (20.2.70.300.D.11.e NMAC)
If your source is an acid rain source as defined by EPA, the following applies to you. For the portion of your acid rain source subject to the acid rain provisions of title IV of the federal Act, the compliance plan must also include any additional requirements under the acid rain provisions of title IV of the federal Act. Some requirements of title IV regarding the schedule and methods the source will use to achieve compliance with the acid rain emissions limitations may supersede the requirements of title V and 20.2.70 NMAC. You will need to consult with the Air Quality Bureau permitting staff concerning how to properly meet this requirement.

NOTE: The Acid Rain program has additional forms. See http://www.env.nm.gov/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

The Valencia Regional Landfill and Recycling Facility believes it is in compliance with applicable regulatory requirements at the time this Application for Permit Renewal is submitted to the Bureau. Additional compliance requirements, if any, which may be imposed by virtue of new regulations, will be addressed in accordance with applicable regulatory schedules.

19.7 - 112(r) Risk Management Plan (RMP)

Any major sources subject to section 112(r) of the Clean Air Act must list all substances that cause the source to be subject to section 112(r) in the application. The permittee must state when the RMP was submitted to and approved by EPA.

The Valencia Regional Landfill and Recycling Facility does not store or use any of the chemicals listed in Section 112(r) in or exceeding the threshold quantities specified in this Section.

19.8 - Distance to Other States, Bernalillo, Indian Tribes and Pueblos

Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B NMAC)?

(If the answer is yes, state which apply and provide the distances.)

VRLRF is not located fewer than 50 miles from other states. The Landfill is located 16.3 km (10 miles) south of Bernalillo County. Eight Indian reservations and/or pueblos are located within 80 km (50 miles) of VRLRF:

- Alamo - 45 km (28 miles) southwest
- Acoma Pueblo – 52 km (32 miles) west
- To'hajilee (Cañoncito) Pueblo – 40 km (25 miles) north
- Sandia Pueblo – 72.4 km (45 miles) north
- Santa Ana Pueblo – 78.9 km (49 miles) north
- Zia Pueblo – 77.2 km (48 miles) north
- Laguna Pueblo – 25.8 km (16 miles) north
- Isleta Pueblo – 11.3 km (7 miles) east

The nearest Class I area, Bosque Del Apache National Wildlife Refuge, is situated 97.10 km (60.3 miles) south of the facility.

.

19.9 - Responsible Official

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC:

Pursuant to 20.2.70.7.AE NMAC, the responsible official at VRLRF is Mr. Damon De Frates, Director, Post Collections Operations (Waste Management of New Mexico, Inc.). Mr. John W. Kolopanis, AZ/NM Area Senior Environmental Protection Manager (Waste Management of New Mexico, Inc.), is the alternate responsible official for VRLRF.

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

No other relevant information is necessary for this Application for Renewal.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

Landfill Applications are not required to complete Sections 1-C Input Capacity and Production Rate, 1-E Operating Schedule, 17 Compliance Test History, and 18 Streamline Applications. Section 12 – PSD Applicability is required only for Landfills with Gas Collection and Control Systems and/or landfills with other non-fugitive stationary sources of air emissions such as engines, turbines, boilers, heaters. All other Sections of the Universal Application Form are required.

EPA Background Information for MSW Landfill Air Quality Regulations:
https://www3.epa.gov/airtoxics/landfill/landflpg.html

NM Solid Waste Bureau Website: https://www.env.nm.gov/swb/

21-A: Municipal Solid Waste Landfill Information

1	How long will the landfill be operated? **Expected longevity is approximately 150 years (2012 Estimates)**			
2	Maximum operational hours per year: **3,926 hrs**			
3	Landfill Operating hours (open to the public) M-F: **7am-5pm**		Sat. **7am-4pm**	Sun. **Closed**
4	To determine to what NSPS and emissions guidelines the landfill is subject, what is the date that the landfill was constructed, modified, or reconstructed as defined at 40 CFR 60, Subparts A, WWW, XXX, Cc, and Cf. **1988**			
5	Landfill Design Capacity. Enter all 3	Tons: **58,242,200**	Megagrams (Mg): **52,851,400**	Cubic meters: **68,087,700**
6	Landfill NMOC Emission Rate (NSPS XXX)	☐ Less than 34 Mg/year using Tiers 1 to 3	☐ Equal to or Greater than 34 Mg/year using Tiers 1 to 3	
	Landfill NMOC Emission Rate (NSPS XXX)	☐ Less than 500 ppm using Tier 4	☐ Equal to or Greater than 500 ppm using Tier 4	
	Landfill NMOC Emission Rate (NSPS WWW)	☒ Less than 50 Mg/yr	☐ Equal to or Greater than 50 Mg/yr	
7	Annual Waste Acceptance Rate: **67,862 tons/year (average based on 2011-2017 VRLRF data)**			
8	Is Petroleum Contaminated Soil Accepted? **Yes**		If so, what is the annual acceptance rate? **Annual acceptance rate of PCS is limited by BTEX concentration and calculated HAP emissions (Section 6.4).**	
9	NM Solid Waste Bureau (SWB) Permit No.: **SWM-013229/SWM-013230(SP)**		SWB Permit Date: **November 20, 2006**	
10	Describe the NM Solid Waste Bureau Permit, Status, and Type of waste deposited at the landfill. **The Valencia Regional Landfill and Recycling Facility (VRLRF) has been in operation and permitted since 1988. VRLRF disposes of municipal solid waste (MSW), construction and demolition (C&D) debris, chemical spill residue, petroleum contaminated soils (PCS), sludge, packing house and killing plant offal, industrial solid waste (ISW), treated formerly characteristic hazardous (TFCH) waste, and oil conservation division (OCD) waste.**			
11	Describe briefly any process(es) or any other operations conducted at the landfill. **VRLRF is authorized to dispose of municipal solid wastes and specific NMED-defined special wastes. Waste types approved for acceptance at the VRLRF are detailed in the April 2004 Application For Permit to NMED SWB (and subsequent updates). Special wastes accepted for treatment or disposal include chemical spill residue, petroleum contaminated soil, sludge, offal, industrial solid wastes, treated**			

	formerly characteristic hazardous waste, and oil conservation division (OCD) waste. The Landfill maintains one 8,000 gallon diesel tank, whose fuel is used exclusively for on-site equipment. VRLRF does not engage in the following processes/activities nor does it operate the following equipment: • **Transfer stations** • **Composting facility** • **Paint booths** • **Chipper or shredder** • **Boilers**

21-B: NMOC Emissions Determined Pursuant to 40 CFR 60, Subparts WWW or XXX

	Enter the regulatory citation of all Tier 1, 2, 3, and/or 4 procedures used to determine NMOC emission rates and the date(s) that each Tier procedure was conducted. In Section 7 of the application, include the input data and results.
1	Tier 1 equations (e.g. LandGEM):
2	Tier 2 Sampling: **5.74 tons/year (5.20 Mg/year) (LandGEM estimate of 2025 NMOC generation from projected waste receipts through 2024)**
3	Tier 3 Rate Constant:
4	Tier 4 Surface Emissions Monitoring:
5	Attach all Tier Procedure calculations, procedures, and results used to determine the Gas Collection and Control System (GCCS) requirements.

Facilities that have a landfill GCCS must complete Section 21-C.

21-C: Landfill Gas Collection and Control System (GCCS) Design Plan

1	Was the GCCS design certified by a Professional Engineer?
2	Attach a copy of the GCCS Design Plan and enter the submittal date of the Plan pursuant to the deadlines in either NSPS WWW or NSPS XXX. The NMOC applicability threshold requiring a GCCS plan is 50Mg/yr for NSPS WWW and 34 Mg/yr or 500 ppm for NSPS XXX.
3	Is/Was the GCCS planned to be operational within 30 months of reporting NMOC emission rates equal to or greater than 50 Mg/yr, 34 Mg/yr, or 500 ppm pursuant to the deadlines specified in NSPS WWW or NSPS XXX?
4	Does the GCCS comply with the design and operational requirements found at 60.752, 60.753, and 69.759 (NSPS WWW) or at 60.762, 60.763, and 60.769 (NSPS XXX)?
5	Enter the control device(s) to which the landfill gas will be/is routed such as an open flare, enclosed combustion device, boiler, process heater, or other.
6	Do the control device(s) meet the operational requirements at 60.752 and 60.756 (NSPS WWW) or 60.762, 60.763, 60.766 (NSPS XXX)?

Conservative projected annual waste receipt values over the current permit period produces projected NMOC emissions from the landfill of 5.20 Mg/yr (5.74 tons/yr) in 2025. NMOC emissions (as determined through application of the LandGEM model) for 2018 (from waste deposited through 2017) are calculated to be approximately 4.17 Mg/yr (4.60 tons/yr) (see **Attachment 6.7**). In the event that future NMOC emissions rate calculations and subsequent LandGEM simulations indicate NMOC emissions to be greater than the regulatory threshold of 50 Mg/yr, a landfill gas collection and control system (GCCS) will be designed and installed in accordance with the requirements of 40 CFR 60 Subpart WWW.

Section 22: Certification

Company Name: Waste Management of New Mexico, Inc

I, Damon De Frates, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 15th day of November, 2018, upon my oath or affirmation, before a notary of the State of

Arizona.

*Signature Date 11/15/18

Damon DeFrates

Printed Name

Director of Operations

Title

Scribed and sworn before me on this 15th day of November, 2018.

My authorization as a notary of the State of Arizona expires on the

3rd day of August, 2020.

Notary's Signature Date 11-15-2018

Kathleen T. Newcomb

Notary's Printed Name

KATHLEEN T NEWCOMB
Notary Public - Arizona
Maricopa County
My Comm. Expires Aug 3, 2020

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.