

**NEW MEXICO 20.2.70 NMAC APPLICATION
TO RENEW PERMIT P037-R2**

PUMP MESA CENTRAL DELIVERY POINT

Submitted By:



**WILLIAMS FOUR CORNERS LLC
188 County Road 4900
Bloomfield, New Mexico 87413**

Prepared By:

**CIRRUS CONSULTING, LLC
951 Diestel Road
Salt Lake City, Utah 84105
(801) 484-4412**

December 2014

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Introduction

The Williams Four Corners LLC (WFC) Pump Mesa Central Delivery Point (CDP) currently operates under a construction permit, 0867-M5, dated April 9, 2010 and a Title V operating permit, P037-R2, dated December 20, 2010.

The station is currently permitted to operate the following equipment/sources:

- Fourteen Waukesha L7042GL natural gas-fired compressor engines (Units 1-14);
- One P&A 10 million standard cubic feet per day (MMSCFD) triethylene glycol (TEG) dehydrator (Unit 15);
- Four Enertek 20 MMSCFD TEG dehydrators (Units 16-19);
- One Enertek 10 MMSCFD TEG dehydrator (Unit 20);
- Startup, shutdown and maintenance emissions (SSM) emissions (Units 1a-14a); and
- Malfunction emissions (Unit M1).

The station is also equipped with miscellaneous liquid storage tanks.

This application is being submitted to renew the Title V operating permit. It is also being submitted to make the following modifications. Note that a construction permit application is being submitted to make these same changes.

- Update dehydrator still vent (Units 15a-20a) emissions to address the evolving gas composition;
- Update SSM emissions from the compressors and piping associated with the station (Units 1a-14a) to address the evolving gas composition;
- Add sulfur dioxide (SO₂) and particulate emissions from existing sources (Units 1-14 & 15b-20b);
- Add three tank heaters (Units 21-23). These are exempt units with combined emissions less than 0.5 tons per year per pollutant; and
- Update the miscellaneous liquid storage tank listing (exempt sources).

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.nmenv.state.nm.us/aqb		For Department use only: AIRS No.:
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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 being 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/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 NPR (no fee)
 \$500 NSR Permit Filing Fee enclosed **OR** The full permit fee associated with 10 fee points (required w/ streamline applications).
 Check No.: **XXXX** in the amount of \$500.00 (Fee not required for Title V) This facility meets the applicable requirements to register as a Small Business and a check for 50% of the normal fee is enclosed (only applicable **provided** that NMED has a Small Business Certification Form from your company on file found at: http://www.nmenv.state.nm.us/aqb/permit/app_form.html).

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

Synthetic Minor Source Information: A source is synthetic minor if its uncontrolled emissions are above major source applicability thresholds, but the facility is minor because it has federally enforceable requirements (federal requirements or permit conditions) that limit controlled emissions below major source thresholds. Facilities can be synthetic minor for either Title V (20.2.70 NMAC) or PSD (20.2.74 NMAC) or both. The Department tracks synthetic minor sources that are within 20% of either TV or PSD major source thresholds, referring to these as Synthetic Minor 80 Sources (abbreviated SM80). Please check all that apply:

Prior to this permitting action this source is a TV major source, a TV synthetic minor source, a TV SM80 source.

Prior to this permitting action this source is a PSD major source, a PSD synthetic minor source, a PSD SM80 source.

This permitting action results in a TV synthetic minor source and/or PSD synthetic minor source.

Section 1 – Facility Information

Section 1-A: Company Information		AI # (if known): 1273	Updating Permit/NOI #: P037-R2
1	Facility Name: Pump Mesa Central Delivery Point	Plant primary SIC Code (4 digits): 1389	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): See directions in Section 1-D4		
2	Plant Operator Company Name: Williams Four Corners LLC	Phone/Fax: (505) 632-4600 / (505) 632-4782	
a	Plant Operator Address: 188 County Road 4900, Bloomfield, New Mexico 87413		
b	Plant Operator's New Mexico Corporate ID or Tax ID: Tax ID 20-4283559		
3	Plant Owner(s) name(s): Williams Four Corners LLC	Phone/Fax: (505) 632-4600 / (505) 632-4782	

a	Plant Owner(s) Mailing Address(s): 188 County Road 4900, Bloomfield, New Mexico 87413	
4	Bill To (Company): Williams Four Corners LLC	Phone/Fax: (505) 632-4600 / (505) 632-4782
a	Mailing Address: 188 County Road 4900, Bloomfield, New Mexico 87413	E-mail: N/A
5	<input type="checkbox"/> Preparer: <input checked="" type="checkbox"/> Consultant: Bobby Myers, Cirrus Consulting, LLC	Phone/Fax: (801) 484-4412 / (801) 484-4192
a	Mailing Address: 951 South Diestel Road, Salt Lake City, Utah 84105	E-mail: bmyers@cirrusllc.com
6	Plant Operator Contact: Monica Sandoval	Phone/Fax: (505) 632-4625 / (505) 632-4782
a	Address: 188 County Road 4900, Bloomfield, New Mexico 87413	E-mail: Monica.Sandoval@Williams.com
7	Air Permit Contact: Monica Sandoval	Title: Environmental Specialist
a	E-mail: Monica.Sandoval@Williams.com	Phone/Fax: (505) 632-4625 / (505) 632-4782
b	Mailing Address: 188 County Road 4900, Bloomfield, New Mexico 87413	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: P037-R2
7	Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NPR No. is: N/A
8	Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NOI No. is: N/A
9	Does this facility have a construction permit (20.2.72 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: 0867-M5
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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: 7.55 MMCF	Daily: 181.2 MMCF	Annually: 66,153 MMCF
b	Proposed	Hourly: 7.55 MMCF	Daily: 181.2 MMCF	Annually: 66,153 MMCF
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

1	Section: 14	Range: 8W	Township: 31N	County: San Juan	Elevation (ft): 6,590
2	UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13			Datum: <input type="checkbox"/> NAD 27 <input checked="" type="checkbox"/> NAD 83 <input type="checkbox"/> WGS 84	
a	UTM E (in meters, to nearest 10 meters): 264,385			UTM N (in meters, to nearest 10 meters): 4,086,215	

b	AND Latitude (deg., min., sec.): 36° 53' 33"	Longitude (deg., min., sec.): -107° 38' 39"
3	Name and zip code of nearest New Mexico town: Aztec, New Mexico 87410	
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Aztec drive north on Hwy 550 to Hwy 173 (approximately 2 miles), turn right and drive 18 miles to Hwy 511 (Sportsman), turn left (approximately 0.2 miles) and drive 12.8 miles (Crossing Dam) to mile marker 20.8, site is on the right.	
5	The facility is approximately 21 miles northeast of Aztec, New Mexico .	
6	Status of land at facility (check one): <input checked="" type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input type="checkbox"/> Other (specify)	
7	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: No municipalities, Southern Ute Indian Reservation, Rio Arriba County New Mexico, San Juan County New Mexico	
8	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.nmenv.state.nm.us/aqb/modeling/classIareas.html)? <input type="checkbox"/> Yes <input type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: N/A	
9	Name nearest Class I area: Weminuche Wilderness Area	
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 58.46 km	
11	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: ~4,000 m	
12	Method(s) used to delineate the Restricted Area: Fence "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.	
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.	
14	Will this facility operate in conjunction with other air regulated parties on the same property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, what is the name and permit number (if known) of the other facility? N/A	

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 ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8,760
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: N/A	<input type="checkbox"/> AM <input type="checkbox"/> PM	End: N/A	<input type="checkbox"/> AM <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify: N/A		
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 being submitted with this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
a	If Yes, what type of source? <input checked="" type="checkbox"/> Major (<input checked="" type="checkbox"/> ≥ 10 tpy of any single HAP OR <input checked="" type="checkbox"/> ≥ 25 tpy of any combination of HAPS) OR <input type="checkbox"/> Minor (<input type="checkbox"/> < 10 tpy of any single HAP AND <input type="checkbox"/> < 25 tpy of any combination of HAPS)
b	If 4.a is Yes, identify the subparts in 40 CFR 61 & 40 CFR 63 that apply to this facility (If no subparts apply, enter "N/A."): 40 CFR, Part 63, Subparts A, HH & ZZZZ

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

1	<input type="checkbox"/> I have filled out Section 18, "Addendum for Streamline Applications." <input checked="" type="checkbox"/> N/A (This is not a Streamline application.)
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Section 1-H: Title V Specific Information (Fill this section out only if this is a Title V application.)

1	Responsible Official (20.2.70.300.D.2 NMAC): Glen Jasek	Phone: (505) 632-4628
a	R.O. Title: Vice President & General Manager, Four Corners Area	R.O. e-mail: glen.jasek@williams.com
b	R. O. Address: 188 County Road 4900, Bloomfield, New Mexico 87413	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): Eric Edmanson	Phone: (501) 632-4601
a	A. R.O. Title: Manager Operations	A. R.O. e-mail: eric.edmanson@williams.com
b	A. R. O. Address: 188 County Road 4900, Bloomfield, New Mexico 87413	
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): N/A	
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.): Williams	
a	Address of Parent Company: One Williams Center, Tulsa, Oklahoma 74172	
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: N/A	
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: Colorado (≈ 11.3 km), Navajo Tribe (≈ 29.0 km), Mountain Ute Tribe (≈ 59.5 km), Southern Ute Tribe (≈ 11.3 km), Jicarilla Tribe (≈ 43.5 km)	

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	Manufacturer	Model #	Serial #	Maximum or Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture or Reconstruction ²		Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
							Date of Installation /Construction ²	Emissions vented to Stack #					
1	Reciprocating Engine (Compressor)	Waukesha	L7042GL	338549 (Package # X00074)	1,478 hp	1,363 hp	1/18/1980	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							1/18/1980	1					
2	Reciprocating Engine (Compressor)	Waukesha	L7042GL	C-12671/1 (Package # 76368)	1,478 hp	1,363 hp	8/31/1998	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							8/31/1998	2					
3	Reciprocating Engine (Compressor)	Waukesha	L7042GL	C-10887/2 (Package # X00039)	1,478 hp	1,363 hp	5/14/1993	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							5/14/1993	3					
4	Reciprocating Engine (Compressor)	Waukesha	L7042GL	C-12595/1 (Package # X00040)	1,478 hp	1,363 hp	3/25/1998	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							3/25/1998	4					
5	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	5					
6	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	6					
7	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	7					
8	Reciprocating Engine (Compressor)	Waukesha	L7042GL	C-12588/1 (Package # X00021)	1,478 hp	1,363 hp	7/17/1988	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							7/17/1988	8					
9	Reciprocating Engine (Compressor)	Waukesha	L7042GL	C-61028/3 (Package # X00078)	1,478 hp	1,363 hp	4/22/1998	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							4/22/1998	9					
10	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	10					
11	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	11					
12	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	12					
13	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	13					
14	Reciprocating Engine (Compressor)	Waukesha	L7042GL	TBD - not installed	1,478 hp	1,363 hp	TBD - not installed	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP ZZZZ	NA	
							TBD - not installed	14					
15a	Dehydrator Still Vent	P&A	M10MM1 10012P	4576	10 MMSCFD	10 MMSCFD	04/01/91	N/A	31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP HH	NA	
							04/01/91	15a					

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	Manufacturer	Model #	Serial #	Maximum or Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture or Reconstruction ²		Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
							Date of Installation /Construction ²	Emissions vented to Stack #					
15b	Dehydrator Reboiler	P&A	M10MM110012P	4576	0.39 MMBtu/hr	0.39 MMBtu/hr	04/01/91	N/A		31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
16a	Dehydrator Still Vent	Enertek	J2P20M11109	43840	20 MMSCFD	20 MMSCFD	1993	N/A		31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP HH	NA
16b	Dehydrator Reboiler	Enertek	J2P20M11109	43840	0.39 MMBtu/hr	0.39 MMBtu/hr	1993	N/A		31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
17a	Dehydrator Still Vent	Enertek	J2P20M11109	42669	20 MMSCFD	20 MMSCFD	10/01/95	N/A		31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP HH	NA
17b	Dehydrator Reboiler	Enertek	J2P20M11109	42669	0.39 MMBtu/hr	0.39 MMBtu/hr	10/01/95	N/A		31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
18a	Dehydrator Still Vent	Enertek	J2P20M11109	TBD - not installed	20 MMSCFD	20 MMSCFD	TBD - not installed	N/A		31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP HH	NA
18b	Dehydrator Reboiler	Enertek	J2P20M11109	TBD - not installed	0.39 MMBtu/hr	0.39 MMBtu/hr	TBD - not installed	N/A		31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
19a	Dehydrator Still Vent	Enertek	J2P20M11109	42668	20 MMSCFD	20 MMSCFD	1993	N/A		31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP HH	NA
19b	Dehydrator Reboiler	Enertek	J2P20M11109	42668	0.39 MMBtu/hr	0.39 MMBtu/hr	1993	N/A		31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
20a	Dehydrator Still Vent	Enertek	J2P10M11109	41904	10 MMSCFD	10 MMSCFD	09/01/92	N/A		31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72, NESHAP HH	NA
20b	Dehydrator Reboiler	Enertek	J2P10M11109	41904	0.39 MMBtu/hr	0.39 MMBtu/hr	09/01/92	N/A		31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
1a-14a	Startup, Shutdown & Maintenance	N/A	N/A	N/A	N/A	N/A	N/A	N/A		31000299	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
F1	Equipment Leaks	N/A	N/A	N/A	N/A	N/A	N/A	N/A		31000299	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA
M1	Malfunctions	N/A	N/A	N/A	N/A	N/A	N/A	N/A		31000299	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	20.2.72	NA

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.

Table 2-B: Insignificant Activities¹ (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 20.2.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.nmenv.state.nm.us/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.nmenv.state.nm.us/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																																																																																																																																													
21	Tank Heater			0.325	20.2.72.202.B(5)		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				MMBtu/hr				22	Tank Heater			0.325	20.2.72.202.B(5)		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		MMBtu/hr			23	Tank Heater			0.325	20.2.72.202.B(5)		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		MMBtu/hr			T1-T14	Lubrication Oil Storage Tank			500	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T15-T20	TEG Dehydrator			100	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T21-T26	TEG Dehydrator			50	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
22	Tank Heater			0.325	20.2.72.202.B(5)		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				MMBtu/hr				23	Tank Heater			0.325	20.2.72.202.B(5)		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		MMBtu/hr			T1-T14	Lubrication Oil Storage Tank			500	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T15-T20	TEG Dehydrator			100	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T21-T26	TEG Dehydrator			50	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal										
23	Tank Heater			0.325	20.2.72.202.B(5)		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				MMBtu/hr				T1-T14	Lubrication Oil Storage Tank			500	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T15-T20	TEG Dehydrator			100	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T21-T26	TEG Dehydrator			50	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																						
T1-T14	Lubrication Oil Storage Tank			500	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T15-T20	TEG Dehydrator			100	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T21-T26	TEG Dehydrator			50	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																		
T15-T20	TEG Dehydrator			100	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T21-T26	TEG Dehydrator			50	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																														
T21-T26	TEG Dehydrator			50	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																										
T27	Produced Water Storage Tank			12,600	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																																						
T28	Produced Water Storage Tank			8,820	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																																																		
T29	Lubrication Oil Storage Tank			4,200	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																																																														
T30	Used Oil Storage Tank			6,888	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																																																																										
T31	Waste Water Storage Tank			6,930	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal			T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																																																																																						
T32	Produced Water Storage Tank			6,888	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal				T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		gal																																																																																																																																		
T33	Water-Based Degreaser Storage Tank			300	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced																																																																																																																																												
				gal																																																																																																																																															

Table 2-B: Insignificant Activities¹ (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 20.2.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.nmenv.state.nm.us/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.nmenv.state.nm.us/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	
T34	Antifreeze Storage Tank			500	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
				gal			
T36	Corrosion Inhibitor Storage Tank			225	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
				gal			
T37	TEG Storage Tank			500	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
				gal			
T38	Methanol Storage Tank			4,200	20.2.72.202.B(5)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
				gal			
T39	Used Oil (Filters) Storage Tank			126	20.2.72.202.B(2)		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
				gal			

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-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). 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 with a minimum of two significant figures¹. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Please do not change the column widths on this table.

Unit No.	NOx		CO		VOC		SOx		TSP ²		PM10 ²		PM2.5 ²		H ₂ S		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	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
2	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
3	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
4	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
5	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
6	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
7	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
8	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
9	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
10	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
11	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
12	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
13	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
14	4.5	19.7	8.0	34.8	3.0	13.2	5.9E-03	2.6E-02	1.0E-01	4.4E-01	1.0E-01	4.4E-01	1.0E-01	4.4E-01	-	-	5.6E-06	2.4E-05
15a	-	-	-	-	2.2	9.8	-	-	-	-	-	-	-	-	-	-	-	-
15b	4.3E-02	1.9E-01	8.8E-03	3.8E-02	2.7E-03	1.2E-02	4.2E-04	1.8E-03	3.3E-03	1.4E-02	3.3E-03	1.4E-02	3.3E-03	1.4E-02	-	-	2.1E-07	9.4E-07
16a	-	-	-	-	2.4	10.6	-	-	-	-	-	-	-	-	-	-	-	-
16b	4.3E-02	1.9E-01	8.8E-03	3.8E-02	6.5E-03	2.8E-02	8.3E-04	3.7E-03	3.3E-03	1.4E-02	3.3E-03	1.4E-02	3.3E-03	1.4E-02	-	-	2.1E-07	9.4E-07
17a	-	-	-	-	2.4	10.6	-	-	-	-	-	-	-	-	-	-	-	-
17b	4.3E-02	1.9E-01	8.8E-03	3.8E-02	6.5E-03	2.8E-02	8.3E-04	3.7E-03	3.3E-03	1.4E-02	3.3E-03	1.4E-02	3.3E-03	1.4E-02	-	-	2.1E-07	9.4E-07
18a	-	-	-	-	2.4	10.6	-	-	-	-	-	-	-	-	-	-	-	-
18b	4.3E-02	1.9E-01	8.8E-03	3.8E-02	6.5E-03	2.8E-02	8.3E-04	3.7E-03	3.3E-03	1.4E-02	3.3E-03	1.4E-02	3.3E-03	1.4E-02	-	-	2.1E-07	9.4E-07
19a	-	-	-	-	2.4	10.6	-	-	-	-	-	-	-	-	-	-	-	-
19b	4.3E-02	1.9E-01	8.8E-03	3.8E-02	6.5E-03	2.8E-02	8.3E-04	3.7E-03	3.3E-03	1.4E-02	3.3E-03	1.4E-02	3.3E-03	1.4E-02	-	-	2.1E-07	9.4E-07
20a	-	-	-	-	2.2	9.8	-	-	-	-	-	-	-	-	-	-	-	-
20b	4.3E-02	1.9E-01	8.8E-03	3.8E-02	2.7E-03	1.2E-02	4.2E-04	1.8E-03	3.3E-03	1.4E-02	3.3E-03	1.4E-02	3.3E-03	1.4E-02	-	-	2.1E-07	9.4E-07
1a-14a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F1	-	-	-	-	5.7E-01	2.5	-	-	-	-	-	-	-	-	-	-	-	-
M1	-	-	-	-	unspecified	10.0	-	-	-	-	-	-	-	-	-	-	-	-
Total	63.3	276.9	112.1	487.4	56.6	259.4	8.7E-02	3.8E-01	1.4	6.2	1.4	6.2	1.4	6.2	-	-	8.0E-05	3.4E-04

¹ Significant Figures Examples: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

² Condensables: Include condensable particulate matter emissions in particulate matter calculations.

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

□ This table is intentionally left blank as all SSM emissions at this facility do not require an increase in Requested Allowables greater than those listed in Table 2-E. If you are required to report GHG emissions as described in Section 21, include any GHG emissions due Startup, Shutdown, and/or Scheduled Maintenance in Table 2-P. Provide explanation in Section 6.

All applications, including NOI applications, must fill out this table, reporting Maximum Emissions during Startup, Shutdown and Scheduled Maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). Only report SSM emissions greater than the corresponding Table 2-E emissions¹. Not providing emissions for a unit indicates that SSM emissions for this unit are less than the Requested Allowables for that unit in Table 2-E. In Section 6, provide emissions calculations for any emissions listed in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.72.203.A.3 and 20.2.70.300.D.5 NMAC). List all units and SSM fugitives, except GHGs, in this table. Refer to Table 2-E for instructions on use of the “⁻⁴” symbol and on significant figures.

Unit No.	NOx		CO		VOC		SOx		TSP ²		PM10 ²		PM2.5 ²		H ₂ S		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1a-14a	-	-	-	-	unspecified	4.2	-	-	-	-	-	-	-	-	-	-	-	-
F1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	unspecified	4.2	-	-	-	-	-	-	-	-	-	-	-	-

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 the table below. 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 Condensables: Include condensable particulate matter emissions in particulate matter calculations.

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		Formaldehyde ☑ HAP or ☐ TAP		Toluene ☑ 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
1	1	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
2	2	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
3	3	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
4	4	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
5	5	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
6	6	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
7	7	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
8	8	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
9	9	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
10	10	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
11	11	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
12	12	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
13	13	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
14	14	5.3E-01	2.3	1.6E-02	6.8E-02	5.1E-01	2.2	6.3E-03	2.8E-02	4.2E-03	1.8E-02								
15a	15a	6.4E-01	2.8	1.6E-01	7.1E-01	-	-	2.6E-01	1.2	1.9E-01	8.4E-01								
15b	15b	5.5E-04	2.4E-03	-	-	1.4E-04	6.0E-04	-	-	-	-								
16a	16a	7.6E-01	3.3	1.8E-01	7.9E-01	-	-	3.1E-01	1.3	2.5E-01	1.1								
16b	16b	5.5E-04	2.4E-03	-	-	1.4E-04	6.0E-04	-	-	-	-								
17a	17a	7.6E-01	3.3	1.8E-01	7.9E-01	-	-	3.1E-01	1.3	2.5E-01	1.1								
17b	17b	5.5E-04	2.4E-03	-	-	1.4E-04	6.0E-04	-	-	-	-								
18a	18a	7.6E-01	3.3	1.8E-01	7.9E-01	-	-	3.1E-01	1.3	2.5E-01	1.1								
18b	18b	5.5E-04	2.4E-03	-	-	1.4E-04	6.0E-04	-	-	-	-								
19a	19a	7.6E-01	3.3	1.8E-01	7.9E-01	-	-	3.1E-01	1.3	2.5E-01	1.1								
19b	19b	5.5E-04	2.4E-03	-	-	1.4E-04	6.0E-04	-	-	-	-								
20a	20a	6.4E-01	2.8	1.6E-01	7.1E-01	-	-	2.6E-01	1.2	1.9E-01	8.4E-01								
20b	20b	5.5E-04	2.4E-03	-	-	1.4E-04	6.0E-04	-	-	-	-								
1a-14a	1a-14a	unspecified	1.3E-01	unspecified	1.8E-02	-	-	unspecified	2.1E-02	unspecified	1.0E-02								
F1	F1	5.0E-03	2.2E-02	6.9E-04	3.0E-03	-	-	8.1E-04	3.6E-03	4.0E-04	1.8E-03								
M1	M1	unspecified	3.0E-01	unspecified	4.2E-02	-	-	unspecified	5.0E-02	unspecified	2.5E-02								
Total		11.8	52.0	1.3	5.6	7.1	31.0	1.8	8.1	1.4	6.3								

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC that are Major for GHGs as determined in Section 22 of this application are required to complete this Table if so directed in Section 22 or are major for GHGs and have an existing GHG BACT. Applicants must report potential emission rates in short tons per year. Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table.

		CO ₂ ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²										Total GHG Mass Basis ton/yr ⁴	Total CO ₂ e ton/yr ⁵
Unit No.	GWPs¹	1	298	25	22,800	footnote 3											
1	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
2	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
3	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
4	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
5	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
6	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
7	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
8	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
9	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
10	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
11	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
12	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
13	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
14	mass GHG	6010.5	1.1E-02	1.1E-01												6010.6	-
	CO ₂ e	6010.5	3.4	2.8												-	6016.6
15a	mass GHG	231.7	-	183.8												415.5	-
	CO ₂ e	231.7	-	4594.8												-	4826.5
15b	mass GHG	219.3	4.1E-04	4.1E-03												219.3	-
	CO ₂ e	219.3	1.2E-01	1.0E-01												-	219.6
16a	mass GHG	231.7	-	185.0												416.7	-
	CO ₂ e	231.7	-	4624.0												-	4855.7
16b	mass GHG	219.3	4.1E-04	4.1E-03												219.3	-
	CO ₂ e	219.3	1.2E-01	1.0E-01												-	219.6
17a	mass GHG	231.7	-	185.0												416.7	-
	CO ₂ e	231.7	-	4624.0												-	4855.7

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC that are Major for GHGs as determined in Section 22 of this application are required to complete this Table if so directed in Section 22 or are major for GHGs and have an existing GHG BACT. Applicants must report potential emission rates in short tons per year. Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table.

		CO ₂ ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²									Total GHG Mass Basis ton/yr ⁴	Total CO ₂ e ton/yr ⁵
Unit No.	GWPs ¹	1	298	25	22,800	footnote 3										
17b	mass GHG	219.3	4.1E-04	4.1E-03											219.3	-
	CO ₂ e	219.3	1.2E-01	1.0E-01											-	219.6
18a	mass GHG	231.7	-	185.0											416.7	-
	CO ₂ e	231.7	-	4624.0											-	4855.7
18b	mass GHG	219.3	4.1E-04	4.1E-03											219.3	-
	CO ₂ e	219.3	1.2E-01	1.0E-01											-	219.6
19a	mass GHG	231.7	-	185.0											416.7	-
	CO ₂ e	231.7	-	4624.0											-	4855.7
19b	mass GHG	219.3	4.1E-04	4.1E-03											219.3	-
	CO ₂ e	219.3	1.2E-01	1.0E-01											-	219.6
20a	mass GHG	231.7	-	183.8											415.5	-
	CO ₂ e	231.7	-	4594.8											-	4826.5
20b	mass GHG	219.3	4.1E-04	4.1E-03											219.3	-
	CO ₂ e	219.3	1.2E-01	1.0E-01											-	219.6
21	mass GHG	184.6	3.5E-04	3.5E-03											184.6	-
	CO ₂ e	184.6	1.0E-01	8.7E-02											-	184.8
22	mass GHG	184.6	3.5E-04	3.5E-03											184.6	-
	CO ₂ e	184.6	1.0E-01	8.7E-02											-	184.8
23	mass GHG	184.6	3.5E-04	3.5E-03											184.6	-
	CO ₂ e	184.6	1.0E-01	8.7E-02											-	184.8
1a-14a	mass GHG	657.1	-	1326.3											1983.4	-
	CO ₂ e	657.1	-	33157.5											-	33814.6
F1	mass GHG	114.5	-	230.7											345.2	-
	CO ₂ e	114.5	-	5767.0											-	5881.5
M1	mass GHG	514.5	-	1037.3											1551.8	-
	CO ₂ e	514.5	-	25933.3											-	26447.7
	mass GHG															
	CO ₂ e															
	mass GHG															
	CO ₂ e															
Total	mass GHG	88692.5	1.6E-01	3703.3											92396.0	-
	CO ₂ e	88692.5	48.2	92583.7											-	181324.4

¹ of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP value

compound and use a separate column for each individual compound.

² TP for each HFC or PFC compound from Table A-1 in 40 CFR 98

per year green house gas emission before adjustment with its GWP

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 effect 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.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Summary

The WFC Pump Mesa CDP currently operates under a construction permit, 0867-M5, dated April 9, 2010 and a Title V operating permit, P037-R2, dated December 20, 2010. The applicable regulation is 20.2.70 New Mexico Administrative Code (NMAC). The lowest level regulatory citation is 20.2.70.300.B(2) NMAC.

The station is currently permitted to operate the following equipment/sources:

- Fourteen Waukesha L7042GL natural gas-fired compressor engines (Units 1-14);
- One P&A 10 MMSCFD TEG dehydrator (Unit 15);
- Four Enertek 20 MMSCFD TEG dehydrators (Units 16-19);
- One Enertek 10 MMSCFD TEG dehydrator (Unit 20);
- SSM emissions (Units 1a-14a); and
- Malfunction emissions (Unit M1).

The station is also equipped with miscellaneous liquid storage tanks.

This application is being submitted to renew the Title V operating permit. It is also being submitted to make the following modifications. Note that a construction permit application is being submitted to make these same changes.

- Update dehydrator still vent (Units 15a-20a) emissions to address the evolving gas composition;
- Update SSM emissions from the compressors and piping associated with the station (Units 1a-14a) to address the evolving gas composition;
- Add SO₂ and particulate emissions from existing sources (Units 1-14 & 15b-20b);

- Add three tank heaters (Units 21-23). These are exempt units with combined emissions less than 0.5 tons per year per pollutant; and
- Update the miscellaneous liquid storage tank listing (exempt sources).

There are no modifications to de-bottleneck impacts or change the facility's major/minor status (both prevention of significant deterioration [PSD] & Title V).

Startup, Shutdown and Maintenance Emissions

For the engines, dehydrators (still vent and reboiler), equipment leaks (valves, connectors, seals, etc.), malfunctions, and storage tanks, it is concluded there are no SSM emissions in excess of those identified for steady-state operation as seen in Section 2 (Table 2-E). Discussions justifying this conclusion are provided in Section 6.

SSM emissions from blowdowns of the compressors and piping associated with the plant are calculated from the quantity of gas vented during each event, the composition of the gas, and the number of events. The number of blowdowns events are estimated based on historical operations. A safety factor is included.

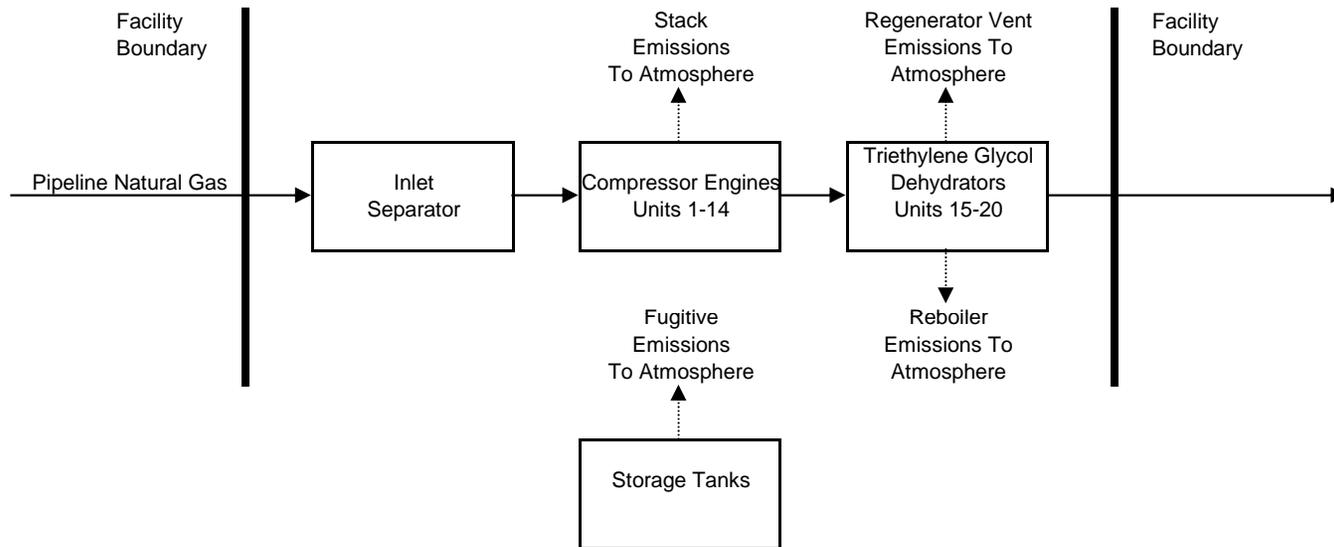
Section 4

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.

A process flow diagram is provided in this section. Please see the following page.

Flow Diagram



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 plot plan is provided in this section. Please see the following page.

FIGURE 2

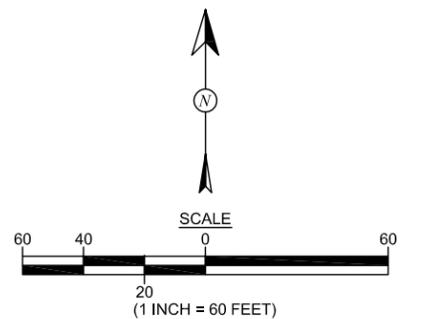
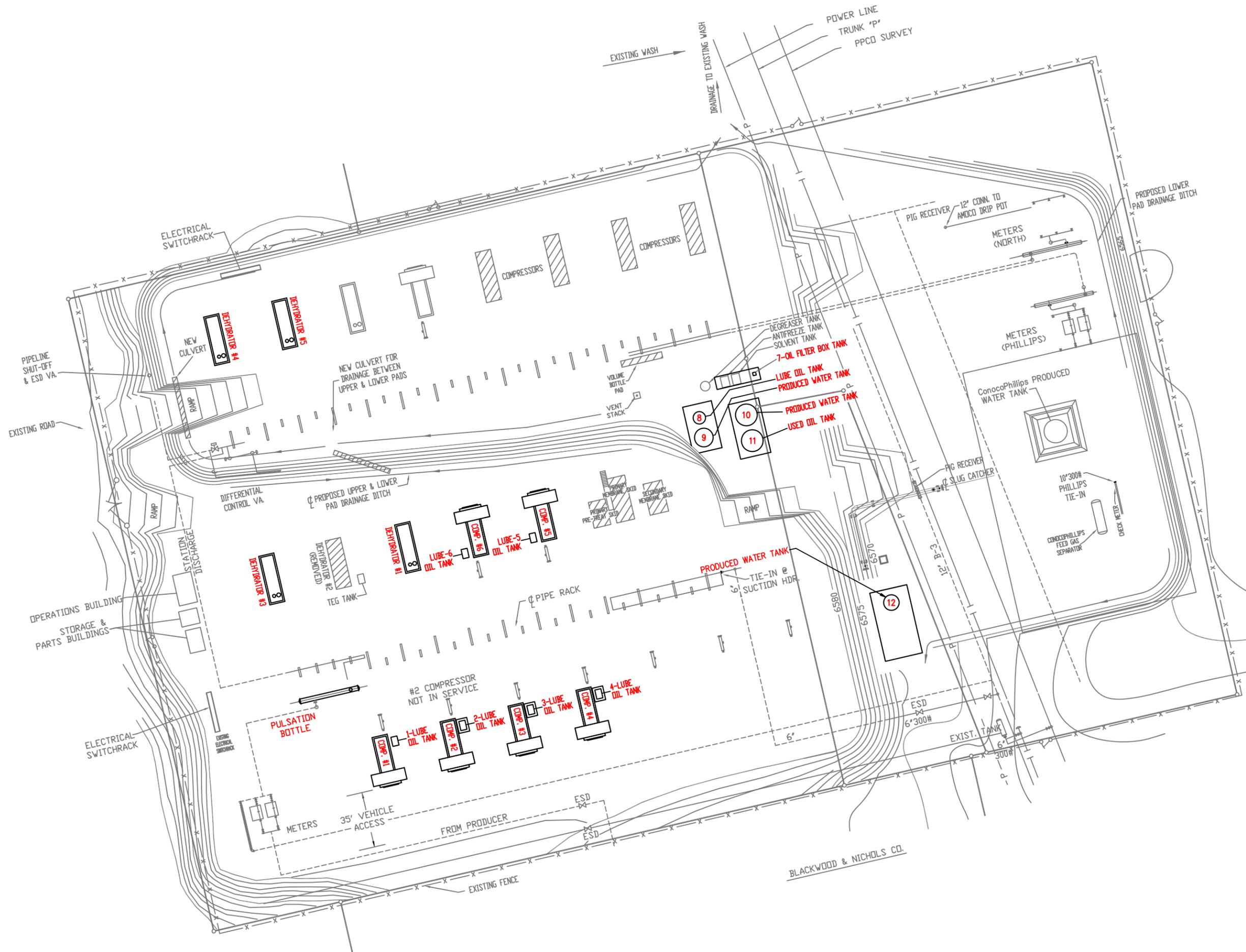
FACILITY LAYOUT
 WILLIAMS FOUR CORNERS LLC
 PUMP MESA CDP FACILITY
 SW 1/4 SE 1/4, SECTION 14, T31N, R8W
 SAN JUAN COUNTY, NEW MEXICO
 N36.89235, W107.64344



Animas Environmental Services, LLC

DRAWN BY: C. Lameman	DATE DRAWN: December 5, 2013
REVISIONS BY: C. Lameman	DATE REVISED: December 5, 2013
CHECKED BY: K. Christiansen	DATE CHECKED: December 5, 2013
APPROVED BY: E. McNally	DATE APPROVED: December 5, 2013

NOTE: SITE DIAGRAM OBTAINED FROM WILLIAMS.



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 rationale 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.nmenv.state.nm.us/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.

Note that the hydrogen sulfide (H₂S) content of the natural gas at the station is non-detect. Therefore, it is assumed there are no H₂S emissions associated with any of the equipment. Also note that even if H₂S is present, H₂S emissions from the combustion of natural gas are negligible. H₂S is converted to SO₂ during combustion.

Engines

The nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) emissions from the engines (Units 1-14) are calculated from manufacturer's data. The SO₂ and particulate emissions are calculated using AP-42 emission factors from Table 3.2-2. Lead emissions are calculated using the AP-42 emission factor from Table 1.4-2 (even though the engines are internal combustion sources, the emission factor for external combustion is acceptable as lead is not a produced pollutant; rather, emissions are directly related to the lead content of the natural gas). Hazardous air pollutant (HAP) emissions are calculated using GRI-HAPCalc 3.0. Emissions are calculated assuming the engines all operate at full site capacity for 8,760 hours per year.

Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) exhaust emissions are calculated using emission factors from 40 Code of Federal Regulations (CFR), Part C, Tables C-1 & C-2 and the engine higher heating value (HHV) design heat rates.

The engines at the station startup with no load and a rich fuel mixture. As a result, emissions are minimized. Because the engines take only minutes to reach operating temperature, emissions during startup are not expected to exceed the steady-state allowable limits. Similarly, emissions during shutdown do not exceed the steady-state allowable limits, because fuel and air flow cease within seconds of shutdown. Emissions due to scheduled maintenance are negligible as the engines are not in operation during maintenance.

The criteria pollutant and HAP emissions listed in application are unchanged from the previous application and current permit.

Compressors

SSM emissions from the compressors and piping associated with the station (Units 1a-14a) are vented to the atmosphere. SSM emissions from the compressors occur when high pressure gas is used to purge air from the compressors and associated piping prior to startups. This gas is then vented to atmosphere. Also, after shutdowns, high pressure gas in the compressors and associated piping is released to atmosphere as a safety precaution.

The VOC, HAP, and greenhouse gas (GHG) emissions from blowdown of the compressors and piping associated with the station are calculated from the quantity of gas vented during each event, the composition of the gas, and the number of events. The quantity of gas vented during each event is determined by WFC engineering. The composition of the gas is determined from an extended gas analysis. For each unit, the annual number of blowdown events is estimated based on historical operations. A safety factor is added because emissions from each blowdown event are dependent on the composition of the gas in the pipeline and because the number of blowdowns in a year may vary. Experience indicates the composition of the gas is likely to vary. Use of the safety factor is also designed to ensure an adequate emissions limit, which includes emissions from other miscellaneous startup, shutdown and maintenance activities.

The SSM emissions identified in this application are routine or predictable startup/shutdown and scheduled maintenance and do not include malfunctions or upsets.

GHG emissions from reciprocating compressor venting (blowdown valve leakage, rod packing emissions, and isolation valve leakage) are calculated in accordance with the applicable Subpart W methodology using Best Available Monitoring Method (BAMM) emission factors prepared by WFC. The facility CO₂ and CH₄ contents are taken from an extended gas analysis. Since isolation valve leakage emissions (when the compressors are not in operation) are greater than the combined blowdown valve leakage and rod packing emissions (when the compressors are are in operation), potential emissions are calculated assuming the compressors operate 0 hours per year (in other words, isolation valve leakage occurs 8,760 hours per year).

Dehydrator Still Vents

The VOC, HAP, CO₂ and CH₄ emissions from the dehydrator still vents (Units 15a-20a) are calculated using GRI-GLYCalc 4.0. Emissions are calculated assuming the dehydrator operates at full capacity for 8,760 hours per year. To allow for variability in the composition of the inlet gas stream, the dehydrator still vent VOC emission rates identified on the application forms are higher than the calculated emission rates.

During startup, the dehydrator reboiler is brought up to temperature before allowing glycol into the absorber. This prevents excess VOC and HAP from collecting in the glycol stream and there are no excess startup emissions above those expected during steady-state operation. During shutdown, the reboiler is shut down in conjunction with the gas flow and glycol circulation. Again, this prevents excess VOC and HAP from collecting in the glycol stream and there are no excess shutdown emissions above those expected during steady-state operation. Emissions due to scheduled maintenance are negligible; either the unit will not be in operation during maintenance or maintenance is limited to tasks for which there are no excess emissions.

Dehydrator Reboiler

The NO_x and CO emission factors for the reboilers (Units 15b-20b) are identified from an Enertek letter dated August 19, 1994. The VOC and SO₂ emission factors are identified from an InFab letter dated July 22, 1998. The particulate and lead emissions are calculated using AP-42 emission factors from Table 1.4-2. HAP emissions are calculated using GRI-HAPCalc 3.0. Emissions are calculated assuming the reboilers all operate 8,760 hours per year.

CO₂, CH₄, and N₂O reboiler exhaust emissions are calculated using emission factors from the 40 CFR, Part C, Tables C-1 & C-2 and the reboiler HHV fuel usage rates.

The dehydrator reboilers (uncontrolled) startup with less fuel input than during steady-state operation, so emissions are lower than during steady-state operation. During shutdown, the fuel supply stops quickly, but air flow may not, causing the continued formation of NO_x. Even so, with no fuel, NO_x formation should be less than during steady-state operation. Emissions due to scheduled maintenance are negligible as the units are not in operation.

Criteria pollutant and HAP emissions from the dehydrator reboilers are carried forward from the last construction permit application.

Equipment Leaks Emissions

VOC and HAP emissions from equipment leaks (Unit F1) are calculated using emission factors from Table 2.4 of the 1995 Protocol for Equipment Leak Emission Estimates published by the Environmental Protection Agency (EPA) and the gas stream composition obtained from an extended gas analysis. Emissions are calculated assuming the equipment operates 8,760 hours per year.

GHG emissions from valves, connectors, open-ended lines and pressure relief valves are calculated using the Subpart W methodology applicable to these source types. The component count is determined from the number of compressors and dehydrators permitted to operate at the station using an equation derived by Williams that is representative of their facilities. Emission factors are obtained from Table W-1A of Subpart W (Western U.S. – Gas Service). The facility CO₂ and CH₄ contents are taken from an extended gas analysis. Emissions are calculated assuming the equipment operates 8,760 hours per year.

GHG emissions from natural gas pneumatic device and pump venting are calculated using the Subpart W methodologies applicable to these source types. The component count is identified by Williams. Emission factors are obtained from Table W-1A of Subpart W (Western U.S. – Gas Service). The facility CO₂ and CH₄ contents are taken from an extended gas analysis. Emissions are calculated assuming the equipment operates 8,760 hours per year.

Due to the nature of the source, it is estimated that SSM emissions from the equipment are accounted for in the calculations.

Malfunctions

Malfunction (Unit M1) emissions are set at 10.0 tons of VOC per year to account for emissions that may occur during upsets and malfunctions (including, but not limited to, unscheduled blowdowns and relief valve release). Based on the gas release rate associated with the set annual VOC emission rate, HAP and GHG emissions are calculated using the extended gas analysis. Note that these malfunction emissions include the venting of gas only, not combustion emissions.

Permitted VOC emissions from malfunctions are carried forward from the previous application and current permit.

Storage Tanks

The following assumptions are made regarding the storage tanks:

- Residual oil #6 is used as an estimate for lubrication oil. As the vapor pressure of residual oil #6 is less than 0.2 psia, the tanks containing lubrication oil (Units T1-T14, T29, T30, T31 & T39) are exempt sources. Note that as Unit T31 is a waste water tank, it contains storm/waste water with heavy hydrocarbons that do not evaporate prior to being washed into the tank. These heavy hydrocarbons are assumed to be similar to lubrication oil;
- As the vapor pressure of TEG is less than 0.2 psia, the tanks containing TEG (Units T15-T26 & T37) are exempt sources;
- The natural gasoline liquid composition identified in GRI-HAPCalc 3.0 is used to estimate hydrocarbon emissions from the produced water tanks (Units T27, T28 & T32). The tanks is estimated to contain 99 percent water and one percent hydrocarbons;
- It is estimated there are no criteria or hazardous air pollutant emissions from the water-based degreaser storage tank (Unit T33). As such it is not an emission source subject to permitting. It is listed in the application for information only;
- The antifreeze is an inhibited ethylene glycol (EG) coolant containing 50 percent EG and 50 percent water. As the vapor pressure of EG is less than 0.2 psia, the tank containing antifreeze (Unit T34) is an exempt source; and

As Unit T27 is the largest produced water storage tank at the station, it is used to estimate emissions for all the produced water tanks (Units T27, T28 & T32). In other words, all the tanks are assumed to have an emission rate equal to that calculated for Unit T27. Using this approach, the combined total VOC emission rate from all the produced water storage tanks is 41.6 pounds per year. As such, they are exempt sources.

Emissions from the corrosion inhibitor storage tank (Unit T36) are 15.10 pounds per year. As such, it is an exempt source.

Emissions from the methanol storage tank (Unit T38) are 203.7 pounds per year. As such, it is an exempt source.

Due to the nature of operations, startup and shutdown emissions from the storage tanks are assumed to be accounted for in the calculations as discussed above. Emissions due to maintenance are negligible as the units are not in operation during maintenance.

Engine Exhaust Emissions Calculations

Unit Number: **1-14**
 Description: Waukesha L7042GL

Note: The data on this worksheet applies to each individual emissions unit identified above.

Horsepower Calculations

6,590 ft above MSL	Elevation	Mfg. data
1,478 hp	Nameplate hp	NMAQB Procedure # 02.002-00
1,363 hp	NMAQB Site-rated hp	(loss of 3% for every 1,000 ft over 4,000 ft)
1,328 hp	Mfg. Site-rated hp	Mfg. product bulletin Power Derate, S8154-6, April 2001 (loss of 2% for every 1,000 ft over 1,500 ft)

Engine Specifications

1200 rpm	Engine rpm	Mfg. data
7040 cu in	Engine displacement	Mfg. data
127.80 psi	BMEP	Mfg. data $(+[(792,000 \times \text{NMAQB Site-rated hp}) / (\text{rpm} \times \text{in}^3)])$

Fuel Consumption

7374 Btu/hp-hr	Brake specific fuel consumption	Mfg. data
10.05 MMBtu/hr	Hourly fuel consumption	Btu/hp-hr x NMAQB site-rated hp / 1,000,000
11,168 scf/hr	Hourly fuel consumption	MMBtu/hr x 1,000,000 / Btu/scf
8,760 hr/yr	Annual operating time	Williams Four Corners LLC
88,051 MMBtu/yr	Annual fuel consumption	MMBtu/hr x hr/yr
97.83 MMscf/yr	Annual fuel consumption	scf/hr x hr/yr / 1,000,000
900 Btu/scf	Field gas heating value	Nominal heat content

Steady-State Emission Rates

Pollutants	Emission Factors, g/hp-hr	Uncontrolled Emission Rates,	
		pph	tpy
NOX	1.50	4.51	19.74
CO	2.65	7.96	34.88
VOC	1.00	3.01	13.16

Emission factors taken from Waukesha Bulletin 7005 0107
 Uncontrolled Emission Rates (pph) = g/hp-hr x NMAQB Site-rated hp / 453.59 g/lb
 Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Pollutants	Emission Factors, lb/MMBtu	Uncontrolled Emission Rates,	
		pph	tpy
SO2	5.88E-04	5.91E-03	2.59E-02
TSP	9.99E-03	1.00E-01	4.40E-01
PM10	9.99E-03	1.00E-01	4.40E-01
PM2.5	9.99E-03	1.00E-01	4.40E-01

Emission factors taken from AP-42, Table 3.2-2
 Particulate factors include both filterable and condensable emissions
 Uncontrolled Emission Rates (pph) = lb/MMBtu x MMBtu/hr
 Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Pollutant	Emission Factor, lb/MMscf	Uncontrolled Emission Rates,	
		pph	tpy
Lead	5.00E-04	5.58E-06	2.45E-05

Emission factor taken from AP-42, Table 1.4-2
 Uncontrolled Emission Rate (pph) = lb/MMscf x (scf/hr / 1,000,000)
 Uncontrolled Emission Rate (tpy) = Uncontrolled Emission Rate (pph) x hr/yr / 2,000 lb/ton

Engine Exhaust Emissions Calculations

Unit Number: 1-14

Description: Waukesha L7042GL

Exhaust Parameters

802 °F
8156 acfm
1.03 ft
0.83 ft²
163.14 fps
22.00 ft

Stack exit temperature
Stack flowrate
Stack exit diameter
Stack exit area
Stack exit velocity
Stack height

Mfg. data carried forward from previous appl.
Mfg. data carried forward from previous appl.
Mfg. data carried forward from previous appl.
 $3.1416 \times ((ft / 2) ^2)$
 $acfm / ft^2 / 60 \text{ sec/min}$
Mfg. data carried forward from previous appl.

GRI-HAPCalc® 3.0
Engines Report

Facility ID:	PUMP MESA	Notes:
Operation Type:	COMPRESSOR STATION	
Facility Name:	PUMP MESA CDP	
User Name:	Williams Four Corners LLC	
Units of Measure:	U.S. STANDARD	

Note: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero. These emissions are indicated on the report with a "0". Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".

Engine Unit

Unit Name: 7042GL

Hours of Operation: 8,760 Yearly

Rate Power: 1,363 hp

Fuel Type: FIELD GAS

Engine Type: 4-Stroke, Lean Burn

Emission Factor Set: FIELD > EPA > LITERATURE

Additional EF Set: -NONE-

Calculated Emissions (ton/yr)

<u>Chemical Name</u>	<u>Emissions</u>	<u>Emission Factor</u>	<u>Emission Factor Set</u>
HAPs			
Formaldehyde	2.2131	0.16830000 g/bhp-hr	GRI Literature
Benzene	0.0684	0.00520000 g/bhp-hr	GRI Literature
Toluene	0.0276	0.00210000 g/bhp-hr	GRI Literature
Xylenes(m,p,o)	0.0184	0.00140000 g/bhp-hr	GRI Literature
Total	2.3275		

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Pump Mesa CDP TEG Dehydrator

File Name: C:\1-Office\1-Cirrus\1-Projects\1 - Williams\1 - NSR Applications\4 - Pump Mesa\1 - NSR\Pump Mesa - GRI-GLYCalc (10 MMSCFD).ddf

Date: May 15, 2014

DESCRIPTION:

Description: 10 MMSCFD
 Extended Gas Analysis 08/14/2013
 Kimray 21015 PV Pump

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 86.00 deg. F
 Pressure: 840.00 psig
 Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	15.1288
Nitrogen	0.0391
Methane	83.6973
Ethane	0.8862
Propane	0.1585
Isobutane	0.0292
n-Butane	0.0288
Isopentane	0.0114
n-Pentane	0.0063
n-Hexane	0.0022
Cyclohexane	0.0011
Other Hexanes	0.0052
Heptanes	0.0019
Methylcyclohexane	0.0012
2,2,4-Trimethylpentane	0.0005
Benzene	0.0007
Toluene	0.0007
Xylenes	0.0003
C8+ Heavies	0.0006

DRY GAS:

Flow Rate: 10.0 MMSCF/day
 Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
 Water Content: 1.5 wt% H2O
 Flow Rate: 3.5 gpm

PUMP:

Glycol Pump Type: Gas Injection
Gas Injection Pump Volume Ratio: 0.080 acfm gas/gpm glycol

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Pump Mesa CDP TEG Dehydrator

File Name: C:\1-Office\1-Cirrus\1-Projects\1 - Williams\1 - NSR Applications\4 - Pump Mesa\1 - NSR\Pump Mesa - GRI-GLYCalc (10 MMSCFD).ddf

Date: May 15, 2014

DESCRIPTION:

Description: 10 MMSCFD
 Extended Gas Analysis 08/14/2013
 Kimray 21015 PV Pump

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	41.9601	1007.043	183.7854
Ethane	1.0582	25.397	4.6350
Propane	0.3348	8.036	1.4665
Isobutane	0.0960	2.305	0.4207
n-Butane	0.1107	2.658	0.4850
Isopentane	0.0550	1.320	0.2409
n-Pentane	0.0358	0.860	0.1569
n-Hexane	0.0216	0.519	0.0947
Cyclohexane	0.0381	0.915	0.1670
Other Hexanes	0.0417	1.000	0.1826
Heptanes	0.0361	0.865	0.1579
Methylcyclohexane	0.0537	1.288	0.2351
2,2,4-Trimethylpentane	0.0053	0.127	0.0233
Benzene	0.1627	3.906	0.7128
Toluene	0.2636	6.327	1.1548
Xylenes	0.1910	4.583	0.8364
C8+ Heavies	0.0481	1.154	0.2106
Total Emissions	44.5127	1068.304	194.9655
Total Hydrocarbon Emissions	44.5127	1068.304	194.9655
Total VOC Emissions	1.4943	35.864	6.5451
Total HAP Emissions	0.6443	15.462	2.8219
Total BTEX Emissions	0.6173	14.816	2.7040

EQUIPMENT REPORTS:

ABSORBER

NOTE: Because the Calculated Absorber Stages was below the minimum allowed, GRI-GLYCalc has set the number of Absorber Stages to 1.25 and has calculated a revised Dry Gas Dew Point.

Calculated Absorber Stages: 1.25

Calculated Dry Gas Dew Point: 1.76 lbs. H2O/MMSCF

Temperature: 86.0 deg. F
 Pressure: 840.0 psig
 Dry Gas Flow Rate: 10.0000 MMSCF/day
 Glycol Losses with Dry Gas: 0.0640 lb/hr
 Wet Gas Water Content: Saturated

Calculated Wet Gas Water Content: 45.13 lbs. H2O/MMSCF
 Calculated Lean Glycol Recirc. Ratio: 11.62 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
Water	3.89%	96.11%
Carbon Dioxide	99.53%	0.47%
Nitrogen	99.96%	0.04%
Methane	99.97%	0.03%
Ethane	99.89%	0.11%
Propane	99.82%	0.18%
Isobutane	99.74%	0.26%
n-Butane	99.65%	0.35%
Isopentane	99.64%	0.36%
n-Pentane	99.53%	0.47%
n-Hexane	99.21%	0.79%
Cyclohexane	96.50%	3.50%
Other Hexanes	99.41%	0.59%
Heptanes	98.53%	1.47%
Methylcyclohexane	96.11%	3.89%
2,2,4-Trimethylpentane	99.41%	0.59%
Benzene	73.17%	26.83%
Toluene	63.07%	36.93%
Xylenes	45.71%	54.29%
C8+ Heavies	95.97%	4.03%

 REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	61.95%	38.05%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%
Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	0.29%	99.71%
n-Pentane	0.33%	99.67%
n-Hexane	0.38%	99.62%
Cyclohexane	2.99%	97.01%
Other Hexanes	0.70%	99.30%
Heptanes	0.43%	99.57%
Methylcyclohexane	3.77%	96.23%
2,2,4-Trimethylpentane	1.06%	98.94%
Benzene	4.96%	95.04%
Toluene	7.85%	92.15%
Xylenes	12.85%	87.15%
C8+ Heavies	11.37%	88.63%

STREAM REPORTS:

WET GAS STREAM

Temperature: 86.00 deg. F
 Pressure: 854.70 psia
 Flow Rate: 4.17e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	9.51e-002	1.88e+001
Carbon Dioxide	1.51e+001	7.32e+003
Nitrogen	3.91e-002	1.20e+001
Methane	8.36e+001	1.48e+004
Ethane	8.85e-001	2.93e+002
Propane	1.58e-001	7.68e+001
Isobutane	2.92e-002	1.87e+001
n-Butane	2.88e-002	1.84e+001
Isopentane	1.14e-002	9.04e+000
n-Pentane	6.29e-003	5.00e+000
n-Hexane	2.20e-003	2.08e+000
Cyclohexane	1.10e-003	1.02e+000
Other Hexanes	5.20e-003	4.93e+000
Heptanes	1.90e-003	2.09e+000
Methylcyclohexane	1.20e-003	1.30e+000
2,2,4-Trimethylpentane	5.00e-004	6.28e-001
Benzene	6.99e-004	6.01e-001
Toluene	6.99e-004	7.09e-001
Xylenes	3.00e-004	3.50e-001
C8+ Heavies	5.99e-004	1.12e+000
Total Components	100.00	2.25e+004

DRY GAS STREAM

Temperature: 86.00 deg. F
 Pressure: 854.70 psia
 Flow Rate: 4.17e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	3.71e-003	7.34e-001
Carbon Dioxide	1.51e+001	7.28e+003
Nitrogen	3.91e-002	1.20e+001
Methane	8.38e+001	1.48e+004
Ethane	8.86e-001	2.93e+002
Propane	1.58e-001	7.67e+001
Isobutane	2.92e-002	1.86e+001
n-Butane	2.87e-002	1.83e+001
Isopentane	1.14e-002	9.01e+000
n-Pentane	6.28e-003	4.97e+000
n-Hexane	2.18e-003	2.07e+000
Cyclohexane	1.06e-003	9.82e-001
Other Hexanes	5.17e-003	4.90e+000
Heptanes	1.87e-003	2.06e+000
Methylcyclohexane	1.15e-003	1.24e+000

2,2,4-Trimethylpentane	4.98e-004	6.24e-001
Benzene	5.13e-004	4.40e-001
Toluene	4.42e-004	4.47e-001
Xylenes	1.37e-004	1.60e-001
C8+ Heavies	5.76e-004	1.08e+000

Total Components	100.00	2.25e+004

LEAN GLYCOL STREAM

Temperature: 86.00 deg. F
Flow Rate: 3.50e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)

TEG	9.85e+001	1.94e+003
Water	1.50e+000	2.96e+001
Carbon Dioxide	1.75e-010	3.45e-009
Nitrogen	2.23e-014	4.39e-013
Methane	8.24e-018	1.62e-016
Ethane	7.69e-009	1.52e-007
Propane	2.92e-010	5.76e-009
Isobutane	7.48e-011	1.47e-009
n-Butane	8.11e-011	1.60e-009
Isopentane	8.22e-006	1.62e-004
n-Pentane	5.93e-006	1.17e-004
n-Hexane	4.17e-006	8.22e-005
Cyclohexane	5.97e-005	1.18e-003
Other Hexanes	1.50e-005	2.96e-004
Heptanes	7.85e-006	1.55e-004
Methylcyclohexane	1.07e-004	2.10e-003
2,2,4-Trimethylpentane	2.88e-006	5.68e-005
Benzene	4.31e-004	8.49e-003
Toluene	1.14e-003	2.25e-002
Xylenes	1.43e-003	2.82e-002
C8+ Heavies	3.13e-004	6.17e-003

Total Components	100.00	1.97e+003

RICH GLYCOL AND PUMP GAS STREAM

Temperature: 86.00 deg. F
Pressure: 854.70 psia
Flow Rate: 3.75e+000 gpm
NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)

TEG	9.30e+001	1.94e+003
Water	2.29e+000	4.77e+001
Carbon Dioxide	2.54e+000	5.29e+001
Nitrogen	1.66e-003	3.47e-002
Methane	2.01e+000	4.20e+001
Ethane	5.07e-002	1.06e+000
Propane	1.61e-002	3.35e-001
Isobutane	4.60e-003	9.60e-002
n-Butane	5.31e-003	1.11e-001
Isopentane	2.64e-003	5.52e-002

n-Pentane	1.72e-003	3.59e-002
n-Hexane	1.04e-003	2.17e-002
Cyclohexane	1.88e-003	3.93e-002
Other Hexanes	2.01e-003	4.20e-002
Heptanes	1.74e-003	3.62e-002
Methylcyclohexane	2.67e-003	5.58e-002
2,2,4-Trimethylpentane	2.57e-004	5.37e-003
Benzene	8.21e-003	1.71e-001
Toluene	1.37e-002	2.86e-001
Xylenes	1.05e-002	2.19e-001
C8+ Heavies	2.60e-003	5.43e-002

Total Components	100.00	2.09e+003

REGENERATOR OVERHEADS STREAM

 Temperature: 212.00 deg. F
 Pressure: 14.70 psia
 Flow Rate: 1.85e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)

Water	2.06e+001	1.82e+001
Carbon Dioxide	2.46e+001	5.29e+001
Nitrogen	2.53e-002	3.47e-002
Methane	5.36e+001	4.20e+001
Ethane	7.20e-001	1.06e+000
Propane	1.55e-001	3.35e-001
Isobutane	3.38e-002	9.60e-002
n-Butane	3.90e-002	1.11e-001
Isopentane	1.56e-002	5.50e-002
n-Pentane	1.02e-002	3.58e-002
n-Hexane	5.13e-003	2.16e-002
Cyclohexane	9.28e-003	3.81e-002
Other Hexanes	9.90e-003	4.17e-002
Heptanes	7.37e-003	3.61e-002
Methylcyclohexane	1.12e-002	5.37e-002
2,2,4-Trimethylpentane	9.52e-004	5.31e-003
Benzene	4.27e-002	1.63e-001
Toluene	5.86e-002	2.64e-001
Xylenes	3.68e-002	1.91e-001
C8+ Heavies	5.78e-003	4.81e-002

Total Components	100.00	1.16e+002

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Pump Mesa CDP TEG Dehydrator

File Name: C:\1-Office\1-Cirrus\1-Projects\1 - Williams\1 - NSR Applications\4 - Pump Mesa\1 - NSR\Pump Mesa - GRI-GLYCalc (20 MMSCFD).ddf

Date: May 15, 2014

DESCRIPTION:

Description: 20 MMSCFD
 Extended Gas Analysis 08/14/13
 Kimray 21015 PV Pump

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 86.00 deg. F
 Pressure: 840.00 psig
 Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	15.1288
Nitrogen	0.0391
Methane	83.6973
Ethane	0.8862
Propane	0.1585
Isobutane	0.0292
n-Butane	0.0288
Isopentane	0.0114
n-Pentane	0.0063
n-Hexane	0.0022
Cyclohexane	0.0011
Other Hexanes	0.0052
Heptanes	0.0019
Methylcyclohexane	0.0012
2,2,4-Trimethylpentane	0.0005
Benzene	0.0007
Toluene	0.0007
Xylenes	0.0003
C8+ Heavies	0.0006

DRY GAS:

Flow Rate: 20.0 MMSCF/day
 Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
 Water Content: 1.5 wt% H2O
 Flow Rate: 3.5 gpm

PUMP:

Glycol Pump Type: Gas Injection
Gas Injection Pump Volume Ratio: 0.080 acfm gas/gpm glycol

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Pump Mesa CDP TEG Dehydrator

File Name: C:\1-Office\1-Cirrus\1-Projects\1 - Williams\1 - NSR Applications\4 - Pump Mesa\1 - NSR\Pump Mesa - GRI-GLYCalc (20 MMSCFD).ddf

Date: May 15, 2014

DESCRIPTION:

Description: 20 MMSCFD
 Extended Gas Analysis 08/14/13
 Kimray 21015 PV Pump

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	42.2282	1013.478	184.9597
Ethane	1.0579	25.390	4.6337
Propane	0.3357	8.057	1.4704
Isobutane	0.0960	2.304	0.4205
n-Butane	0.1106	2.654	0.4843
Isopentane	0.0548	1.316	0.2401
n-Pentane	0.0357	0.856	0.1562
n-Hexane	0.0214	0.514	0.0938
Cyclohexane	0.0374	0.899	0.1640
Other Hexanes	0.0413	0.992	0.1810
Heptanes	0.0355	0.852	0.1555
Methylcyclohexane	0.0527	1.265	0.2309
2,2,4-Trimethylpentane	0.0052	0.126	0.0230
Benzene	0.1794	4.304	0.7856
Toluene	0.3063	7.350	1.3415
Xylenes	0.2487	5.969	1.0893
C8+ Heavies	0.0471	1.131	0.2064
Total Emissions	44.8940	1077.456	196.6357
Total Hydrocarbon Emissions	44.8940	1077.456	196.6357
Total VOC Emissions	1.6078	38.588	7.0423
Total HAP Emissions	0.7610	18.263	3.3330
Total BTEX Emissions	0.7343	17.623	3.2163

EQUIPMENT REPORTS:

ABSORBER

NOTE: Because the Calculated Absorber Stages was below the minimum allowed, GRI-GLYCalc has set the number of Absorber Stages to 1.25 and has calculated a revised Dry Gas Dew Point.

Calculated Absorber Stages: 1.25
 Calculated Dry Gas Dew Point: 2.20 lbs. H2O/MMSCF

 Temperature: 86.0 deg. F
 Pressure: 840.0 psig
 Dry Gas Flow Rate: 20.0000 MMSCF/day
 Glycol Losses with Dry Gas: 0.1280 lb/hr
 Wet Gas Water Content: Saturated
 Calculated Wet Gas Water Content: 45.13 lbs. H2O/MMSCF
 Calculated Lean Glycol Recirc. Ratio: 5.87 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
Water	4.88%	95.12%
Carbon Dioxide	99.77%	0.23%
Nitrogen	99.98%	0.02%
Methane	99.98%	0.02%
Ethane	99.95%	0.05%
Propane	99.91%	0.09%
Isobutane	99.87%	0.13%
n-Butane	99.83%	0.17%
Isopentane	99.82%	0.18%
n-Pentane	99.77%	0.23%
n-Hexane	99.61%	0.39%
Cyclohexane	98.29%	1.71%
Other Hexanes	99.71%	0.29%
Heptanes	99.28%	0.72%
Methylcyclohexane	98.09%	1.91%
2,2,4-Trimethylpentane	99.71%	0.29%
Benzene	85.20%	14.80%
Toluene	78.52%	21.48%
Xylenes	64.59%	35.41%
C8+ Heavies	98.03%	1.97%

REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	45.17%	54.83%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%
Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	0.29%	99.71%
n-Pentane	0.32%	99.68%
n-Hexane	0.38%	99.62%
Cyclohexane	2.99%	97.01%
Other Hexanes	0.70%	99.30%
Heptanes	0.43%	99.57%
Methylcyclohexane	3.76%	96.24%
2,2,4-Trimethylpentane	1.05%	98.95%
Benzene	4.96%	95.04%
Toluene	7.86%	92.14%
Xylenes	12.86%	87.14%
C8+ Heavies	11.35%	88.65%

STREAM REPORTS:

WET GAS STREAM

Temperature: 86.00 deg. F
 Pressure: 854.70 psia
 Flow Rate: 8.35e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	9.51e-002	3.77e+001
Carbon Dioxide	1.51e+001	1.46e+004
Nitrogen	3.91e-002	2.41e+001
Methane	8.36e+001	2.95e+004
Ethane	8.85e-001	5.86e+002
Propane	1.58e-001	1.54e+002
Isobutane	2.92e-002	3.73e+001
n-Butane	2.88e-002	3.68e+001
Isopentane	1.14e-002	1.81e+001
n-Pentane	6.29e-003	9.99e+000
n-Hexane	2.20e-003	4.17e+000
Cyclohexane	1.10e-003	2.03e+000
Other Hexanes	5.20e-003	9.85e+000
Heptanes	1.90e-003	4.18e+000
Methylcyclohexane	1.20e-003	2.59e+000
2,2,4-Trimethylpentane	5.00e-004	1.25e+000
Benzene	6.99e-004	1.20e+000
Toluene	6.99e-004	1.42e+000
Xylenes	3.00e-004	7.00e-001
C8+ Heavies	5.99e-004	2.25e+000
Total Components	100.00	4.51e+004

DRY GAS STREAM

Temperature: 86.00 deg. F
 Pressure: 854.70 psia
 Flow Rate: 8.33e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	4.64e-003	1.84e+000
Carbon Dioxide	1.51e+001	1.46e+004
Nitrogen	3.91e-002	2.41e+001
Methane	8.37e+001	2.95e+004
Ethane	8.86e-001	5.85e+002
Propane	1.58e-001	1.53e+002
Isobutane	2.92e-002	3.72e+001
n-Butane	2.88e-002	3.67e+001
Isopentane	1.14e-002	1.80e+001
n-Pentane	6.29e-003	9.96e+000
n-Hexane	2.19e-003	4.15e+000
Cyclohexane	1.08e-003	2.00e+000
Other Hexanes	5.19e-003	9.82e+000
Heptanes	1.89e-003	4.15e+000

Methylcyclohexane	1.18e-003	2.54e+000
2,2,4-Trimethylpentane	4.99e-004	1.25e+000
Benzene	5.97e-004	1.02e+000
Toluene	5.50e-004	1.11e+000
Xylenes	1.94e-004	4.52e-001
C8+ Heavies	5.88e-004	2.20e+000

Total Components	100.00	4.50e+004

LEAN GLYCOL STREAM

Temperature: 86.00 deg. F
Flow Rate: 3.50e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)

TEG	9.85e+001	1.94e+003
Water	1.50e+000	2.96e+001
Carbon Dioxide	1.74e-010	3.43e-009
Nitrogen	2.18e-014	4.29e-013
Methane	8.09e-018	1.60e-016
Ethane	7.52e-009	1.48e-007
Propane	2.90e-010	5.72e-009
Isobutane	7.40e-011	1.46e-009
n-Butane	8.03e-011	1.58e-009
Isopentane	8.12e-006	1.60e-004
n-Pentane	5.86e-006	1.15e-004
n-Hexane	4.11e-006	8.10e-005
Cyclohexane	5.85e-005	1.15e-003
Other Hexanes	1.48e-005	2.91e-004
Heptanes	7.70e-006	1.52e-004
Methylcyclohexane	1.05e-004	2.06e-003
2,2,4-Trimethylpentane	2.82e-006	5.55e-005
Benzene	4.75e-004	9.36e-003
Toluene	1.33e-003	2.61e-002
Xylenes	1.86e-003	3.67e-002
C8+ Heavies	3.06e-004	6.03e-003

Total Components	100.00	1.97e+003

RICH GLYCOL AND PUMP GAS STREAM

Temperature: 86.00 deg. F
Pressure: 854.70 psia
Flow Rate: 3.79e+000 gpm
NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)

TEG	9.22e+001	1.94e+003
Water	3.11e+000	6.54e+001
Carbon Dioxide	2.51e+000	5.29e+001
Nitrogen	1.66e-003	3.49e-002
Methane	2.01e+000	4.22e+001
Ethane	5.03e-002	1.06e+000
Propane	1.60e-002	3.36e-001
Isobutane	4.56e-003	9.60e-002
n-Butane	5.26e-003	1.11e-001
Isopentane	2.61e-003	5.50e-002

n-Pentane	1.70e-003	3.58e-002
n-Hexane	1.02e-003	2.15e-002
Cyclohexane	1.83e-003	3.86e-002
Other Hexanes	1.98e-003	4.16e-002
Heptanes	1.69e-003	3.57e-002
Methylcyclohexane	2.60e-003	5.48e-002
2,2,4-Trimethylpentane	2.52e-004	5.30e-003
Benzene	8.97e-003	1.89e-001
Toluene	1.58e-002	3.32e-001
Xylenes	1.36e-002	2.85e-001
C8+ Heavies	2.53e-003	5.31e-002

Total Components	100.00	2.10e+003

REGENERATOR OVERHEADS STREAM

 Temperature: 212.00 deg. F
 Pressure: 14.70 psia
 Flow Rate: 2.23e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)

Water	3.38e+001	3.59e+001
Carbon Dioxide	2.04e+001	5.29e+001
Nitrogen	2.11e-002	3.49e-002
Methane	4.47e+001	4.22e+001
Ethane	5.98e-001	1.06e+000
Propane	1.29e-001	3.36e-001
Isobutane	2.81e-002	9.60e-002
n-Butane	3.23e-002	1.11e-001
Isopentane	1.29e-002	5.48e-002
n-Pentane	8.40e-003	3.57e-002
n-Hexane	4.22e-003	2.14e-002
Cyclohexane	7.56e-003	3.74e-002
Other Hexanes	8.15e-003	4.13e-002
Heptanes	6.02e-003	3.55e-002
Methylcyclohexane	9.12e-003	5.27e-002
2,2,4-Trimethylpentane	7.80e-004	5.24e-003
Benzene	3.90e-002	1.79e-001
Toluene	5.65e-002	3.06e-001
Xylenes	3.98e-002	2.49e-001
C8+ Heavies	4.70e-003	4.71e-002

Total Components	100.00	1.34e+002

Dehydrator Reboiler Exhaust Emissions Calculations

Unit Number: 15b & 20b

Description: Dehydrator Reboiler (10 MMSCFD)

Note: The data on this worksheet applies to each individual emissions unit identified above.

Fuel Consumption

0.39 MMBtu/hr

429 scf/hr

8,760 hr/yr

3,382 MMBtu/yr

3.76 MMscf/yr

900 Btu/scf

Capacity

Hourly fuel consumption

Annual operating time

Annual fuel consumption

Annual fuel consumption

Field gas heating value

scf/hr x Btu/scf / 1,000,000

Mfg. data (InFab)

Williams Four Corners LLC

MMBtu/hr x hr/yr

scf/hr x hr/yr / 1,000,000

Nominal heat content

Steady-State Emission Rates

Pollutants	Emission Factors, lb/day	Uncontrolled Emission Rates,	
		pph	tpy
NOX	1.03	4.29E-02	1.88E-01
CO	0.21	8.75E-03	3.83E-02
VOC	0.07	2.71E-03	1.19E-02
SO2	0.01	4.17E-04	1.83E-03

NOX and CO emission factors taken from August 1994 Enertek Letter

TOC and SO2 emission factors taken from July 1998 InFab Letter

50% of TOC emissions are assumed to be VOC emissions, consistent with AP-42, Table 1.4-2

Uncontrolled Emission Rates (pph) = lb/day / 24 hr/day

Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Pollutants	Emission Factors, lb/MMscf	Uncontrolled Emission Rates,	
		pph	tpy
TSP	7.60	3.26E-03	1.43E-02
PM10	7.60	3.26E-03	1.43E-02
PM2.5	7.60	3.26E-03	1.43E-02
Lead	5.00E-04	2.15E-07	9.40E-07

Emission factors taken from AP-42, Table 1.4-2

Uncontrolled Emission Rates (pph) = lb/MMscf x (scf/hr / 1,000,000)

Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Exhaust Parameters

600 °F

199.62 cfm

0.83 ft

0.55 ft²

6.1 fps

19.1 ft

Exhaust temperature

Stack flowrate

Stack diameter

Stack exit area

Stack velocity

Stack height

Mfg. data (Enertek & InFab)

fps x ft² x 60 sec/min

Mfg. data (InFab)

3.1416 x ((ft / 2) ^2)

Mfg. data (Enertek & InFab)

Mfg. data (InFab)

Dehydrator Reboiler Exhaust Emissions Calculations

Unit Number: **16b-19b**

Description: Dehydrator Reboiler (20 MMSCFD)

Note: The data on this worksheet applies to each individual emissions unit identified above.

Fuel Consumption

0.39 MMBtu/hr	Capacity	scf/hr x Btu/scf / 1,000,000
429 scf/hr	Hourly fuel consumption	Mfg. data (InFab)
8,760 hr/yr	Annual operating time	Williams Four Corners LLC
3,382 MMBtu/yr	Annual fuel consumption	MMBtu/hr x hr/yr
3.76 MMscf/yr	Annual fuel consumption	scf/hr x hr/yr / 1,000,000
900 Btu/scf	Field gas heating value	Nominal heat content

Steady-State Emission Rates

Pollutants	Emission Factors, lb/day	Uncontrolled Emission Rates,	
		pph	tpy
NOX	1.03	4.29E-02	1.88E-01
CO	0.21	8.75E-03	3.83E-02
VOC	0.16	6.46E-03	2.83E-02
SO2	0.02	8.33E-04	3.65E-03

NOX and CO emission factors taken from August 1994 Enertek Letter

TOC and SO2 emission factors taken from July 1998 InFab Letter

50% of TOC emissions are assumed to be VOC emissions, consistent with AP-42, Table 1.4-2

Uncontrolled Emission Rates (pph) = lb/day / 24 hr/day

Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Pollutants	Emission Factors, lb/MMscf	Uncontrolled Emission Rates,	
		pph	tpy
TSP	7.60	3.26E-03	1.43E-02
PM10	7.60	3.26E-03	1.43E-02
PM2.5	7.60	3.26E-03	1.43E-02
Lead	5.00E-04	2.15E-07	9.40E-07

Emission factors taken from AP-42, Table 1.4-2

Uncontrolled Emission Rates (pph) = lb/MMscf x (scf/hr / 1,000,000)

Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Exhaust Parameters

600 °F	Exhaust temperature	Mfg. data (Enertek & InFab)
199.62 cfm	Stack flowrate	fps x ft ² x 60 sec/min
0.83 ft	Stack diameter	Mfg. data (InFab)
0.55 ft ²	Stack exit area	3.1416 x ((ft / 2) ^2)
6.1 fps	Stack velocity	Mfg. data (Enertek & InFab)
19.1 ft	Stack height	Mfg. data (InFab)

GRI-HAPCalc® 3.0
External Combustion Devices Report

Facility ID:	PUMP MESA	Notes:
Operation Type:	COMPRESSOR STATION	
Facility Name:	PUMP MESA CDP	
User Name:	Williams Four Corners LLC	
Units of Measure:	U.S. STANDARD	

Note: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero. These emissions are indicated on the report with a "0". Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".

External Combustion Devices

Unit Name: REBOILER

Hours of Operation: 8,760 Yearly
Heat Input: 0.39 MMBtu/hr
Fuel Type: NATURAL GAS
Device Type: BOILER
Emission Factor Set: FIELD > EPA > LITERATURE
Additional EF Set: -NONE-

Calculated Emissions (ton/yr)

<u>Chemical Name</u>	<u>Emissions</u>	<u>Emission Factor</u>	<u>Emission Factor Set</u>
HAPs			
7,12-Dimethylbenz(a)anthracene	0.0000	0.0000000157 lb/MMBtu	EPA
Formaldehyde	0.0006	0.0003522500 lb/MMBtu	GRI Field
Methanol	0.0007	0.0004333330 lb/MMBtu	GRI Field
Acetaldehyde	0.0005	0.0002909000 lb/MMBtu	GRI Field
1,3-Butadiene	0.0000	0.0000001830 lb/MMBtu	GRI Field
Benzene	0.0000	0.0000062550 lb/MMBtu	GRI Field
Toluene	0.0000	0.0000053870 lb/MMBtu	GRI Field
Ethylbenzene	0.0000	0.0000000720 lb/MMBtu	GRI Field
Xylenes(m,p,o)	0.0000	0.0000010610 lb/MMBtu	GRI Field
2,2,4-Trimethylpentane	0.0001	0.0000323000 lb/MMBtu	GRI Field
n-Hexane	0.0005	0.0003214790 lb/MMBtu	GRI Field
Phenol	0.0000	0.0000000950 lb/MMBtu	GRI Field
Naphthalene	0.0000	0.0000002950 lb/MMBtu	GRI Field
2-Methylnaphthalene	0.0000	0.0000000700 lb/MMBtu	GRI Field
Acenaphthylene	0.0000	0.0000000550 lb/MMBtu	GRI Field
Biphenyl	0.0000	0.0000011500 lb/MMBtu	GRI Field
Acenaphthene	0.0000	0.0000000800 lb/MMBtu	GRI Field
Fluorene	0.0000	0.0000000700 lb/MMBtu	GRI Field
Anthracene	0.0000	0.0000000750 lb/MMBtu	GRI Field
Phenanthrene	0.0000	0.0000000550 lb/MMBtu	GRI Field
Fluoranthene	0.0000	0.0000000800 lb/MMBtu	GRI Field
Pyrene	0.0000	0.0000000750 lb/MMBtu	GRI Field
Benz(a)anthracene	0.0000	0.0000000750 lb/MMBtu	GRI Field
Chrysene	0.0000	0.0000001000 lb/MMBtu	GRI Field
Benzo(a)pyrene	0.0000	0.0000000600 lb/MMBtu	GRI Field
Benzo(b)fluoranthene	0.0000	0.0000001350 lb/MMBtu	GRI Field

Benzo(k)fluoranthene	0.0000	0.0000004400	lb/MMBtu	GRI Field
Benzo(g,h,i)perylene	0.0000	0.0000001500	lb/MMBtu	GRI Field
Indeno(1,2,3-c,d)pyrene	0.0000	0.0000001000	lb/MMBtu	GRI Field
Dibenz(a,h)anthracene	0.0000	0.0000000950	lb/MMBtu	GRI Field
Lead	0.0000	0.0000004902	lb/MMBtu	EPA
Total	0.0024			

Criteria Pollutants

VOC	0.0092	0.0053921569	lb/MMBtu	EPA
PM	0.0127	0.0074509804	lb/MMBtu	EPA
PM, Condensable	0.0095	0.0055882353	lb/MMBtu	EPA
PM, Filterable	0.0032	0.0018627451	lb/MMBtu	EPA
CO	0.0525	0.0307275000	lb/MMBtu	GRI Field
NMHC	0.0146	0.0085294118	lb/MMBtu	EPA
NOx	0.1508	0.0882553330	lb/MMBtu	GRI Field
SO2	0.0010	0.0005880000	lb/MMBtu	EPA

Other Pollutants

Dichlorobenzene	0.0000	0.0000011765	lb/MMBtu	EPA
Methane	0.0100	0.0058790650	lb/MMBtu	GRI Field
Acetylene	0.0091	0.0053314000	lb/MMBtu	GRI Field
Ethylene	0.0009	0.0005264000	lb/MMBtu	GRI Field
Ethane	0.0029	0.0016804650	lb/MMBtu	GRI Field
Propylene	0.0016	0.0009333330	lb/MMBtu	GRI Field
Propane	0.0021	0.0012019050	lb/MMBtu	GRI Field
Butane	0.0024	0.0013866350	lb/MMBtu	GRI Field
Cyclopentane	0.0001	0.0000405000	lb/MMBtu	GRI Field
Pentane	0.0035	0.0020656400	lb/MMBtu	GRI Field
n-Pentane	0.0034	0.0020000000	lb/MMBtu	GRI Field
Cyclohexane	0.0001	0.0000451000	lb/MMBtu	GRI Field
Methylcyclohexane	0.0003	0.0001691000	lb/MMBtu	GRI Field
n-Octane	0.0001	0.0000506000	lb/MMBtu	GRI Field
n-Nonane	0.0000	0.0000050000	lb/MMBtu	GRI Field
CO2	200.9647	117.6470588235	lb/MMBtu	EPA

Compressor Blowdown Emissions Calculations

Unit Number: **1a-14a**
 Description: Compressor & Piping Associated With Station

Throughput

14 # of units	Number of units	Williams Four Corners LLC
180 events/yr/unit	Blowdowns per year per unit	Williams Four Corners LLC
9,865 scf/event	Gas loss per blowdown	Williams Four Corners LLC
24,859,800 scf/yr	Annual gas loss	# of units x events/yr/unit x scf/event

Emission Rates

Pollutants	Emission Factors, lb/scf	Uncontrolled, Emission Rates, tpy
VOC	3.412E-04	4.24
2,2,4-Trimethylpentane	1.321E-06	1.64E-02
Benzene	1.442E-06	1.79E-02
Ethylbenzene	0.000E+00	0.00E+00
n-Hexane	4.998E-06	6.21E-02
Toluene	1.700E-06	2.11E-02
Xylene	8.397E-07	1.04E-02

Emission factors calculated from gas composition (see table below)
 Uncontrolled Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Emission Factors, lb/scf
Carbon dioxide	15.1288	44.01	1.755E-02
Hydrogen sulfide	0.0000	34.07	0.000E+00
Nitrogen	0.0391	28.01	2.887E-05
Methane	83.6973	16.04	3.539E-02
Ethane	0.8862	30.07	7.026E-04
Propane	0.1585	44.09	1.842E-04
Isobutane	0.0292	58.12	4.474E-05
n-Butane	0.0288	58.12	4.413E-05
Isopentane	0.0114	72.15	2.168E-05
n-Pentane	0.0063	72.15	1.198E-05
Cyclopentane	0.0000	70.14	0.000E+00
n-Hexane	0.0022	86.17	4.998E-06
Cyclohexane	0.0011	84.16	2.441E-06
Other hexanes	0.0052	86.18	1.181E-05
Heptanes	0.0019	100.20	5.019E-06
Methylcyclohexane	0.0012	98.19	3.106E-06
2,2,4-Trimethylpentane	0.0005	100.21	1.321E-06
Benzene	0.0007	78.11	1.442E-06
Toluene	0.0007	92.14	1.700E-06
Ethylbenzene	0.0000	106.17	0.000E+00
Xylenes	0.0003	106.17	8.397E-07
C8+ Heavies	0.0006	110.00	1.740E-06
Total	100.0000		
Total VOC			3.412E-04

Gas stream composition obtained from Pump Mesa extended gas analysis sampled 08/14/13
 Emission Factors (lb/scf) = (% / 100) x lb/lb-mole / 379.3 scf/lb-mole

Equipment Leaks Emissions Calculations

Unit Number: **F1**

Description: Valves, Connectors, Seals & Open-Ended Lines

Steady-State Emission Rates

Equipment	Number of Components, # of sources	Emission Factors, kg/hr/source	Emission Factors, lb/hr/source	Uncontrolled TOC Emission Rates,	
				pph	tpy
Valves	1179	0.0045	0.0099	11.67	51.12
Connectors	1295	0.0002	0.0004	0.57	2.50
Pump Seals	12	0.0024	0.0053	0.06	0.28
Compressor Seals	80	0.0088	0.0194	1.55	6.78
Pressure Relief Valves	109	0.0088	0.0194	2.11	9.24
Open-Ended Lines	322	0.0020	0.0044	1.42	6.21
Total				17.38	76.13

Number of components based on the numbers of compressors and dehydrators at the station (see next page)

Emission factors taken from the EPA "1995 Protocol for Equipment Leak Emission Estimates"

Emission factors (lb/hr/source) = Emission factors (kg/hr/source) x 2.2 lb/kg

Uncontrolled TOC Emission Rates (pph) = lb/hr/source x # of sources

Uncontrolled TOC Emission Rates (tpy) = Uncontrolled TOC Emission Rates (pph) x 8,760 hr/yr / 2,000 lb/ton

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Component Weights, lb/lb-mole	Weight Percent of TOC, %	Uncontrolled Emission Rates,	
					pph	tpy
Carbon dioxide	15.1288	44.010				
Hydrogen sulfide	0.0000	34.070				
Nitrogen	0.0391	28.013				
Methane	83.6973	16.043	1342.756	97.135		
Ethane	0.8862	30.070	26.648	1.928		
Propane	0.1585	44.097	6.989	0.506	8.79E-02	3.85E-01
Isobutane	0.0292	58.123	1.697	0.123	2.13E-02	9.35E-02
n-Butane	0.0288	58.123	1.674	0.121	2.10E-02	9.22E-02
Isopentane	0.0114	72.150	0.823	0.060	1.03E-02	4.53E-02
n-Pentane	0.0063	72.150	0.455	0.033	5.72E-03	2.50E-02
Cyclopentane	0.0000	70.134	0.000	0.000	0.00E+00	0.00E+00
n-Hexane	0.0022	86.177	0.190	0.014	2.38E-03	1.04E-02
Cyclohexane	0.0011	84.161	0.093	0.007	1.16E-03	5.10E-03
Other hexanes	0.0052	86.177	0.448	0.032	5.63E-03	2.47E-02
Heptanes	0.0019	100.204	0.190	0.014	2.39E-03	1.05E-02
Methylcyclohexane	0.0012	98.188	0.118	0.009	1.48E-03	6.49E-03
2,2,4-Trimethylpentane	0.0005	114.231	0.057	0.004	7.18E-04	3.15E-03
Benzene	0.0007	78.114	0.055	0.004	6.88E-04	3.01E-03
Toluene	0.0007	92.141	0.064	0.005	8.11E-04	3.55E-03
Ethylbenzene	0.0000	106.167	0.000	0.000	0.00E+00	0.00E+00
Xylenes	0.0003	106.167	0.032	0.002	4.00E-04	1.75E-03
C8+ Heavies	0.0006	114.231	0.069	0.005	8.62E-04	3.77E-03
Total	100.0000		1382.357			
Total VOC				0.937	1.63E-01	7.13E-01

Gas stream composition obtained from Pump Mesa extended gas analysis sampled 08/14/13

Component Weights (lb/lb-mole) = (% / 100) * Molecular Weights (lb/lb-mole)

Weight Percent of TOC (%) = 100 x Component Weights (lb/lb-mole) / Total Component Weight (lb/lb-mole)

Uncontrolled Emission Rates (pph) = Total Uncontrolled TOC Emission Rate (pph) x (% / 100)

Uncontrolled Emission Rates (tpy) = Total Uncontrolled TOC Emission Rate (tpy) x (% / 100)

Equipment Leaks Emissions Calculations

Unit Number: **F1**

Description: Valves, Connectors, Seals & Lines

Number of Compression Units at the Facility: **14**Number of Dehydrators at the Facility: **6**

Process Equipment Description	Equipment Count						Instrument Count		
	Valves	Connectors	Pump Seals	Compressor Seals	Pressure Relief Valves	Open-end	Flow	Level	Pressure
Station inlet, meter run to pulsation dampener	17	14	0	0	1	13	3	0	3
Pulsation dampener	12	8	0	0	0	2	0	4	1
Compressor suction header	7	4	0	0	0	3	0	0	1
Suction header feed to instrument gas header	3	1	0	0	0	1	0	0	0
Compressor discharge header and bypass to station discharge	6	5	0	0	0	3	0	1	1
Compressor discharge header and suction header bypass lines	4	2	0	0	0	2	0	0	1
Fuel gas header	2	2	0	0	1	2	0	0	1
Instrument gas header	2	2	0	0	1	2	0	0	0
Station discharge header	9	5	0	0	1	6	0	0	2
Fuel gas recovery header	2	2	0	0	1	2	0	0	0
Fuel gas feed and filter loop	15	9	0	0	0	1	0	4	1
Instrument gas feed and filter loop	9	11	0	0	0	3	0	0	0
Produced water storage tank	1	0	0	0	0	1	0	1	0
ESD panel	12	0	0	0	0	0	0	0	0
Starting gas header	6	2	0	0	1	3	0	0	0
Hot gas header	2	2	0	0	0	2	0	0	0
Volume bottle lop	12	4	0	24	1	2	0	0	1
Components from Compressors	616	826	0	56	84	154	0	56	126
Components from dehydrators	36	60	12	0	18	36	0	18	24
Total	773	959	12	80	109	238	3	84	162
Adjusted Total	1179	1295	12	80	109	322			

The following additions are included in the Adjusted Total:

- 1 valve is added for each open end line
- 2 connectors are added for each flow meter
- 2 valves, 2 connectors and 1 open end line are added for each level gauge
- 1 connector is added for each pressure gauge

The component count is based on an evaluation of the Sim Mesa Compressor Station (two stage compression)

Malfunction Emissions Data and Calculations

Unit Number: **M1**
 Description: **Malfunctions**

Emission Rates

Pollutants	Weight Percents, %	Uncontrolled Emission Rates, tpy
VOC		10.00
2,2,4-Trimethylpentane	3.872E-01	3.87E-02
Benzene	4.225E-01	4.22E-02
Ethylbenzene	0.000E+00	0.00E+00
n-Hexane	1.465E+00	1.46E-01
Toluene	4.984E-01	4.98E-02
Xylene	2.461E-01	2.46E-02

Weight percents calculated from gas composition (see table below)

Uncontrolled Emission Rates (tpy) = VOC Emission Rate (tpy) x (% / 100)

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Component Weights, lb/lb-mole	Weight Percent, %
Carbon dioxide	15.1288	44.01		
Hydrogen sulfide	0.0000	34.07		
Nitrogen	0.0391	28.01		
Methane	83.6973	16.04		
Ethane	0.8862	30.07		
Propane	0.1585	44.09	0.0699	5.400E+01
Isobutane	0.0292	58.12	0.0170	1.311E+01
n-Butane	0.0288	58.12	0.0167	1.293E+01
Isopentane	0.0114	72.15	0.0082	6.355E+00
n-Pentane	0.0063	72.15	0.0045	3.512E+00
Cyclopentane	0.0000	70.14	0.0000	0.000E+00
n-Hexane	0.0022	86.17	0.0019	1.465E+00
Cyclohexane	0.0011	84.16	0.0009	7.153E-01
Other hexanes	0.0052	86.18	0.0045	3.463E+00
Heptanes	0.0019	100.20	0.0019	1.471E+00
Methylcyclohexane	0.0012	98.19	0.0012	9.104E-01
2,2,4-Trimethylpentane	0.0005	100.21	0.0005	3.872E-01
Benzene	0.0007	78.11	0.0005	4.225E-01
Toluene	0.0007	92.14	0.0006	4.984E-01
Ethylbenzene	0.0000	106.17	0.0000	0.000E+00
Xylenes	0.0003	106.17	0.0003	2.461E-01
C8+ Heavies	0.0006	110.00	0.0007	5.100E-01
Total	100.0000			
Total VOC			0.1294	

Gas stream composition obtained from **Pump Mesa** extended gas analysis sampled **08/14/13**

Component Weights (lb/lb-mole) = (% / 100) x Molecular Weights (lb/lb-mole)

Weight Percents (%) = 100 x Component Weights (lb/lb-mole) / Total VOC Weight (lb/lb-mole)

Green House Gas Emissions Data and Calculations

Sources	Facility Total Emissions				
	CO2, tpy	CH4, tpy	N2O, tpy	GHG, tpy	CO2e, tpy
Engine & Turbine Exhaust Emissions	84,146.34	1.59	1.59E-01	84,148.08	84233.25
SSM Emissions	218.19	439.95	--	658.14	11216.87
Reciprocating Compressor Venting Emissions	438.92	886.35	--	1,325.27	22597.64
Heater & Boiler Exhaust Emissions	553.89	1.04E-02	1.04E-03	553.90	554.47
Dehydrator Emissions	1,390.21	1,107.41	--	2,497.62	29075.45
Reboiler Exhaust Emissions	1,316.05	2.48E-02	2.48E-03	1,316.08	1317.41
Equipment Leak Emissions	15.04	30.37	--	45.40	774.19
Natural Gas Pneumatic Device Venting Emissions	98.41	198.25	--	296.66	5054.66
Natural Gas Driven Pneumatic Pump Venting Emissions	1.02	2.06	--	3.08	52.51
Malfunction Emissions	514.47	1037.33	--	1551.80	26447.76
Total	88,692.55	3,703.33	1.62E-01	92,396.04	181,324.21

Engine & Turbine Exhaust Emissions

Unit Numbers	Description	Emission Factors			Emission Rates		
		CO2, kg/MMBtu	CH4, kg/MMBtu	N2O, kg/MMBtu	CO2, tpy	CH4, tpy	N2O, tpy
1	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
2	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
3	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
4	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
5	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
6	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
7	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
8	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
9	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
10	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
11	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
12	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
13	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
14	Waukesha 7042GL	53.06	1.00E-03	1.00E-04	6,010.45	1.13E-01	1.13E-02
Total		53.06	1.00E-03	1.00E-04	84,146.34	1.59	1.59E-01

The emissions factors are taken from 40 CFR 98, Subpart C, Tables C-1 & C-2

Emission Rates (tpy) = kg/MMBtu x 2.2 lb/kg x MMBtu/yr / 2,000 lb/ton

Unit Numbers	Description	Fuel Types	Operating Times, hr/yr	LHV Design Heat Rates, MMBtu/hr	HHV	
					Design Heat Rates, MMBtu/hr	Fuel Usages, MMBtu/yr
1	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
2	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
3	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
4	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
5	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
6	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
7	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
8	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
9	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
10	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
11	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
12	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
13	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979
14	Waukesha 7042GL	Nat. Gas	8,760	10.58	11.76	102,979

The fuel types and operating times are provided by Williams

The LHV design heat rates are taken from manufacturers data

HHV Design Heat Rates (MMBtu/hr) = LHV Design Heat Rates (MMBtu/hr) / 0.9 LHV/HHV

HHV Fuel Usages (MMBtu/yr) = HHV Design Heat Rates (MMBtu/hr) x hr/yr

Green House Gas Emissions Data and Calculations

SSM Emissions

Unit Numbers	Description	Total Gas Losses, scf/yr	CO2 Emission Factors, lb/scf	CH4 Emission Factors, lb/scf	Emission Rates	
					CO2, tpy	CH4, tpy
1a-14a	Compressor	24,859,800	0.0176	0.0354	218.19	439.95

The annual blowdown volumes are calculated from data provided by Williams

The CO2 and CH4 emission factors are calculated from the facility extended gas analysis

Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Reciprocating Compressor Venting Emissions

Unit Numbers	Description	Emission Rates	
		CO2, tpy	CH4, tpy
NA	Blowdown Valve Leakage	0.00	0.00
NA	Rod Packing Emissions	0.00	0.00
NA	Isolation Valve Leakage	438.92	886.35
	Total	438.92	886.35

Operating or standby mode - includes blowdown valve leakage through blowdown vent stack

Operating mode - includes rod packing emissions

Non-operating depressurized mode - includes isolation valve leakage through open blowdown vents (without blind flanges)

Rod packing gas emissions assume 4 cylinders per compressor

A combination of equations W-26 & W-36 (Subpart W) is used to calculate reciprocating compressor emissions

As the NMED requires CO2 & CH4 emissions rather than CO2e emissions, it is not necessary to include the global warming potential from equation W-36

CO2 Emission Rates (tpy) = # x scf/hr x hr/yr x (CO2 Mole Percent (%) / 100) x CO2 Density (kg/scf)

x (2,204.6 lb/tonne / 2,000 lb/ton) / 1,000 kg/tonne

CH4 Emission Rates (tpy) = # x scf/hr x hr/yr x (CH4 Mole Percent (%) / 100) x CH4 Density (kg/scf)

x (2,204.6 lb/tonne / 2,000 lb/ton) / 1,000 kg/tonne

Unit Numbers	Description	Number of Compressors #	Gas Emissions, scf/hr	Operating Times, hr/yr	CO2 Mole Percents, %	CH4 Mole Percents, %	CO2 Density, kg/scf	CH4 Density, kg/scf
NA	Blowdown Valve Leakage	14	30	0	15.13	83.70	0.0526	0.0192
NA	Rod Packing Emissions	14	360	0	15.13	83.70	0.0526	0.0192
NA	Isolation Valve Leakage	14	408	8,760	15.13	83.70	0.0526	0.0192

The number of compressors are provided by Williams

The gas emissions are BMM

The operating times (the average operating times for all station compressors combined) are provided by Williams

The facility CO2 and CH4 contents are taken from the facility extended gas analysis

The CO2 & CH4 densities (kg/scf) are taken from Subpart W, Paragraph 98.233(v)

Heater & Boiler Exhaust Emissions

Unit Numbers	Description	Emission Factors			Emission Rates		
		CO2, kg/MMBtu	CH4, kg/MMBtu	N2O, kg/MMBtu	CO2, tpy	CH4, tpy	N2O, tpy
NA	Tank Heater	53.06	1.00E-03	1.00E-04	184.63	3.48E-03	3.48E-04
NA	Tank Heater	53.06	1.00E-03	1.00E-04	184.63	3.48E-03	3.48E-04
NA	Tank Heater	53.06	1.00E-03	1.00E-04	184.63	3.48E-03	3.48E-04
	Total				553.89	1.04E-02	1.04E-03

The emissions factors are taken from 40 CFR 98, Subpart C, Tables C-1 & C-2

Emission Rates (tpy) = kg/MMBtu x 2.2 lb/kg x MMBtu/yr / 2,000 lb/ton

Green House Gas Emissions Data and Calculations

Unit Numbers	Description	Fuel Types	Operating Times, hr/yr	LHV Design Heat Rates, MMBtu/hr	HHV	
					Design Heat Rates, MMBtu/hr	Fuel Usages, MMBtu/yr
NA	Tank Heater	Nat. Gas	8,760	0.325	0.361	3,163
NA	Tank Heater	Nat. Gas	8,760	0.325	0.361	3,163
NA	Tank Heater	Nat. Gas	8,760	0.325	0.361	3,163

The fuel type and operating time are provided by Williams

The LHV design heat rates are taken from manufacturers data

HHV Design Heat Rates (MMBtu/hr) = LHV Design Heat Rate (MMBtu/hr) / 0.9 LHV/HHV

HHV Fuel Usages (MMBtu/yr) = HHV Design Heat Rate (MMBtu/hr) x hr/yr

Dehydrator Emissions

Unit Numbers	Description	Emission Rates	
		CO2, tpy	CH4, tpy
15a	Dehydrator (10 MMSCFD)	231.70	183.79
16a	Dehydrator (20 MMSCFD)	231.70	184.96
17a	Dehydrator (20 MMSCFD)	231.70	184.96
18a	Dehydrator (20 MMSCFD)	231.70	184.96
19a	Dehydrator (20 MMSCFD)	231.70	184.96
20a	Dehydrator (10 MMSCFD)	231.70	183.79
Total		1,390.21	1107.41

The emission rates are taken from the GRI-GLYCalc output file

Reboiler Exhaust Emissions

Unit Numbers	Description	Emission Factors			Emission Rates		
		CO2, kg/MMBtu	CH4, kg/MMBtu	N2O, kg/MMBtu	CO2, tpy	CH4, tpy	N2O, tpy
15b	Reboiler (10 MMSCFD)	53.06	1.00E-03	1.00E-04	219.34	4.13E-03	4.13E-04
16b	Reboiler (20 MMSCFD)	53.06	1.00E-03	1.00E-04	219.34	4.13E-03	4.13E-04
17b	Reboiler (20 MMSCFD)	53.06	1.00E-03	1.00E-04	219.34	4.13E-03	4.13E-04
18b	Reboiler (20 MMSCFD)	53.06	1.00E-03	1.00E-04	219.34	4.13E-03	4.13E-04
19b	Reboiler (20 MMSCFD)	53.06	1.00E-03	1.00E-04	219.34	4.13E-03	4.13E-04
20b	Reboiler (10 MMSCFD)	53.06	1.00E-03	1.00E-04	219.34	4.13E-03	4.13E-04
Total					1,316.05	2.48E-02	2.48E-03

The emissions factors are taken from 40 CFR 98, Subpart C, Tables C-1 & C-2

Emission Rates (tpy) = kg/MMBtu x 2.2 lb/kg x MMBtu/yr / 2,000 lb/ton

Unit Numbers	Description	Fuel Types	Operating Times hr/yr	LHV			HHV	
				Fuel Usages, scf/hr	Fuel Heat Contents, Btu/scf	Fuel Usages, MMBtu/hr	Fuel Usages, MMBtu/hr	Fuel Usages, MMBtu/yr
15b	Reboiler (10 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
16b	Reboiler (20 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
17b	Reboiler (20 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
18b	Reboiler (20 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
19b	Reboiler (20 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
20b	Reboiler (10 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758

The fuel types and operating times are provided by Williams

The LHV fuel usages (scf/hr) are taken from manufacturer's data

The LHV fuel heat contents are estimated based on the value typically used by manufacturers

LHV Fuel Usages (MMBtu/hr) = LHV Fuel Usages (scf/hr) x Btu/scf / 1,000,000 Btu/MMBtu

HHV Fuel Usages (MMBtu/hr) = LHV Fuel Usages (MMBtu/hr) / 0.9 LHV/HHV

HHV Fuel Usages (MMBtu/yr) = HHV Fuel Usages (MMBtu/hr) x hr/yr

Green House Gas Emissions Data and Calculations

Equipment Leaks Emissions

Unit Numbers	Description	Emission Rates	
		CO2, tpy	CH4, tpy
NA	Valves	10.96	22.14
NA	Connectors	1.69	3.42
NA	Open-Ended Lines	0.77	1.55
NA	Pressure Relief Valves	1.62	3.26
Total		15.04	30.37

A combination of equations W-31 & W-36 (Subpart W) is used to calculate uncombusted CO2 & CH4 emissions

As the NMED requires CO2 & CH4 emissions rather than CO2e emissions, it is not necessary to include the global warming potential from equation W-36

$$\text{CO2 Emission Rate (tpy)} = \# \times \text{scf/hr/component} \times (\text{CO2 Content (mole \%)} / 100) \times \text{hr/yr} \times \text{CO2 Density (kg/scf)} \times (2,204.6 \text{ lb/tonne} / 2,000 \text{ lb/ton}) / 1,000 \text{ kg/tonne}$$

$$\text{CH4 Emission Rate (tpy)} = \# \times \text{scf/hr/component} \times (\text{CH4 Content (mole \%)} / 100) \times \text{hr/yr} \times \text{CH4 Density (kg/scf)} \times (2,204.6 \text{ lb/tonne} / 2,000 \text{ lb/ton}) / 1,000 \text{ kg/tonne}$$

Unit Numbers	Description	Number of Components, #	Emission Factors, scf/hr /component	CO2 Contents, mole %	CH4 Contents, mole %	Operating Times, hr/yr	CO2 Density, kg/scf	CH4 Density, kg/scf
NA	Valves	1179	0.121	15.13	83.70	8,760	0.0526	0.0192
NA	Connectors	1295	0.017	15.13	83.70	8,760	0.0526	0.0192
NA	Open-Ended Lines	322	0.031	15.13	83.70	8,760	0.0526	0.0192
NA	Pressure Relief Valves	109	0.193	15.13	83.70	8,760	0.0526	0.0192

The number of sources are calculated based on the number of compressors and dehydrators at the station (see criteria pollutant and HAP equipment leaks calculations)

The emission factors are taken from Subpart W, Table W-1A (Western U.S. - Gas Service)

The facility CO2 and CH4 contents are taken from the facility extended gas analysis

The operating times are provided by Williams (default is the entire year)

The CO2 & CH4 densities are taken from Subpart W, Paragraph 98.233(v)

Natural Gas Pneumatic Device Venting Emissions

Unit Numbers	Description	Number of Devices, #	Emission Factors, scf/hr/device	Operating Times, hr/yr	Emission Rates	
					CO2, tpy	CH4, tpy
NA	Continuous High Bleed Pneumatic Devices	2	37.3	8,760	5.73	11.55
NA	Intermittent Bleed Pneumatic Devices	89	13.5	8,760	92.36	186.05
NA	Continuous Low Bleed Pneumatic Devices	3	1.39	8,760	0.32	0.65
Total					98.41	198.25

The number of devices are provided by Williams

The emission factors are taken from Subpart W, Table W-1A (Western U.S. - Gas Service)

The operating times are provided by Williams

Equation W-1 (Subpart W) is used to calculate CO2 & CH4 emissions

As the NMED requires CO2 & CH4 emissions in addition to CO2e emissions, it is necessary to divide by the global warming potentials

$$\text{CO2 Emission Rates (tpy)} = \# \times \text{scf/hr/device} \times (\text{CO2 Content (mole \%)} / 100) \times \text{CO2 Conversion Factors (tonne CO2e/scf)} \times \text{hr/yr} \times (2,204.6 \text{ lb/tonne} / 2,000 \text{ lb/ton}) / \text{CO2 Global Warming Potentials (tonne CO2e/tonne CO2)}$$

$$\text{CH4 Emission Rates (tpy)} = \# \times \text{scf/hr/device} \times (\text{CH4 Contents (mole \%)} / 100) \times \text{CH4 Conversion Factors (tonne CO2e/scf)} \times \text{hr/yr} \times (2,204.6 \text{ lb/tonne} / 2,000 \text{ lb/ton}) / \text{CH4 Global Warming Potentials (tonne CO2e/tonne CH4)}$$

Green House Gas Emissions Data and Calculations

Unit Numbers	Description	CO2 Contents, mole %	CH4 Contents, mole %	CO2 Conversion Factors, tonne CO2e /scf	CH4 Conversion Factors, tonne CO2e /scf	CO2 Global Warming Potentials, tonne CO2e /tonne CO2	CH4 Global Warming Potentials, tonne CO2e /tonne CH4
NA	Continuous High Bleed Pneumatic Devices	15.13	83.70	5.262E-05	4.790E-04	1	25
NA	Continuous Low Bleed Pneumatic Devices	15.13	83.70	5.262E-05	4.790E-04	1	25
NA	Intermittent Bleed Pneumatic Devices	15.13	83.70	5.262E-05	4.790E-04	1	25

The facility CO2 and CH4 contents are taken from the facility extended gas analysis
 The conversion factors are taken from Subpart W, Paragraph 98.233(a)
 The global warming potentials are taken from 40 CFR Part 98, Table A-1

Natural Gas Driven Pneumatic Pump Venting Emissions

Emission Rates

Unit Number	Description	Number of Pumps, #	Emission Factor, scf/hr/pump	Operating Time, hr/yr	Emission Rates	
					CO2, tpy	CH4, tpy
NA	Pneumatic Pump Venting	1	13.3	8,760	1.02	2.06

The number of pumps are provided by Williams
 The emission factor is taken from Subpart W, Table W-1A (Western U.S. - Gas Service)
 The operating time is provided by Williams (default is the entire year)
 Equation W-2 (Subpart W) is used to calculate CO2 & CH4 emissions
 As the NMED requires CO2 & CH4 emissions in addition to CO2e emissions, it is necessary to divide by the global warming potentials
 CO2 Emission Rate (tpy) = # x scf/hr/pump x (CO2 Content (mole %) / 100) x CO2 Conversion Factor (tonne CO2e/scf) x hr/yr
 x (2,204.6 lb/tonne / 2,000 lb/ton) / CO2 Global Warming Potentials (tonne CO2e/tonne CO2)
 CH4 Emission Rate (tpy) = # x scf/hr/pump x (CH4 Content (mole %) / 100) x CH4 Conversion Factor (tonne CO2e/scf) x hr/yr
 x (2,204.6 lb/tonne / 2,000 lb/ton) / CH4 Global Warming Potentials (tonne CO2e/tonne CH4)

Unit Number	Description	CO2 Content, mole %	CH4 Content, mole %	CO2 Conversion Factor, tonne CO2e /scf	CH4 Conversion Factor, tonne CO2e /scf	CO2 Global Warming Potential, tonne CO2e /tonne CO2	CH4 Global Warming Potential, tonne CO2e /tonne CH4
NA	Pneumatic Pump Venting	15.13	83.70	5.262E-05	4.790E-04	1	25

The facility CO2 and CH4 contents are taken from the facility extended gas analysis
 The conversion factors are taken from Subpart W, Paragraph 98.233(a)
 The operating time is provided by Williams (the default is the entire year)
 The global warming potentials are taken from 40 CFR Part 98, Table A-1

Malfunction Emissions

Unit Number	Description	Emission Rates		
		VOC, tpy	CO2, tpy	CH4, tpy
M1	Malfunctions	10.00	514.47	1,037.33

The VOC emission rate is estimated (see calculations workbook)
 CO2 Emission Rate (tpy) = VOC Emission Rate (tpy) x (Total Component Weight (lb/lb-mole) / VOC Component Weight (lb-lb-mole))
 x (CO2 Weight % of Total (%) / 100)
 CH4 Emission Rate (tpy) = VOC Emission Rate (tpy) x (Total Component Weight (lb/lb-mole) / VOC Component Weight (lb-lb-mole))
 x (CH4 Weight % of Total (%) / 100)

Unit Number	Description	Total Component Weight, lb/lb-mole	VOC Component Weight, lb/lb-mole	CO2 Weight % of Total, %	CH4 Weight % of Total, %
M1	Malfunctions	20.49	0.13	32.49	65.52

The total & VOC component weights and CO2 & CH4 weight % of totals are calculated from the facility extended gas analysis

Green House Gas Emissions Data and Calculations

Gas Stream Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Component Weights, lb/lb-mole	Weight Percent of Total, %	Emission Factors, lb/scf
Carbon Dioxide	15.1288	44.01	6.66	32.4947	0.0176
Hydrogen Sulfide	0.0000	34.07	0.00	0.0000	0.0000
Nitrogen	0.0391	28.01	0.01	0.0534	0.0000
Methane	83.6973	16.04	13.43	65.5197	0.0354
Ethane	0.8862	30.07	0.27	1.3005	0.0007
Propane	0.1585	44.09	0.07	0.3411	0.0002
IsoButane	0.0292	58.12	0.02	0.0828	0.0000
Normal Butane	0.0288	58.12	0.02	0.0817	0.0000
IsoPentane	0.0114	72.15	0.01	0.0401	0.0000
Normal Pentane	0.0063	72.15	0.00	0.0222	0.0000
Cyclopentane	0.0000	70.14	0.00	0.0000	0.0000
n-Hexane	0.0022	86.17	0.00	0.0093	0.0000
Cyclohexane	0.0011	84.16	0.00	0.0045	0.0000
Other Hexanes	0.0052	86.18	0.00	0.0219	0.0000
Heptanes	0.0019	100.20	0.00	0.0093	0.0000
Methylcyclohexane	0.0012	98.19	0.00	0.0058	0.0000
2,2,4-Trimethylpentane	0.0005	100.21	0.00	0.0024	0.0000
Benzene	0.0007	78.11	0.00	0.0027	0.0000
Toluene	0.0007	92.14	0.00	0.0031	0.0000
Ethylbenzene	0.0000	106.17	0.00	0.0000	0.0000
Xylenes	0.0003	106.17	0.00	0.0016	0.0000
C8+ heavies	0.0006	110.00	0.00	0.0032	0.0000
Total	100.0000		20.49	100.0000	0.0540
VOC			0.13	--	0.0003

Gas stream composition obtained from Pump Mesa extended gas analysis sampled 08/14/13

Component Weights (lb/lb-mole) = [Mole Percents (%) / 100] x Molecular Weights (lb/lb-mole)

Weight Percent of Total (%) = 100 x Component Weights (lb/lb-mole) / Total Component Weight (lb/lb-mole)

Emission Factors (lb/scf) = [Mole Percents (%) / 100] x Molecular Weights (lb/lb-mole) / 379.3 scf/lb-mole

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Pump Mesa T27 (Produced H2O)
City:	Aztec
State:	New Mexico
Company:	Williams Four Corners LLC
Type of Tank:	Vertical Fixed Roof Tank
Description:	12,600 Gallon Produced Water Tank

Tank Dimensions

Shell Height (ft):	15.00
Diameter (ft):	12.00
Liquid Height (ft) :	14.00
Avg. Liquid Height (ft):	7.00
Volume (gallons):	11,844.00
Turnovers:	12.00
Net Throughput(gal/yr):	142,128.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	12.00

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meteorological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg Atmospheric Pressure = 12.15 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Pump Mesa T27 (Produced H2O) - Vertical Fixed Roof Tank
Aztec, New Mexico

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Produced Water	All	64.94	53.24	76.64	58.39	0.3359	0.2273	0.4876	21.2719			18.15	
Benzene						1.3372	0.9653	1.8208	78.1100	0.0001	0.0002	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Butane (-n)						28.6734	23.0445	35.2667	58.1230	0.0004	0.0278	58.12	Option 1: VP60 = 26.1 VP70 = 31.31
Ethylbenzene						0.1286	0.0854	0.1894	106.1700	0.0000	0.0000	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1727	1.6003	2.9030	86.1700	0.0042	0.0233	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isobutane						41.6075	33.9758	50.4378	58.1230	0.0004	0.0404	58.12	Option 1: VP60 = 38.14 VP70 = 45.16
Isopentane						11.2522	8.5746	14.3915	72.1500	0.0024	0.0695	72.15	Option 1: VP60 = 10.005 VP70 = 12.53
Pentane (-n)						7.6199	5.8716	9.7769	72.1500	0.0024	0.0470	72.15	Option 3: A=27691, B=7.558
Toluene						0.3844	0.2666	0.5435	92.1300	0.0001	0.0001	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Water						0.3148	0.2107	0.4610	18.0150	0.9900	0.7917	18.02	Option 1: VP60 = .263 VP70 = .3679
Xylenes (mixed isomers)						0.1073	0.0710	0.1586	106.1700	0.0000	0.0000	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Pump Mesa T27 (Produced H2O) - Vertical Fixed Roof Tank
Aztec, New Mexico

Annual Emission Calculations

Standing Losses (lb):	42.4176
Vapor Space Volume (cu ft):	997.8675
Vapor Density (lb/cu ft):	0.0013
Vapor Space Expansion Factor:	0.1062
Vented Vapor Saturation Factor:	0.8642
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	997.8675
Tank Diameter (ft):	12.0000
Vapor Space Outage (ft):	8.8231
Tank Shell Height (ft):	15.0000
Average Liquid Height (ft):	7.0000
Roof Outage (ft):	0.8231
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.8231
Dome Radius (ft):	12.0000
Shell Radius (ft):	6.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0013
Vapor Molecular Weight (lb/lb-mole):	21.2719
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.3359
Daily Avg. Liquid Surface Temp. (deg. R):	524.6094
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R	
(psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	518.0642
Tank Paint Solar Absorptance (Shell):	0.5400
Tank Paint Solar Absorptance (Roof):	0.5400
Daily Total Solar Insulation	
Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1062
Daily Vapor Temperature Range (deg. R):	46.7976
Daily Vapor Pressure Range (psia):	0.2603
Breather Vent Press. Setting Range (psia):	0.0600
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.3359
Vapor Pressure at Daily Minimum Liquid	
Surface Temperature (psia):	0.2273
Vapor Pressure at Daily Maximum Liquid	
Surface Temperature (psia):	0.4876
Daily Avg. Liquid Surface Temp. (deg R):	524.6094
Daily Min. Liquid Surface Temp. (deg R):	512.9100
Daily Max. Liquid Surface Temp. (deg R):	536.3088
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.8642
Vapor Pressure at Daily Average Liquid:	
Surface Temperature (psia):	0.3359
Vapor Space Outage (ft):	8.8231

Working Losses (lb):	24.1826
Vapor Molecular Weight (lb/lb-mole):	21.2719
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.3359
Annual Net Throughput (gal/yr.):	142,128.0000
Annual Turnovers:	12.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	11,844.0000
Maximum Liquid Height (ft):	14.0000
Tank Diameter (ft):	12.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	66.6002

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Pump Mesa T27 (Produced H2O) - Vertical Fixed Roof Tank
Aztec, New Mexico

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Produced Water	24.18	42.42	66.60
Water	19.15	33.58	52.73
Butane (-n)	0.67	1.18	1.85
Isobutane	0.98	1.71	2.69
Pentane (-n)	1.14	2.00	3.13
Isopentane	1.68	2.95	4.63
Hexane (-n)	0.56	0.99	1.55
Benzene	0.01	0.01	0.01
Ethylbenzene	0.00	0.00	0.00
Toluene	0.00	0.00	0.00
Xylenes (mixed isomers)	0.00	0.00	0.00

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Pump Mesa Tank 36 (Corrosion Inhibitor)
City:	Archuleta
State:	New Mexico
Company:	Williams Field Services Company
Type of Tank:	Vertical Fixed Roof Tank
Description:	225 Gallon Corrosion Inhibitor Tank

Tank Dimensions

Shell Height (ft):	5.00
Diameter (ft):	3.00
Liquid Height (ft) :	4.00
Avg. Liquid Height (ft):	2.00
Volume (gallons):	225.00
Turnovers:	12.00
Net Throughput(gal/yr):	2,700.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good
Roof Color/Shade:	Gray/Medium
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meteorological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg Atmospheric Pressure = 12.15 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Pump Mesa Tank 36 (Corrosion Inhibitor) - Vertical Fixed Roof Tank
Archuleta, New Mexico

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Corrosion Inhibitor	All	67.36	53.93	80.79	59.23	1.2970	0.8688	1.8808	41.3966			68.87	
1,2,3-Trimethylbenzene						0.0234	0.0141	0.0377	120.2000	0.0450	0.0014	120.20	Option 1: VP60 = .017522 VP70 = .025494
1,2,4-Trimethylbenzene						0.0273	0.0160	0.0451	120.1900	0.2700	0.0095	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
1,3,5-Trimethylbenzene						0.0341	0.0205	0.0552	120.2000	0.0900	0.0039	120.20	Option 1: VP60 = .025507 VP70 = .037224
1-Dodecanethiol						0.0001	0.0000	0.0002	202.4100	0.0100	0.0000	202.41	Option 1: VP60 = .0000639 VP70 = .000112
Jet naphtha (JP-4)						1.5209	1.1180	1.9396	80.0000	0.2700	0.3511	120.00	Option 1: VP60 = 1.3 VP70 = 1.6
Methyl alcohol						1.8115	1.1881	2.6951	32.0400	0.2700	0.6274	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Xylene (-m)						0.1165	0.0728	0.1813	106.1700	0.0450	0.0067	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Pump Mesa Tank 36 (Corrosion Inhibitor) - Vertical Fixed Roof Tank
Archuleta, New Mexico

Annual Emission Calculations

Standing Losses (lb):	11.6522
Vapor Space Volume (cu ft):	21.4266
Vapor Density (lb/cu ft):	0.0095
Vapor Space Expansion Factor:	0.1896
Vented Vapor Saturation Factor:	0.8276
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	21.4266
Tank Diameter (ft):	3.0000
Vapor Space Outage (ft):	3.0313
Tank Shell Height (ft):	5.0000
Average Liquid Height (ft):	2.0000
Roof Outage (ft):	0.0313
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.0313
Roof Height (ft):	0.0000
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	1.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0095
Vapor Molecular Weight (lb/lb-mole):	41.3966
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	1.2970
Daily Avg. Liquid Surface Temp. (deg. R):	527.0322
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R	
(psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	518.9042
Tank Paint Solar Absorptance (Shell):	0.6800
Tank Paint Solar Absorptance (Roof):	0.6800
Daily Total Solar Insulation	
Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1896
Daily Vapor Temperature Range (deg. R):	53.7176
Daily Vapor Pressure Range (psia):	1.0120
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	1.2970
Vapor Pressure at Daily Minimum Liquid	
Surface Temperature (psia):	0.8688
Vapor Pressure at Daily Maximum Liquid	
Surface Temperature (psia):	1.8808
Daily Avg. Liquid Surface Temp. (deg R):	527.0322
Daily Min. Liquid Surface Temp. (deg R):	513.6028
Daily Max. Liquid Surface Temp. (deg R):	540.4617
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.8276
Vapor Pressure at Daily Average Liquid:	
Surface Temperature (psia):	1.2970

Vapor Space Outage (ft):	3.0313
Working Losses (lb):	3.4517
Vapor Molecular Weight (lb/lb-mole):	41.3966
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.2970
Annual Net Throughput (gal/yr.):	2,700.0000
Annual Turnovers:	12.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	225.0000
Maximum Liquid Height (ft):	4.0000
Tank Diameter (ft):	3.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	15.1039

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Pump Mesa Tank 36 (Corrosion Inhibitor) - Vertical Fixed Roof Tank
Archuleta, New Mexico

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Corrosion Inhibitor	3.45	11.65	15.10
1,2,3-Trimethylbenzene	0.00	0.02	0.02
1,3,5-Trimethylbenzene	0.01	0.05	0.06
Xylene (-m)	0.02	0.08	0.10
Methyl alcohol	2.17	7.31	9.48
1-Dodecanethiol	0.00	0.00	0.00
Jet naphtha (JP-4)	1.21	4.09	5.30
1,2,4-Trimethylbenzene	0.03	0.11	0.14

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Pump Mesa T38 (Methanol)
City:	Aztec
State:	New Mexico
Company:	Williams Four Corners LLC
Type of Tank:	Vertical Fixed Roof Tank
Description:	4,200 Gallon Methanol Storage Tank

Tank Dimensions

Shell Height (ft):	11.00
Diameter (ft):	8.00
Liquid Height (ft) :	10.00
Avg. Liquid Height (ft):	5.00
Volume (gallons):	3,760.00
Turnovers:	12.00
Net Throughput(gal/yr):	45,120.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	8.00

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meteorological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg Atmospheric Pressure = 12.15 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Pump Mesa T38 (Methanol) - Vertical Fixed Roof Tank
Aztec, New Mexico

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Methyl alcohol	All	64.94	53.24	76.64	58.39	1.6820	1.1617	2.3895	32.0400			32.04	Option 2: A=7.897, B=1474.08, C=229.13

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Pump Mesa T38 (Methanol) - Vertical Fixed Roof Tank
Aztec, New Mexico

Annual Emission Calculations

Standing Losses (lb):	145.7859
Vapor Space Volume (cu ft):	329.1748
Vapor Density (lb/cu ft):	0.0096
Vapor Space Expansion Factor:	0.2008
Vented Vapor Saturation Factor:	0.6314
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	329.1748
Tank Diameter (ft):	8.0000
Vapor Space Outage (ft):	6.5487
Tank Shell Height (ft):	11.0000
Average Liquid Height (ft):	5.0000
Roof Outage (ft):	0.5487
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.5487
Dome Radius (ft):	8.0000
Shell Radius (ft):	4.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0096
Vapor Molecular Weight (lb/lb-mole):	32.0400
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	1.6820
Daily Avg. Liquid Surface Temp. (deg. R):	524.6094
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R	
(psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	518.0642
Tank Paint Solar Absorptance (Shell):	0.5400
Tank Paint Solar Absorptance (Roof):	0.5400
Daily Total Solar Insulation	
Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.2008
Daily Vapor Temperature Range (deg. R):	46.7976
Daily Vapor Pressure Range (psia):	1.2278
Breather Vent Press. Setting Range (psia):	0.0600
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	1.6820
Vapor Pressure at Daily Minimum Liquid	
Surface Temperature (psia):	1.1617
Vapor Pressure at Daily Maximum Liquid	
Surface Temperature (psia):	2.3895
Daily Avg. Liquid Surface Temp. (deg R):	524.6094
Daily Min. Liquid Surface Temp. (deg R):	512.9100
Daily Max. Liquid Surface Temp. (deg R):	536.3088
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.6314
Vapor Pressure at Daily Average Liquid:	
Surface Temperature (psia):	1.6820
Vapor Space Outage (ft):	6.5487

Working Losses (lb):	57.8930
Vapor Molecular Weight (lb/lb-mole):	32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6820
Annual Net Throughput (gal/yr.):	45,120.0000
Annual Turnovers:	12.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	3,760.0000
Maximum Liquid Height (ft):	10.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	203.6789

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Pump Mesa T38 (Methanol) - Vertical Fixed Roof Tank
Aztec, New Mexico

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Methyl alcohol	57.89	145.79	203.68

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

- If manufacturer data are used, include specifications for emissions units and 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.
-

STANDARD EQUIPMENT

AIR CLEANER – Two, 3" dry type filter with hinged rain shield and service indicator.

BARRING DEVICE – Manual.

BATTERY BOX – Ship loose battery box designed to accommodate two series 31 12 VDC batteries. Includes power disconnect switch and 20 foot (6.1 m) cable for connection to ESM Power Distribution Box.

BEARINGS – Heavy duty, replaceable, precision type.

BREATHER – Self regulating, closed system.

CONNECTING RODS – Drop forged steel, rifle drilled.

CONTROL SYSTEM – Waukesha Engine System Manager (ESM) integrates spark timing control, speed governing, detonation detection, start-stop control, diagnostic tools, fault logging and engine safeties. Engine Control Unit (ECU) is central brain of the control system and main customer interface. Interface with ESM is through 25 foot (7.6 m) harness to local panel, through MODBUS RTU slave connection RS-485 multidrop hardware, and through the Electronic Service Program (ESP). Customer connections are only required to the local panel, fuel valve, and 24V DC power supply. Compatible with Woodward load sharing module. ESM meets Canadian Standards Association Class I, Division 2, Group D, hazardous location requirements. ESM controlled prechamber logic.

CRANKCASE – Integral crankcase and cylinder frame. Main bearing caps drilled and tapped for temperature sensors. Does not include sensors.

CRANKSHAFT – Counterweighted, forged steel, seven main bearings, and dynamically balanced.

CYLINDERS – Removable bainitic cast iron wet type cylinder liners, chrome plated on outer diameter.

CYLINDER HEADS – Twelve interchangeable. Two hard faced intake and two hard faced exhaust valves per cylinder. Hard faced intake and exhaust valve seat inserts. Roller valve lifters and hydraulic push rods. Includes prechamber and related fuel control valves.

ENGINE ROTATION – Counterclockwise when facing flywheel.

ENGINE MONITORING DEVICES – Factory mounted and wired sensors for lube oil pressure and temperature; intake manifold temperature and pressure; overspeed; and jacket water temperature; all accessible through ESM®. ESM continually monitors combustion performance through accelerometers to provide detonation protection. Dual magnetic pick-ups are used for accurate engine speed monitoring. ESM provides predictive spark plug diagnostics as well as advanced diagnostics of engine and all ESM sensors and logs any faults into non-volatile flash memory.

EXHAUST THERMOCOUPLES – 14 K-type thermocouples. One for each individual cylinder and one pre-turbine for each bank and 25 foot (7.6 m) harness.

EXHAUST OUTLET – Single vertical at rear. Flexible stainless steel connection with 8" (203 mm) pipe flange.

FLYWHEEL – Approx. WR2 = 155000 lb-in²; with ring gear (208 teeth), machined to accept two drive adapters: 31.88" (810 mm) pilot bore, 30.25"(768 mm) bolt circle, (12) 0.75"-10 tapped holes; or 28.88" (734 mm) pilot bore, 27.25" (692 mm) bolt circle, (12) 0.625"-11 tapped holes and (12) 0.75"-10 tapped holes.

FLYWHEEL HOUSING – No. 00 SAE.

FUEL SYSTEM – Single 3" ANSI flange fuel inlet connection. Dual natural gas, 4" (102 mm) duplex updraft carburetors. Two mounted Mooney Flowgrid 250, 2" (51 mm) gas regulators, 43 – 60 psi (296 – 414 kPa) gas inlet pressure required. Prechamber fuel system and control logic. 10 foot (3 m) harness provided for ESM control of customer supplied fuel shutoff valve.

GOVERNOR – Electric throttle actuator controlled by ESM with throttle position feedback. Governor tuning is performed using ESP. ESM includes option of a load-coming feature to improve engine response to step loads.

IGNITION SYSTEM – Ignition Power Module (IPM) controlled by ESM, with spark timing optimized for any speed-load condition. Dual voltage energy levels automatically controlled by ESM to maximize spark plug life.

INTERCOOLER – Air-to-water.

LEVELING BOLTS

LIFTING EYES – Requires 9.5 ton Working Load Limit (W.L.L.) anchor shackles.

LUBRICATION – Full pressure, gear type pump. Engine mounted full flow lube oil micro-fiberglass filters with mounted differential pressure gauge. MICROSPIN® bypass filter, engine mounted. Lube oil strainer, mounted. Air/gas motor driven prelube pump, requires final piping.

MANIFOLDS – Exhaust, (2) water cooled.

OIL COOLER – Shell and tube type, with thermostatic temperature controller and pressure regulating valve. Factory mounted.

OIL PAN – Deep sump type. 190 gallon (719 L) capacity including filter and cooler.

PAINT – Oilfield orange primer.

PISTONS – Aluminum with floating pin. Oil cooled.

SHIPPING SKID – For domestic truck or rail.

TURBOCHARGERS – Two, dry type. Wastegate controlled.

VIBRATION DAMPER – Two, viscous type. Guard included with remote mounted radiator or no radiator.

WATER CIRCULATING SYSTEM, AUXILIARY CIRCUIT – Belt driven water circulating high capacity pump for intercooler and lube oil cooler. See S6543-38 performance curve for use with standard 10" diameter crankshaft pulley. Includes thermostatic valve.

WATER CIRCULATING SYSTEM, ENGINE JACKET – Belt driven water circulating pump, cluster type thermostatic temperature regulating valve, full flow bypass type. Flange connections and mating flanges for (2) 4" (102 mm) inlets and (1) 5" (127 mm) outlet.

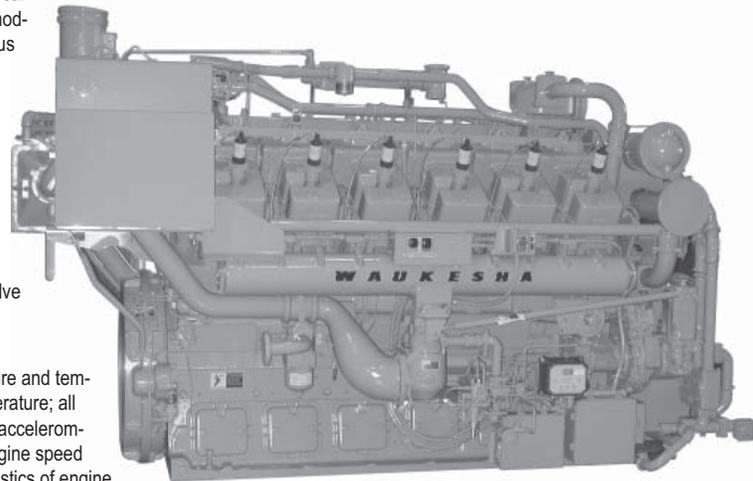


Waukesha

POWERING PERFORMANCE

L7042GL

VHP® Gas Engine
886 - 1547 BHP



Engine shown without Extender Series Features.

Model L7042GL with ESM®

Turbocharged and Intercooled, Twelve Cylinder,
Lean Combustion, Four-Cycle Gas Engine

SPECIFICATIONS

Cylinders V 12	Lube Oil Capacity 190 gal. (719 L)
Piston Displacement 7040 cu. in. (115 L)	Starting System 125 - 150 psi air/gas 24/32V electric
Bore & Stroke 9.375" x 8.5" (238 x 216 mm)	Dry Weight 21,000 lb. (9525 kg)
Compression Ratio 10.5:1	
Jacket Water System Capacity 107 gal. (405 L)	



POWER RATINGS: L7042GL VHP® GAS ENGINES

Model	I.C. Water Inlet Temp. °F (°C) (Tcra)	C.R.	Brake Horsepower (kWb Output)				
			800 rpm	900 rpm	1000 rpm	1100 rpm	1200 rpm
L7042GL	85° (29°)	10.5:1	928 (692)	1160 (865)	1289 (961)	1418 (1057)	1547 (1154)
L7042GL	130° (54°)	10.5:1	886 (661)	1110 (828)	1233 (919)	1357 (1012)	1480 (1104)

Rating Standard: All models: Ratings are based on ISO 3046/1-1995 with mechanical efficiency of 90% and auxiliary water temperature Tcra (clause 10.1) as specified above limited to ± 10° F (± 5° C). Ratings are also valid for SAE J1349, BS5514, DIN6271 and AP17B-11C standard atmospheric conditions.

ISO Standard Power/Continuous Power Rating: The highest load and speed which can be applied 24 hours a day, seven days a week, 365 days per year except for normal maintenance. It is permissible to operate the engine at up to 10% overload, or maximum load indicated by the intermittent rating, whichever is lower, for two hours in each 24 hour period.

All natural gas engine ratings are based on a fuel of 900 Btu/ft³ (35.3 MJ/nm³) SLHV value, with a 91 Waukesha Knock Index®.

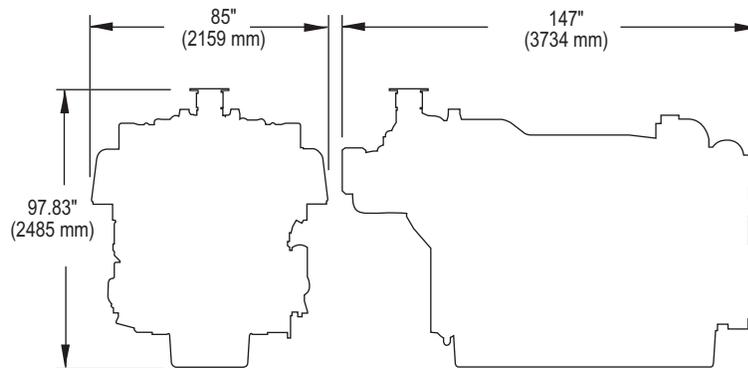
For conditions or fuels other than standard, contact the Waukesha Engine Sales Engineering Department.

PERFORMANCE: L7042GL VHP® GAS ENGINES

NO _x Settings	English	130° F ICW		85° F ICW		NO _x Settings	Metric	54° C ICW		29° C ICW	
	RPM	1200	1000	1200	1000		RPM	1200	1000	1200	1000
1.5 g NO _x	Power (Bhp)	1480	1233	1547	1289	1.5 g NO _x	Power (kWb)	1104	919	1154	962
	BSFC (Btu/bhp-hr)	7135	6850	7160	6865		BSFC (kJ/kW-hr)	10089	9686	10124	9707
	NO _x (grams/bhp-hr)	1.50	1.50	1.50	1.50		NO _x (g/nm ³)	0.62	0.62	0.62	0.62
	CO (grams/bhp-hr)	2.65	2.65	2.65	2.65		CO (g/nm ³)	1.09	1.09	1.09	1.09
	NMHC (grams/bhp-hr)	0.70	0.80	0.80	0.90		NMHC (g/nm ³)	0.29	0.41	0.33	0.37

NOTES:

- Fuel consumption and exhaust emissions are based on ISO 3046/1-1995 standard reference conditions and commercial quality natural gas of 900 Btu/ft³ (35.38 MJ/m³ [25, V(0; 101.325)]) saturated lower heat value, Waukesha Knock Index® of 91 and 93% methane content by volume. ISO 3046/1-1995 standard reference conditions are 77°F (25°C) ambient temperature, 29.54 inches Hg (100 kPa) barometric pressure, 30% relative humidity (1kPa/0.3 inches Hg water vapor pressure).
- S.I. exhaust emissions are corrected to 5% O₂ (0°C and 101.325 kPa).
- Data will vary due to variations in site conditions. For conditions and/or fuels other than standard, consult the Waukesha Engine Sales Engineering Department.
- Fuel consumption based on ISO 3046/1-1995 with a +5% tolerance for commercial quality natural gas having a 900 Btu/ft³ saturated low heat valve



Waukesha

**WAUKESHA ENGINE
DRESSER, INC.**

1101 West St. Paul Avenue
Waukesha, WI 53188-4999
Phone: (262) 547-3311 Fax: (262) 549-2795
waukeshaengine.dresser.com

Bulletin 7005 0107

Consult your local Waukesha Distributor for system application assistance. The manufacturer reserves the right to change or modify without notice, the design or equipment specifications as herein set forth without incurring any obligation either with respect to equipment previously sold or in the process of construction except where otherwise specifically guaranteed by the manufacturer.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
PM (Total) ^c	7.6	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds.

VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂[lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁴ lb/10⁶ scf.

^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂. Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES^a
(SCC 2-02-002-54)

Pollutant	Emission Factor (lb/MMBtu) ^b (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO _x ^c 90 - 105% Load	4.08 E+00	B
NO _x ^c <90% Load	8.47 E-01	B
CO ^c 90 - 105% Load	3.17 E-01	C
CO ^c <90% Load	5.57 E-01	B
CO ₂ ^d	1.10 E+02	A
SO ₂ ^e	5.88 E-04	A
TOC ^f	1.47 E+00	A
Methane ^g	1.25 E+00	C
VOC ^h	1.18 E-01	C
PM10 (filterable) ⁱ	7.71 E-05	D
PM2.5 (filterable) ⁱ	7.71 E-05	D
PM Condensable ^j	9.91 E-03	D
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane ^k	<4.00 E-05	E
1,1,2-Trichloroethane ^k	<3.18 E-05	E
1,1-Dichloroethane	<2.36 E-05	E
1,2,3-Trimethylbenzene	2.30 E-05	D
1,2,4-Trimethylbenzene	1.43 E-05	C
1,2-Dichloroethane	<2.36 E-05	E
1,2-Dichloropropane	<2.69 E-05	E
1,3,5-Trimethylbenzene	3.38 E-05	D
1,3-Butadiene ^k	2.67E-04	D
1,3-Dichloropropene ^k	<2.64 E-05	E
2-Methylnaphthalene ^k	3.32 E-05	C
2,2,4-Trimethylpentane ^k	2.50 E-04	C
Acenaphthene ^k	1.25 E-06	C

QUESTAR APPLIED TECHNOLOGY

1210 D. Street, Rock Springs, Wyoming 82901

(307) 352-7292

LIMS ID:	N/A	Description:	Pump Mesa Dehy 42669
Analysis Date/Time:	8/19/2013 9:53 AM	Field:	Pump Mesa
Analyst Initials:	PRP	ML#:	Williams
Instrument ID:	Instrument 1	GC Method:	Quesbtex
Data File:	QPC89.D		
Date Sampled:	8/14/2013		

Component	Mol%	Wt%	LV%
Methane	83.6973	65.5232	83.0445
Ethane	0.8862	1.3004	1.3911
Propane	0.1585	0.3412	0.2559
Isobutane	0.0292	0.0828	0.0559
n-Butane	0.0288	0.0816	0.0531
Neopentane	0.0003	0.0012	0.0007
Isopentane	0.0111	0.0392	0.0238
n-Pentane	0.0063	0.0221	0.0133
2,2-Dimethylbutane	0.0005	0.0021	0.0012
2,3-Dimethylbutane	0.0009	0.0037	0.0021
2-Methylpentane	0.0023	0.0098	0.0057
3-Methylpentane	0.0015	0.0065	0.0037
n-Hexane	0.0022	0.0093	0.0053
Heptanes	0.0061	0.0281	0.0142
Octanes	0.0003	0.0017	0.0009
Nonanes	0.0003	0.0016	0.0007
Decanes plus	0.0003	0.0017	0.0009
Nitrogen	0.0391	0.0534	0.0251
Carbon Dioxide	15.1288	32.4904	15.1019
Oxygen	0.0000	0.0000	0.0000
Hydrogen Sulfide	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000

Global Properties

Units

Gross BTU/Real CF	872.5 BTU/SCF at 60°F and 14.73 psia
Sat. Gross BTU/Real CF	858.5 BTU/SCF at 60°F and 14.73 psia
Gas Compressibility (Z)	0.9975
Specific Gravity	0.7092 air=1
Avg Molecular Weight	20.493 gm/mole
Propane GPM	0.043439 gal/MCF
Butane GPM	0.018587 gal/MCF
Gasoline GPM	0.011786 gal/MCF
26# Gasoline GPM	0.020842 gal/MCF
Total GPM	2.890244 gal/MCF
Base Mol%	100.809 %v/v

Sample Temperature:	81 °F
Sample Pressure:	942 psig
H2S Length of Stain Tube	N/A ppm

Component	Mol%	Wt%	LV%
Benzene	0.0007	0.0026	0.0011
Toluene	0.0007	0.0030	0.0013
Ethylbenzene	0.0000	0.0000	0.0000
M&P Xylene	0.0003	0.0016	0.0007
O-Xylene	0.0000	0.0000	0.0000
2,2,4-Trimethylpentane	0.0005	0.0027	0.0015
Cyclopentane	0.0000	0.0000	0.0000
Cyclohexane	0.0011	0.0045	0.0022
Methylcyclohexane	0.0012	0.0059	0.0029

Description: Pump Mesa Dehy 42669

GRI GlyCalc Information

Component	Mol%	Wt%	LV%
Carbon Dioxide	15.1288	32.4904	15.1019
Hydrogen Sulfide	0.0000	0.0000	0.0000
Nitrogen	0.0391	0.0534	0.0251
Methane	83.6973	65.5232	83.0445
Ethane	0.8862	1.3004	1.3911
Propane	0.1585	0.3412	0.2559
Isobutane	0.0292	0.0828	0.0559
n-Butane	0.0288	0.0816	0.0531
Isopentane	0.0114	0.0404	0.0245
n-Pentane	0.0063	0.0221	0.0133
Cyclopentane	0.0000	0.0000	0.0000
n-Hexane	0.0022	0.0093	0.0053
Cyclohexane	0.0011	0.0045	0.0022
Other Hexanes	0.0052	0.0221	0.0127
Heptanes	0.0019	0.0094	0.0052
Methylcyclohexane	0.0012	0.0059	0.0029
2,2,4 Trimethylpentane	0.0005	0.0027	0.0015
Benzene	0.0007	0.0026	0.0011
Toluene	0.0007	0.0030	0.0013
Ethylbenzene	0.0000	0.0000	0.0000
Xylenes	0.0003	0.0016	0.0007
C8+ Heavies	0.0006	0.0034	0.0018
Subtotal	100.0000	100.0000	100.0000
Oxygen	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000

Oil and Gas
Production Equipment
J. Enertek, Inc.
4901 East Main Street
Farmington, NM 87401
505/326-1151
FAX 505/322-0317



VIA FACSIMILE
Fax No. (505) 534-7760
Page: 1

August 19, 1994

Mr. Leo Bauerle
Williams Field Services
Salt Lake City, UT

The following table shows the stack emissions at maximum firing conditions for the dehydrators noted:

Dehydrator	NO _x #/Day	CO #/Day	Fuel SCFH	Total Stack Gross ACEH	Stack Ht. Ft	Stack Dia Inches	Stack Temp. F	Stack Velocity FPS
J2P10M11109	0.86	0.17	357	10010	18'-8"	8	600	5.1
J2P10M749	1.03	0.21	429	12012	19'-1"	10	600	6.1
J2P12M11109	0.86	0.17	357	10010	18'-8"	8	600	5.1
J2P12M749	1.03	0.21	429	12012	19'-1"	10	600	6.1
J2P20M11109	1.03	0.21	429	12012	19'-1"	10	600	6.1

Please call me if you need additional information.

Sincerely,
Frosty Heath
Frosty Heath

FH/ab

5928 U.S. Highway 64
Farmington, NM 87401

InFab

INDUSTRIAL FABRICATION

Office: (505)632-2200
Fax: (505)632-8070

July 22, 1998

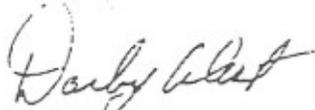
Mr. Bobby Myers
Williams Field Services
Environmental Affairs
295 Chipeta Way
P O Box 58900
Salt Lake City, UT 84158-0900

The table shown below gives the stack emissions for our larger dehydrators:

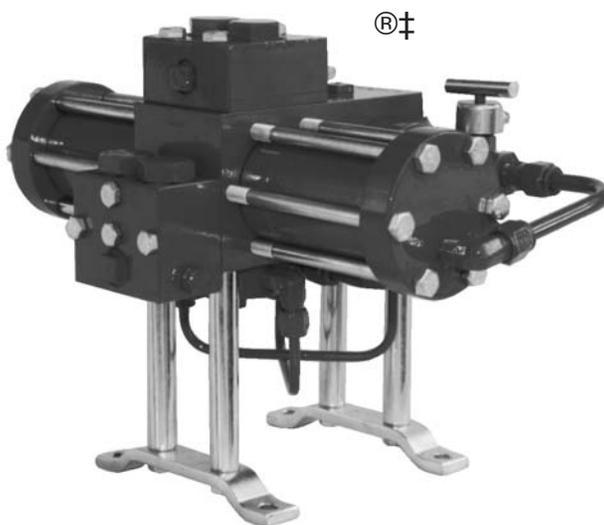
Unit Description	SO lb/day	NO _x lb/Day	CO lb/Day	Fuel SCFH	Total Organic Comp. Lb/d	Stack Ht. Ft.	Stack Dia inches	Stack Temp °F	Stack Velocity
10 MM LP	.01	.27	.43	659	.13	10'	8	600	5.1
10 MM HP	.01	.27	.43	659	.13	10'	10	600	6.1
12 MM LP	.02	.49	.78	1208	.25	10'	8	600	5.1
12 MM HP	.02	.49	.78	1208	.25	10'	10	600	6.1
15 MM	.02	.54	.85	1318	.25	10'	8	600	5.1
20 MM LP	.02	.67	1.07	1648	.31	10'	8	600	5.1
20 MM HP	.02	.67	1.07	1648	.31	10'	12	600	6.1

If you need any additional information please call me.

Sincerely,



Darby West
VP Engineering



PUMPS AVAILABLE:

“PV” SERIES GLYCOL PUMPS					
Catalog Number	Model Number	Capacity Gal. / Hr.		Working Pressure	
		Min.	Max. **	Min.	Max.
GAA	315 PV	3	13	100	1500
GAD	1715 PV	8	40	300	1500
GAB	4015 PV	12	40	300	1500
GAF	9015 PV	27	90	300	1500
GAH	21015 PV	66	210	400	1500
GAJ	45015 PV	166	450	400	1500

“SC” SERIES GLYCOL PUMPS					
Catalog Number	Model Number	Capacity Gal. / Hr.		Working Pressure	
		Min.	Max. **	Min.	Max.
GAC	2015 SC*	8	20	100	500
GAG	5015 SC*	12	50	100	500
GAI	10015 SC*	22	100	100	500
GAK	20015 SC*	60	200	100	500

**Maximum output is affected by system pressure drops. See system operation parameter for maximum output curves.

NOTE: To order a Pump with Viton O Rings add 1 to Catalog number. Example: To order GAA with Viton O Rings, specify: GAA1.

MAXIMUM DESIGN PRESSURE FOR P.V. AND S.C. MODELS IS 1500 psig

APPLICATIONS:

- Circulating pump for gas glycol dehydrators
- Circulating pump for gas amine desulphurizers

FEATURES:

- Eliminates absorber liquid level controls
- No auxiliary power supply required
- Low gas consumption
- Completely sealed system prevents loss glycol
- No springs or toggles, only two moving assemblies
- Hydraulic “cushioned” check valves with removable seats of hardened stainless steel

OPERATION:

Materials for the vital working parts have been selected for greatest wear resistance. These materials include stainless steel, hard chrome plating, satellite, nylon and teflon. Moving “O” Ring seals are compounded specifically for ethylene glycol service. A complete operational check is given each pump after assembly.

“O” Ring sealed check valve darts are standard in all except the model 315 PV. Teflon sealed darts are available. Capsule type ball checks are used in the 315 PV and are available for 1715 PV, 2015 SC and 4015 PV.

*These pumps are designed for operating pressures between 100 and 500 psig maximum design pressure for all models is 1500 psig.

‡Configuration of Glycol Pump is a trademark of Kimray, Inc.

TABLE 2-4. OIL AND GAS PRODUCTION OPERATIONS AVERAGE EMISSION FACTORS (kg/hr/source)

Equipment Type	Service ^a	Emission Factor (kg/hr/source) ^b
Valves	Gas	4.5E-03
	Heavy Oil	8.4E-06
	Light Oil	2.5E-03
	Water/Oil	9.8E-05
Pump seals	Gas	2.4E-03
	Heavy Oil	NA
	Light Oil	1.3E-02
	Water/Oil	2.4E-05
Others ^c	Gas	8.8E-03
	Heavy Oil	3.2E-05
	Light Oil	7.5E-03
	Water/Oil	1.4E-02
Connectors	Gas	2.0E-04
	Heavy Oil	7.5E-06
	Light Oil	2.1E-04
	Water/Oil	1.1E-04
Flanges	Gas	3.9E-04
	Heavy Oil	3.9E-07
	Light Oil	1.1E-04
	Water/Oil	2.9E-06
Open-ended lines	Gas	2.0E-03
	Heavy Oil	1.4E-04
	Light Oil	1.4E-03
	Water/Oil	2.5E-04

^aWater/Oil emission factors apply to water streams in oil service with a water content greater than 50%, from the point of origin to the point where the water content reaches 99%. For water streams with a water content greater than 99%, the emission rate is considered negligible.

^bThese factors are for total organic compound emission rates (including non-VOC's such as methane and ethane) and apply to light crude, heavy crude, gas plant, gas production, and off shore facilities. "NA" indicates that not enough data were available to develop the indicated emission factor.

^cThe "other" equipment type was derived from compressors, diaphragms, drains, dump arms, hatches, instruments, meters, pressure relief valves, polished rods, relief valves, and vents. This "other" equipment type should be applied for any equipment type other than connectors, flanges, open-ended lines, pumps, or valves.

Table A-1 to Subpart A of Part 98—Global Warming Potentials

GLOBAL WARMING POTENTIALS

[100-Year Time Horizon]

Name	CAS No.	Chemical formula	Global warming potential (100 yr.)
Carbon dioxide	124-38-9	CO ₂	1
Methane	74-82-8	CH ₄	^a 25
Nitrous oxide	10024-97-2	N ₂ O	^a 298
HFC-23	75-46-7	CHF ₃	^a 14,800
HFC-32	75-10-5	CH ₂ F ₂	^a 675
HFC-41	593-53-3	CH ₃ F	^a 92
HFC-125	354-33-6	C ₂ HF ₅	^a 3,500
HFC-134	359-35-3	C ₂ H ₂ F ₄	^a 1,100
HFC-134a	811-97-2	CH ₂ FCF ₃	^a 1,430
HFC-143	430-66-0	C ₂ H ₃ F ₃	^a 353
HFC-143a	420-46-2	C ₂ H ₃ F ₃	^a 4,470
HFC-152	624-72-6	CH ₂ FCH ₂ F	53
HFC-152a	75-37-6	CH ₃ CHF ₂	^a 124
HFC-161	353-36-6	CH ₃ CH ₂ F	12
HFC-227ea	431-89-0	C ₃ HF ₇	^a 3,220
HFC-236cb	677-56-5	CH ₂ FCF ₂ CF ₃	1,340
HFC-236ea	431-63-0	CHF ₂ CHFCF ₃	1,370
HFC-236fa	690-39-1	C ₃ H ₂ F ₆	^a 9,810
HFC-245ca	679-86-7	C ₃ H ₃ F ₅	^a 693
HFC-245fa	460-73-1	CHF ₂ CH ₂ CF ₃	1,030
HFC-365mfc	406-58-6	CH ₃ CF ₂ CH ₂ CF ₃	794
HFC-43-10mee	138495-42-8	CF ₃ CFHCFHCF ₂ CF ₃	^a 1,640
Sulfur hexafluoride	2551-62-4	SF ₆	^a 22,800
Trifluoromethyl sulphur pentafluoride	373-80-8	SF ₅ CF ₃	17,700
Nitrogen trifluoride	7783-54-2	NF ₃	17,200
PFC-14 (Perfluoromethane)	75-73-0	CF ₄	^a 7,390
PFC-116 (Perfluoroethane)	76-16-4	C ₂ F ₆	^a 12,200
PFC-218 (Perfluoropropane)	76-19-7	C ₃ F ₈	^a 8,830
Perfluorocyclopropane	931-91-9	C-C ₃ F ₆	17,340
PFC-3-1-10 (Perfluorobutane)	355-25-9	C ₄ F ₁₀	^a 8,860
PFC-318 (Perfluorocyclobutane)	115-25-3	C-C ₄ F ₈	^a 10,300
PFC-4-1-12 (Perfluoropentane)	678-26-2	C ₅ F ₁₂	^a 9,160
PFC-5-1-14 (Perfluorohexane, FC-72)	355-42-0	C ₆ F ₁₄	^a 9,300
PFC-9-1-18	306-94-5	C ₁₀ F ₁₈	7,500
HCFE-235da2 (Isoflurane)	26675-46-7	CHF ₂ OCHClCF ₃	350
HFE-43-10pccc (H-Galden 1040x, HG-11)	E1730133	CHF ₂ OCF ₂ OC ₂ F ₄ OCHF ₂	1,870

HFE-125	3822-68-2	CHF ₂ OCF ₃	14,900
HFE-134 (HG-00)	1691-17-4	CHF ₂ OCHF ₂	6,320
HFE-143a	421-14-7	CH ₃ OCF ₃	756
HFE-227ea	2356-62-9	CF ₃ CHFOCF ₃	1,540
HFE-236ca12 (HG-10)	78522-47-1	CHF ₂ OCF ₂ OCHF ₂	2,800
HFE-236ea2 (Desflurane)	57041-67-5	CHF ₂ OCHF ₂ CF ₃	989
HFE-236fa	20193-67-3	CF ₃ CH ₂ OCF ₃	487
HFE-245cb2	22410-44-2	CH ₃ OCF ₂ CF ₃	708
HFE-245fa1	84011-15-4	CHF ₂ CH ₂ OCF ₃	286
HFE-245fa2	1885-48-9	CHF ₂ OCH ₂ CF ₃	659
HFE-254cb2	425-88-7	CH ₃ OCF ₂ CHF ₂	359
HFE-263fb2	460-43-5	CF ₃ CH ₂ OCH ₃	11
HFE-329mcc2	134769-21-4	CF ₃ CF ₂ OCF ₂ CHF ₂	919
HFE-338mcf2	156053-88-2	CF ₃ CF ₂ OCH ₂ CF ₃	552
HFE-338pcc13 (HG-01)	188690-78-0	CHF ₂ OCF ₂ CF ₂ OCHF ₂	1,500
HFE-347mcc3 (HFE-7000)	375-03-1	CH ₃ OCF ₂ CF ₂ CF ₃	575
HFE-347mcf2	171182-95-9	CF ₃ CF ₂ OCH ₂ CHF ₂	374
HFE-347pcf2	406-78-0	CHF ₂ CF ₂ OCH ₂ CF ₃	580
HFE-356mec3	382-34-3	CH ₃ OCF ₂ CHF ₂ CF ₃	101
HFE-356pcc3	160620-20-2	CH ₃ OCF ₂ CF ₂ CHF ₂	110
HFE-356pcf2	50807-77-7	CHF ₂ CH ₂ OCF ₂ CHF ₂	265
HFE-356pcf3	35042-99-0	CHF ₂ OCH ₂ CF ₂ CHF ₂	502
HFE-365mcf3	378-16-5	CF ₃ CF ₂ CH ₂ OCH ₃	11
HFE-374pc2	512-51-6	CH ₃ CH ₂ OCF ₂ CHF ₂	557
HFE-449s1 (HFE-7100)	163702-07-6	C ₄ F ₉ OCH ₃	297
Chemical blend	163702-08-7	(CF ₃) ₂ CFCF ₂ OCH ₃	
HFE-569sf2 (HFE-7200)	163702-05-4	C ₄ F ₉ OC ₂ H ₅	59
Chemical blend	163702-06-5	(CF ₃) ₂ CFCF ₂ OC ₂ H ₅	
Sevoflurane (HFE-347mmz1)	28523-86-6	CH ₂ FOCH(CF ₃) ₂	345
HFE-356mm1	13171-18-1	(CF ₃) ₂ CHOCH ₃	27
HFE-338mmz1	26103-08-2	CHF ₂ OCH(CF ₃) ₂	380
(Octafluorotetramethy-lene) hydroxymethyl group	NA	X-(CF ₂) ₄ CH(OH)-X	73
HFE-347mmy1	22052-84-2	CH ₃ OCF(CF ₃) ₂	343
Bis(trifluoromethyl)-methanol	920-66-1	(CF ₃) ₂ CHOH	195
2,2,3,3,3-pentafluoropropanol	422-05-9	CF ₃ CF ₂ CH ₂ OH	42
PFPME (HT-70)	NA	CF ₃ OCF(CF ₃)CF ₂ OCF ₂ OCF ₃	10,300

^aThe GWP for this compound is different than the GWP in the version of Table A-1 to subpart A of part 98 published on October 30, 2009.

Table C-1 to Subpart C of Part 98—Default CO₂ Emission Factors and High Heat Values for Various Types of Fuel

DEFAULT CO₂ EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Fuel type	Default high heat value	Default CO₂ emission factor
Coal and coke	mmBtu/short ton	kg CO ₂ /mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO ₂ /mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06
Petroleum products	mmBtu/gallon	kg CO ₂ /mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG) ¹	0.092	61.71
Propane ¹	0.091	62.87
Propylene ²	0.091	67.77
Ethane ¹	0.068	59.60
Ethanol	0.084	68.44
Ethylene ²	0.058	65.96
Isobutane ¹	0.099	64.94
Isobutylene ¹	0.103	68.86
Butane ¹	0.103	64.77
Butylene ¹	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02

Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Other fuels—solid	mmBtu/short ton	kg CO ₂ /mmBtu
Municipal Solid Waste	9.95 ³	90.7
Tires	28.00	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other fuels—gaseous	mmBtu/scf	kg CO ₂ /mmBtu
Blast Furnace Gas	0.092 × 10 ⁻³	274.32
Coke Oven Gas	0.599 × 10 ⁻³	46.85
Propane Gas	2.516 × 10 ⁻³	61.46
Fuel Gas ⁴	1.388 × 10 ⁻³	59.00
Biomass fuels—solid	mmBtu/short ton	kg CO ₂ /mmBtu
Wood and Wood Residuals (dry basis) ⁵	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass fuels—gaseous	mmBtu/scf	kg CO ₂ /mmBtu
Landfill Gas	0.485 × 10 ⁻³	52.07
Other Biomass Gases	0.655 × 10 ⁻³	52.07
Biomass Fuels—Liquid	mmBtu/gallon	kg CO ₂ /mmBtu
Ethanol	0.084	68.44
Biodiesel (100%)	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

¹The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

²Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

³Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.

⁴Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HHV and the default CO₂ emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C-5) or Tier 4.

⁵Use the following formula to calculate a wet basis HHV for use in Equation C-1: $HHV_w = ((100 - M)/100) * HHV_d$ where HHV_w = wet basis HHV, M = moisture content (percent) and HHV_d = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013]

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Table C-2 to Subpart C of Part 98—Default CH₄ and N₂O Emission Factors for Various Types of Fuel

Fuel type	Default CH ₄ emission factor (kg CH ₄ /mmBtu)	Default N ₂ O emission factor (kg N ₂ O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1×10^{-02}	1.6×10^{-03}
Natural Gas	1.0×10^{-03}	1.0×10^{-04}
Petroleum (All fuel types in Table C-1)	3.0×10^{-03}	6.0×10^{-04}
Fuel Gas	3.0×10^{-03}	6.0×10^{-04}
Municipal Solid Waste	3.2×10^{-02}	4.2×10^{-03}
Tires	3.2×10^{-02}	4.2×10^{-03}
Blast Furnace Gas	2.2×10^{-05}	1.0×10^{-04}
Coke Oven Gas	4.8×10^{-04}	1.0×10^{-04}
Biomass Fuels—Solid (All fuel types in Table C-1, except wood and wood residuals)	3.2×10^{-02}	4.2×10^{-03}
Wood and wood residuals	7.2×10^{-03}	3.6×10^{-03}
Biomass Fuels—Gaseous (All fuel types in Table C-1)	3.2×10^{-03}	6.3×10^{-04}
Biomass Fuels—Liquid (All fuel types in Table C-1)	1.1×10^{-03}	1.1×10^{-04}

Note: Those employing this table are assumed to fall under the IPCC definitions of the “Energy Industry” or “Manufacturing Industries and Construction”. In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC “Energy Industry” category may employ a value of 1g of CH₄/mmBtu.

Table W-1A of Subpart W of Part 98—Default Whole Gas Emission Factors for Onshore Petroleum and Natural Gas Production

Onshore petroleum and natural gas production	Emission factor (scf/hour/component)
Eastern U.S.	
Population Emission Factors—All Components, Gas Service¹	
Valve	0.027
Connector	0.003
Open-ended Line	0.061
Pressure Relief Valve	0.040
Low Continuous Bleed Pneumatic Device Vents ²	1.39
High Continuous Bleed Pneumatic Device Vents ²	37.3
Intermittent Bleed Pneumatic Device Vents ²	13.5
Pneumatic Pumps ³	13.3
Population Emission Factors—All Components, Light Crude Service⁴	
Valve	0.05
Flange	0.003
Connector	0.007
Open-ended Line	0.05
Pump	0.01
Other ⁵	0.30
Population Emission Factors—All Components, Heavy Crude Service⁶	
Valve	0.0005
Flange	0.0009
Connector (other)	0.0003
Open-ended Line	0.006
Other ⁵	0.003
Western U.S.	
Population Emission Factors—All Components, Gas Service¹	
Valve	0.121
Connector	0.017
Open-ended Line	0.031
Pressure Relief Valve	0.193
Low Continuous Bleed Pneumatic Device Vents ²	1.39
High Continuous Bleed Pneumatic Device Vents ²	37.3
Intermittent Bleed Pneumatic Device Vents ²	13.5
Pneumatic Pumps ³	13.3
Population Emission Factors—All Components, Light Crude Service⁴	
Valve	0.05
Flange	0.003

Connector (other)	0.007
Open-ended Line	0.05
Pump	0.01
Other ⁵	0.30
Population Emission Factors—All Components, Heavy Crude Service⁶	
Valve	0.0005
Flange	0.0009
Connector (other)	0.0003
Open-ended Line	0.006
Other ⁵	0.003

¹For multi-phase flow that includes gas, use the gas service emissions factors.

²Emission Factor is in units of “scf/hour/device.”

³Emission Factor is in units of “scf/hour/pump.”

⁴Hydrocarbon liquids greater than or equal to 20°API are considered “light crude.”

⁵“Others” category includes instruments, loading arms, pressure relief valves, stuffing boxes, compressor seals, dump lever arms, and vents.

⁶Hydrocarbon liquids less than 20°API are considered “heavy crude.”

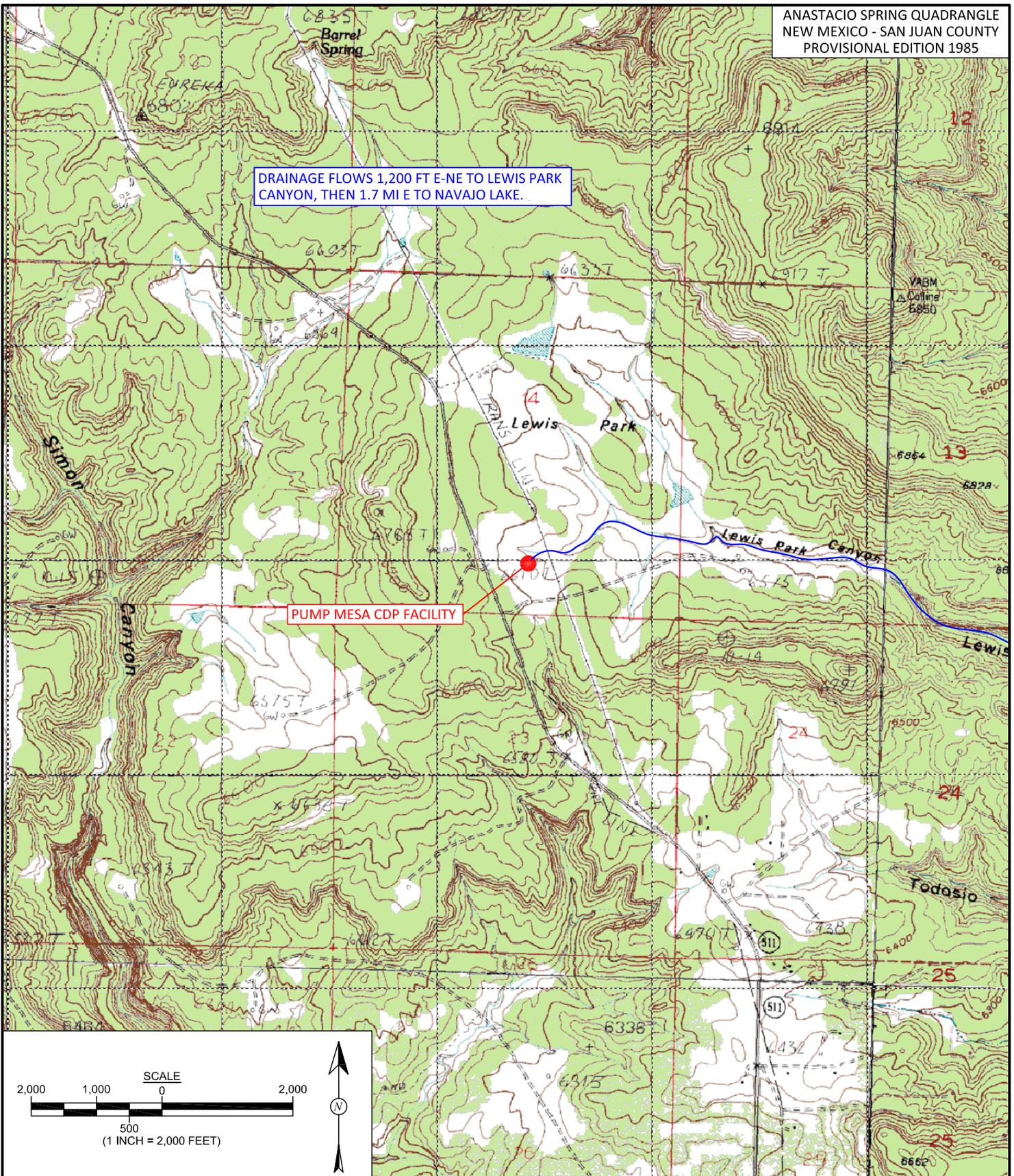
Section 8

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:

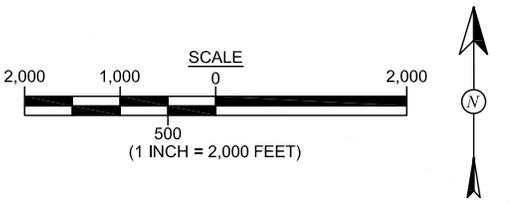
The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	

A map is provided in this section. Please see the following page.



DRAINAGE FLOWS 1,200 FT E-NE TO LEWIS PARK CANYON, THEN 1.7 MI E TO NAVAJO LAKE.

PUMP MESA CDP FACILITY



DRAWN BY: S. Glasses	DATE DRAWN: October 16, 2013
REVISIONS BY: C. Lameman	DATE REVISED: December 2, 2013
CHECKED BY: K. Christiansen	DATE CHECKED: December 2, 2013
APPROVED BY: E. McNally	DATE APPROVED: December 2, 2013

FIGURE 1
TOPOGRAPHIC SITE LOCATION MAP
 WILLIAMS FOUR CORNERS LLC
 PUMP MESA CDP FACILITY
 SW¼ SE¼, SECTION 14, T31N, R8W
 SAN JUAN COUNTY, NEW MEXICO
 N36.89235, W107.64344

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.
-

Not applicable, as this is a Title V operating permit application.

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.

The Pump Mesa CDP compresses and dehydrates natural gas for pipeline transmission.

Natural gas is received from independent producers and metered as it enters the facility. Then produced water is separated from the stream via an inlet separator. The gas is compressed for pipeline transmission using compressors driven by natural gas-fired reciprocating internal combustion engines (RICE). The gas stream is then routed to TEG dehydrators which further dehydrate the stream. The resulting produced water is stored in above ground storage tanks.

The facility is permitted for operation of fourteen RICE and six TEG dehydrators. Other emission sources at the facility include equipment leaks from process piping (valves, flanges, seals, etc.) and storage tanks. The storage tanks are used primarily to store lubrication oil, glycol and produced/waste water. Waste products are hauled off-site as required.

The facility typically operates 24 hours per day, seven days per week, 52 weeks per year, 8,760 hours per year.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, 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, 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):

Pump Mesa CDP – natural gas compression and dehydrator station

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, 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, 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, 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.

B. This facility [is or is not] one of the listed 20.2.74.501 Table I – PSD Source Categories. The “project” emissions for this modification are [significant or not significant]. [Discuss why.] The “project” emissions listed below [do or do not] only result from changes described in this permit application, thus no emissions from other [revisions or modifications, past or future] to this facility. Also, specifically discuss whether this project results in “de-bottlenecking”, or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:

- a. NOx: XX.X TPY
- b. CO: XX.X TPY
- c. VOC: XX.X TPY
- d. SOx: XX.X TPY
- e. TSP (PM): XX.X TPY
- f. PM10: XX.X TPY
- g. PM2.5: XX.X TPY
- h. Fluorides: XX.X TPY
- i. Lead: XX.X TPY
- j. Sulfur compounds (listed in Table 2): XX.X TPY
- k. GHG: XX.X TPY

C. Netting [is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]

D. BACT is [not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.]

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

Not applicable, as this is a Title V operating permit application.

Section 12

Section 12.B

Special Requirements for a PSD Application

(Submitting under 20.2.74 NMAC)

Prior to Submitting a PSD application, the permittee shall:

- Submit the BACT analysis for review prior to submittal of the application. No application will be ruled complete until the final determination regarding BACT is made, as this determination can ultimately affect information to be provided in the application. A pre-application meeting is recommended to discuss the requirements of the BACT analysis.
- Submit a modeling protocol prior to submitting the permit application. **[Except for GHG]**
- Submit the monitoring exemption analysis protocol prior to submitting the application. **[Except for GHG]**

For PSD applications, the permittee shall also include the following:

- Documentation containing an analysis on the impact on visibility. **[Except for GHG]**
 - Documentation containing an analysis on the impact on soil. **[Except for GHG]**
 - Documentation containing an analysis on the impact on vegetation, including state and federal threatened and endangered species. **[Except for GHG]**
 - Documentation containing an analysis on the impact on water consumption and quality. **[Except for GHG]**
 - Documentation that the federal land manager of a Class I area within 100 km of the site has been notified and provided a copy of the application, including the BACT and modeling results. The name of any Class I Federal area located within one hundred (100) kilometers of the facility.
-

Not applicable, as this is a Title V operating permit application.

Section 13

Discussion Demonstrating Compliance With Each Applicable State & Federal Regulation

Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

Federal Regulations

Federal standards and requirements are embodied in Title 40 (Protection of the Environment), Subchapter C (Air Programs) of the CFR, Parts 50 through 99.

FEDERAL REGULATIONS APPLICABILITY CHECKLIST

Citation	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	Justification
40 CFR 50	National Ambient Air Quality Standards (NAAQS)	✓		✓		The regulation applies to all sources operating within the State of New Mexico.
40 CFR 52	Approval and Promulgation of Implementation Plans	✓		✓		40 CFR 52.21 <i>Prevention of Significant Deterioration of Air Quality</i> is applicable because the station is a major Prevention of Significant Deterioration source. The remainder of 40 CFR 52 is not applicable because it addresses approval and promulgation of implementation plans.
NSPS 40 CFR 60, Subpart A	General Provisions				✓	This regulation does not apply because no other 40 CFR 60 Subparts apply.

Citation	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforceable	Does Not Apply	Justification
NSPS 40 CFR 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978				✓	This regulation is not applicable because all petroleum liquids storage tanks at the station have capacities less than the minimum applicability threshold capacity of 40,000 gallons (see 40 CFR 60.110(a)).
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				✓	This regulation is not applicable because all storage tanks at the station have capacities less than the minimum applicability threshold capacity of 40,000 gallons (see 40 CFR 60.110a(a)).
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				✓	This regulation is not applicable because all storage tanks at the station have capacities less than the minimum applicability threshold capacity of 19,812 gallons, and/or were installed prior to the applicability date, and/or contain condensate prior to custody transfer (40 CFR 60.110b(a) & 60.110b(d)(4)).
NSPS 40 CFR 60, Subpart GG	Standards of Performance for Stationary Gas Turbines				✓	This regulation is not applicable because there are no turbines at the facility.
NSPS 40 CFR 60, Subpart KKK	Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants				✓	This regulation is not applicable because the station is not a natural gas processing plant as defined by the subpart.
NSPS 40 CFR 60, Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions				✓	This regulation is not applicable because the station is not a natural gas processing plant as defined by the subpart.

Citation	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforceable	Does Not Apply	Justification
NSPS 40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines				✓	This regulation is not applicable because the station is not equipped with a compression ignition internal combustion engine.
NSPS 40 CFR 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines				✓	This regulation does not apply because the stationary SI ICE currently at the facility commenced construction prior to June 12, 2006. This regulation will apply to Units 5 & 11-14 if they are installed and if they are manufactured after January 1, 2008.
NSPS 40 CFR 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines				✓	This regulation is not applicable because there are no turbines at the facility.
NSPS 40 CFR 60, Subpart OOOO	Standards of Performance for for Crude Oil and Natural Gas Production, Transmission and Distribution				✓	This regulation is not applicable because all the potentially affected equipment at the station was installed prior to the applicability date of August 23, 2011.
NESHAP 40 CFR 61	National Emission Standards for Hazardous Air Pollutants				✓	These regulations are not applicable because the station is not a source type under 40 CFR 61.
MACT 40 CFR 63, Subpart A	General Provisions		1-14 & 15a-20a	✓		This regulation applies because 40 CFR 63, Subparts HH & ZZZZ apply. In general Subpart A identifies permitting, compliance, maintenance, testing, monitoring, notification, recordkeeping, reporting, control, and work practice requirements.
MACT 40 CFR 63, Subpart M	National Emission Standard for Asbestos				✓	This subpart includes standards for minimizing asbestos emissions from several operations, including demolition and renovation activities. This regulation is not applicable because there are no existing or planned activities at this facility that trigger applicability.
MACT 40 CFR 63, Subpart HH	National Emissions Standards for Hazardous Air Pollutants for Oil and Natural Gas Production Facilities		15a-20a	✓		This regulation is applicable because the facility is equipped with dehydrators. The facility is an area HAP source as defined by the Subpart. The dehydrators will be exempt from a majority of the requirements of the Subpart as long as <u>actual</u> average benzene emissions remain less than 0.90 megagram per year (0.99 tpy)(see § 63.764(e)(1)(ii)). The facility does not contain storage vessels with the potential for flashing losses or compressors or ancillary equipment in volatile HAP service as defined by the Subpart, thus these portions of the regulation are not applicable.
MACT 40 CFR 63, Subpart HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities				✓	This regulation is not applicable because the station is not a natural gas transmission and storage facility as defined by the subpart.

Citation	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforceable	Does Not Apply	Justification
MACT 40 CFR 63, Subpart YYYY	National Emission Standards for Hazardous Air Pollutants From Stationary Combustion Turbines				✓	This regulation is not applicable because there are no turbines at the facility.
MACT 40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines		1-14	✓		This regulation applies because the facility is a major HAP source equipped with stationary RICE. Under paragraph 63.6590(b)(3), the existing (commenced construction prior to December 19, 2002) spark ignition 4SLB stationary RICE at the facility (Units 1-4 & 6-10) are not required to meet the requirements of Subparts A or ZZZZ (including initial notification requirements). Under paragraph 63.6590(a), if they are installed, the new spark ignition stationary RICE at the facility (Units 5 & 11-14) will be required to meet the requirements of the regulation.
MACT 40 CFR 63, Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters				✓	This regulation is not applicable because the station is not equipped with boilers or process heaters as defined by the Subpart.
MACT 40 CFR 63, Subpart JJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources				✓	This regulation is not applicable because the station is not equipped with boilers as defined by the Subpart.
40 CFR 64	Compliance Assurance Monitoring				✓	This regulation is not applicable because no equipment at the station requires control devices to achieve compliance with emission limits or standards where pre control emissions equal or exceed the major source threshold (100 tons per year).
40 CFR 68	Chemical Accident Prevention Provisions				✓	This regulation is not applicable because the station does not store any of the identified toxic and flammable substances in quantities exceeding the applicability thresholds.
40 CFR 70	State Operating Permit Programs				✓	This regulation is not applicable, as the requirements associated with Title V are delegated to the State of New Mexico and implemented under 20 NMAC 2.70.
40 CFR 82	Protection of Stratospheric Ozone				✓	This regulation is not applicable because the station does not produce, manufacture, transform, destroy, import, or export ozone-depleting substances; does not maintain or service motor vehicle air conditioning units or refrigeration equipment; and does not sell, distribute, or offer for sale or distribution any product that contains ozone-depleting substances.

State Regulations

Applicable state requirements are embodied in the New Mexico SIP, the New Mexico Administrative Code (NMAC), and the terms and conditions of any preconstruction permits issued pursuant to regulations promulgated through rulemaking under Title I of the CAA.

STATE REGULATIONS APPLICABILITY CHECKLIST

Citation	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	Justification
20.2.1 NMAC	General Provisions	✓		✓		This regulation is applicable because it establishes procedures for protecting confidential information, procedures for seeking a variance, NMAQB's authority to require sampling equipment, severability, and the effective date for conformance with the NMACs, and prohibits the violation of other requirements in attempting to comply with the NMACs.
20.2.2 NMAC.2	Definitions	✓		✓		This regulation is applicable because it establishes definitions used throughout the remaining regulations.
20.2.3 NMAC	Ambient Air Quality Standards	✓		✓		This regulation is applicable because it establishes the ambient air quality standards for all sources in New Mexico.
20.2.5 NMAC.5	Source Surveillance	✓		✓		This regulation is applicable because it establishes the NMAQB's authority to require recordkeeping/surveillance upon request.
20.2.7 NMAC	Excess Emissions	✓		✓		This regulation is applicable because it prohibits excess emissions unless proper notification procedures are followed.
20.2.8 NMAC	Emissions Leaving New Mexico	✓		✓		This regulation is applicable because it establishes prohibitions on the release of pollutants that cross New Mexico State boundaries.
20.2.14 NMAC	Particulate Emissions from Coal Burning Equipment				✓	This regulation is not applicable because the station does not burn coal.
20.2.18 NMAC	Oil Burning Equipment - Particulate Matter				✓	This regulation is not applicable because the station does not burn oil.
20.2.31 NMAC	Coal Burning Equipment – Sulfur Dioxide				✓	This regulation is not applicable because the station does not burn coal.
20.2.32 NMAC	Coal Burning Equipment – Nitrogen Dioxide,				✓	This regulation is not applicable because the station does not burn coal.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide				✓	This regulation is not applicable because the heat input to external gas burning equipment at the station does not exceed the trigger level (one million MMBtu/year) established by the regulation.
20.2.34 NMAC	Oil Burning Equipment: NO ₂				✓	This regulation is not applicable because the station does not burn oil.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur				✓	This regulation is not applicable because the station is not a natural gas processing plant.
20 NMAC 2.36	Petroleum Refinery - Sulfur				✓	This regulation is not applicable because the station is not a petroleum refinery.
20.2.37 NMAC	Petroleum Processing Facilities				✓	This regulation is not applicable because the station is not a petroleum processing facility.

Citation	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	Justification
20.2.38 NMAC	Hydrocarbon Storage Facilities				✓	This regulation is not applicable because the station does not store hydrocarbons containing hydrogen sulfide, nor is there a tank battery storing hydrocarbon liquids with a capacity greater than or equal to 65,000 gallons (see documentation in this section).
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur				✓	This regulation is not applicable because the station is not equipped with a sulfur recovery plant.
20.2.61 NMAC	Smoke & Visible Emissions		1-14 & 15b-20b	✓		This regulation is applicable because combustion sources are present at the station. The regulation limits visible emissions from stationary combustion equipment to less than 20 percent opacity.
20.2.70 NMAC	Operating Permits	✓		✓		This regulation is applicable because the station is a major source of NO ₂ , CO, VOC and HAP emissions.
20.2.71 NMAC	Operating Permit Fees	✓		✓		This regulation is applicable because the station is subject to 20.2.70 NMAC.
20.2.72 NMAC	Construction Permits	✓		✓		This regulation is applicable because the station is a stationary source required to obtain a construction permit.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	✓		✓		This regulation is applicable because it requires the operators of Title V major sources to prepare annual emissions inventories.
20.2.74 NMAC	Permits – PSD	✓		✓		This regulation is applicable because the station is a major source as defined in 20.2.74 NMAC.
20.2.75 NMAC	Construction Permit Fees	✓		✓		This regulation is applicable because the station is subject to 20.2.72 NMAC and it establishes the fee schedule associated with the filing of construction permits.
20.2.77 NMAC	New Source Performance				✓	This regulation is not applicable because it adopts by reference the federal NSPS codified in 40 CFR 60. The facility is not subject to 40 CFR 60.
20.2.78 NMAC	Emission Standards for HAPS				✓	This regulation is not applicable because it incorporates by reference the NESHAPS codified under 40 CFR 61. The station is not subject to 40 CFR 61.
20.2.79 NMAC	Permits – Nonattainment Areas				✓	This regulation is not applicable because the station is neither located in nor has a significant impact on a non attainment area.
20.2.80 NMAC	Stack Heights		1-14 & 15b-20b	✓		This regulation is applicable because it establishes guidelines for the selection of an appropriate stack height for the purposes of atmospheric dispersion modeling.
20.2.82 NMAC	MACT Standards for Source Categories of HAPS		1-14 & 15a-20a	✓		This regulation is applicable because it adopts by reference the federal MACT Standards for source categories codified in 40 CFR 63. The station is subject to 40 CFR 63, Subparts A, HH & ZZZZ.
20.2.82 NMAC	Conformity of General Federal Actions to the SIP				✓	This regulation is not applicable because the station is currently a permitted source, and therefore will not involve any federal actions as part of its operations.

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.
-

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.

There are no alternative operating scenarios associated with the station.

Section 16

Air Dispersion Modeling

NSR (20.2.72 NMAC) and PSD (20.2.74 NMAC) Modeling: Provide an air quality **dispersion modeling** demonstration (if applicable) as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines. If air dispersion modeling has been waived for this permit application, attach the AQB Modeling Section modeling waiver documentation.

SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions 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.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.

Title V (20.2.70 NMAC) Modeling: Title V applications must specify the NSR Permit number for which air quality dispersion modeling was last submitted. Additionally, Title V facilities reporting new SSM emissions require modeling or a modeling waiver to demonstrate compliance with standards.

Modeling was last submitted for NSR permit number 0867-M4.

Section 17

Compliance Test History

(submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

Compliance Test History Table

Unit No.	Test Description	Test Date
1	NO2 and CO portable analyzer testing	06/11/13
2	N/A	N/A
3	NO2 and CO portable analyzer testing	06/12/13
4	NO2 and CO portable analyzer testing	09/06/12
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	NO2 and CO portable analyzer testing	06/11/13
9	NO2 and CO portable analyzer testing	06/12/13
10	N/A	N/A
11	N/A	N/A
12	N/A	N/A
13	N/A	N/A
14	N/A	N/A

Section 18

Addendum for Streamline Applications

Streamline Applications do not require a complete application. Submit Sections 1-A, 1-B, 1-D, 1-F, 1-G, 2-A, 2-C thru L, Sections 3 thru 8, Section 13, Section 18, Section 22, and Section 23 (Certification). Other sections may be required at the discretion of the Department. 20.2.72.202 NMAC Exemptions do not apply to Streamline sources. 20.2.72.219 NMAC revisions and modifications do not apply to Streamline sources, thus 20.2.72.219 type actions require a complete new application submittal. Please do not print sections of a streamline application that are not required.

Not applicable, as this is not a streamline application.

Section 19

Requirements for Title V Program

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.nmenv.state.nm.us/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.
-

19.1 - 40 CFR 64, Compliance Assurance Monitoring (CAM) (20.2.70.300.D.10.e NMAC)

Any source subject to 40 CFR, 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.

There are no sources at the station subject to 40 CFR, Part 64, Compliance Assurance Monitoring (CAM); consequently, a monitoring protocol is not required.

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 station is in compliance with all applicable requirements affecting the facility. A copy of Part 1 (Permit Requirements Certification Table) of the 2014 annual compliance certification is provided in Section 20, Other Relevant Information. It identifies all the requirements of the current Title V operating permit and the methods and data used to determine compliance. It is assumed that compliance with the Title V operating permit ensures compliance with the construction permit and New Mexico regulations.

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.

The station will continue to be in compliance with applicable requirements for which it is in compliance at the time of this permit application. In addition, the station will, in a timely manner or consistent with such schedule expressly required by the applicable requirement, comply with other applicable requirements as they come into effect 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.

The submittal of compliance certifications during the five-year term of the operating permit will occur annually.

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
 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
 4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.) **None**
-

The station does not produce, manufacture, transform, destroy, import, or export any stratospheric ozone-depleting substances (CFCs, HCFCs); does not maintain or service motor vehicle air conditioning units or refrigeration equipment; and does not sell, distribute, or offer for sale any product that may contain stratospheric ozone-depleting substances.

WFC shall continue to maintain compliance with the conditions stipulated in 40 CFR 82, Subparts A-G of the Stratospheric Ozone Protection Program (Title VI of the Clean Air Act Amendments).

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.nmenv.state.nm.us/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

The station is in compliance with all applicable requirements; consequently, a compliance plan, a compliance schedule, and a schedule of certified progress reports is not required.

The station is not equipped with any acid rain sources; consequently, compliance with the acid rain provisions is not required as a part of this permit application.

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 station is not subject to 40 CFR 68, Chemical Accident Prevention Provisions; consequently, a Risk Management Plan is not required.

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.)

The station is located within 80 kilometers (km) of the following states, local pollution control programs, Indian tribes and pueblos:

Colorado (≈11.3 km)
Navajo Indian Reservation (≈29.0 km)
Southern Ute Indian Reservation (≈11.3 km)
Jicarilla Apache Indian Reservation (≈43.5 km)
Ute Mountain Indian Reservation (≈59.5 km)

19.9 - Responsible Official

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC:

The responsible official for the Trunk A Compressor Station is Glen Jasek.

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.

Part 1 of the 2014 annual compliance certification is provided in this section.

Part 1 - Permit Requirements Certification Table

Annual Compliance Certification Data for Title V Permit No. P037R2M1				
1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><u>FACILITY SPECIFIC REQUIREMENTS</u></p> <p>A101 <u>Permit Duration (expiration)</u></p> <p>A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)</p>	<p>Renewal application is not due until Dec. 17, 2014</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)</p>	<p>Renewal application is not due until Dec. 17, 2014</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>A102 <u>Facility: Description</u></p> <p>B. This facility is located at UTM Zone 13, UTM Easting 264.4 km, UTM Northing 4,086.2 km, in Township 31N, Range 8W, Section 14, approximately 21 miles northeast of Aztec, New Mexico in San Juan County. This facility is a stationary source and not allowed to relocate. (20.2.70.302.F NMAC)</p>	<p>The facility did not relocate during the applicable period.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>A103 <u>Facility: Applicable Regulations and Non-Applicable Regulations</u></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.</p>	<p>Semi-annual reports and this ACC are used to determine that the source continues to comply with applicable requirements.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
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Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Entire Facility	Unit No.
NSR Permit No: 0867-M5 (Per 20.2.72 NMAC)	X	X	
20.2.7 NMAC Excess Emissions	X	X	
20.2.61 NMAC Smoke and Visible Emissions	X		1-20
20.2.70 NMAC Operating Permits	X	X	
20.2.71 NMAC Operating Permit Emission Fees	X	X	
20.2.72 NMAC Construction Permit	X	X	
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	X	
20.2.77 NMAC New Source Performance	X		5 and 11-14
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X		5 and 11-14, 15-20
40 CFR 50 National Ambient Air Quality Standards	X	X	
40 CFR 60, Subpart A, General Provisions	X		5 and 11-14
40 CFR 60, Subpart JJJJ	X		5 and 11-14
40 CFR 63, Subpart A, General Provisions	X		5 and 11-14, 15-20
40 CFR 63, Subpart HH	X		15-20
40 CFR 63 Subpart ZZZZ	X		5 and 11-14

<p>A104 Facility: Regulated Sources</p> <p>A. Table 104.A lists all of the process equipment authorized for this facility. Emission units that were identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and equipment not regulated pursuant to the Act are not included.</p>	<p>Semi-annual reports and the annual emissions inventory, along with the Management of Change Request (MOCR) procedures, are used to determine that no unauthorized equipment has been added or operated during the applicable period.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
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Table 104.A: Regulated Sources List

Unit No.	Source Description	Make Model	Serial No.	Capacity	Manufacture Date
1	4SLB RICE	Waukesha 7042GL	338549	1363 hp/ 1200 rpm	10/08/1992
2	4SLB RICE	Waukesha 7042GL	C-12671/1	1363 hp/ 1200 rpm	07/09/1991
3	4SLB RICE	Waukesha 7042GL	C-10887/2	1363 hp/ 1200 rpm	04/12/1991
4	4SLB RICE	Waukesha 7042GL	C-12595/1	1363 hp/ 1200 rpm	04/12/1991
5	4SLB RICE	Waukesha 7042GL	TBD	1363 hp/ 1200 rpm	TBD
6	4SLB RICE	Waukesha 7042GL	77050	1363 hp/ 1200 rpm	03/25/1992
7	4SLB RICE	Waukesha 7042GL	77051	1363 hp/ 1200 rpm	10/08/1992
8	4SLB RICE	Waukesha 7042GL	C-12588/1	1363 hp/ 1200 rpm	01/10/1997
9	4SLB RICE	Waukesha 7042GL	C-61028/3	1363 hp/ 1200 rpm	06/17/1994
10	4SLB RICE	Waukesha 7042GL	X00119	1363 hp/ 1200 rpm	01/10/1997
11	4SLB RICE	Waukesha 7042GL	TBD	1363 hp/ 1200 rpm	TBD
12	4SLB RICE	Waukesha 7042GL	TBD	1363 hp/ 1200 rpm	TBD
13	4SLB RICE	Waukesha 7042GL	TBD	1363 hp/ 1200 rpm	TBD
14	4SLB RICE	Waukesha 7042GL	TBD	1363 hp/ 1200 rpm	TBD
15	TEG Dehydrator	P & A, M10MM110012P	4576	210 gph glycol circulation rate	04/01/1991
16	TEG Dehydrator	Enertek, J2P20M11109	43840	210 gph glycol circulation rate	01/01/1993
17	TEG Dehydrator	Enertek, J2P20M11109	42669	210 gph glycol circulation rate	10/01/1995
18	TEG Dehydrator	Enertek, J2P20M11109	TBD	210 gph glycol circulation rate	TBD
19	TEG Dehydrator	Enertek, J2P20M11109	42668	210 gph glycol circulation rate	01/01/1993
20	TEG Dehydrator	Enertek, J2P10M11109	41904	210 gph glycol circulation rate	09/01/1992

A105 Facility: Control Equipment A. The facility has no pollution control equipment.		<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
A106 Facility: Allowable Emissions A. The following table(s) list the emission units, and their allowable emission limits. (40 CFR 50, 40 CFR 60, Subparts A and JJJ, 40 CFR 63, Subparts A, HH, ZZZZ, and 20.2.72.210.A and B.1 NMAC).	Semi-annual reports and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
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Table 106.A: Allowable Emissions

Unit No.	1NOx pph	NOx tpy	CO pph	CO tpy	VOC pph	VOC tpy
1	4.5	19.7	8.0	34.8	3.0	13.2
2	4.5	19.7	8.0	34.8	3.0	13.2
3	4.5	19.7	8.0	34.8	3.0	13.2
4	4.5	19.7	8.0	34.8	3.0	13.2
5	4.5	19.7	8.0	34.8	3.0	13.2
6	4.5	19.7	8.0	34.8	3.0	13.2
7	4.5	19.7	8.0	34.8	3.0	13.2
8	4.5	19.7	8.0	34.8	3.0	13.2
9	4.5	19.7	8.0	34.8	3.0	13.2
10	4.5	19.7	8.0	34.8	3.0	13.2
11	4.5	19.7	8.0	34.8	3.0	13.2
12	4.5	19.7	8.0	34.8	3.0	13.2
13	4.5	19.7	8.0	34.8	3.0	13.2
14	4.5	19.7	8.0	34.8	3.0	13.2
15	-	-	-	-	1.3	5.9
16	-	-	-	-	1.5	6.4
17	-	-	-	-	1.5	6.4
18	-	-	-	-	1.5	6.4
19	-	-	-	-	1.5	6.4
20	-	-	-	-	1.3	5.9

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO2
 2 “-” indicates the application represented emissions of this pollutant are not expected.

<p>A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) & Malfunction Emissions</p> <p>A. The maximum allowable SSM and Malfunction emission limits for this facility are listed in Table 107.A and were relied upon by the Department to determine compliance with applicable regulations and ambient air quality standards.</p>	<p>Semi-annual reports, SSM tracking, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Table 107.A: Allowable SSM and Malfunction Emissions

Unit No.	VOC tpy
1a – 14a Compressor & Associated Piping Blowdowns	1.3
Facility Wide Malfunctions	10.0

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
B. SSM (Units 1a – 14a) Requirement: The permittee shall comply with SSM VOC tpy emission limits.	Semi-annual reports, SSM tracking, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: NA Recordkeeping: Every month the permittee shall record all routine and predictable startups and shutdowns and scheduled maintenance events. To demonstrate compliance, the permittee shall calculate the total VOC emissions on a monthly rolling 12 month basis, including the volume of total gas vented in MMscf and the percent VOC of the gas based on a gas analysis no older than one year. The permittee shall record the demonstrated compliance in accordance with Section B109, except the requirement in B109.E(2) to record the duration of the SSM event shall not apply.	Semi-annual reports, SSM tracking, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reporting: The permittee shall report in accordance with Section B110.	Semi-annual reports, SSM tracking, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C. Facility Wide Malfunctions Requirement: The permittee shall comply with Malfunction VOC tpy emission limits.	Semi-annual reports, malfunction tracking and reporting, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: NA Recordkeeping: Every month the permittee shall record all malfunction events that result in VOC emissions. The permittee shall indicate whether the emissions resulting from the event will be used toward the permitted tpy value or whether the event is reported under 20.2.72 NMAC. To demonstrate compliance, the permittee shall calculate the total VOC emissions on a monthly rolling 12 month basis, including the volume of total gas vented in MMscf and the percent VOC of the gas based on a gas analysis no older than one year. The permittee shall record the demonstrated compliance in accordance with Section B109, except the requirement in B109.E(3) to record the duration of the event shall not apply.	Semi-annual reports, malfunction tracking and reporting, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Reporting: The permittee shall report in accordance with Section B110.	Semi-annual reports, malfunction tracking and reporting, and the annual emissions inventory are used to demonstrate compliance with the identified allowable emissions	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
A108 Facility: Hours of Operation A. This facility is authorized for continuous operation. No monitoring, recordkeeping, and reporting requirements are required to demonstrate compliance with continuous hours of operation.		<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
A109 Facility: Reporting Schedules A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on September 1st and March 1st of each year.	The six-month monitoring activity report associated with this ACC will be submitted by Oct. 15.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
B. The Annual Compliance Certification Report is due within 30 days following the end of every 12 month reporting period starting on the first day of September.	This annual compliance certification is being submitted within 30 days of Sept. 1.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
A110 Facility: Fuel Sulfur Requirements A. Requirement: All combustion emission units shall combust only natural gas containing no more than 0.25 grains of total sulfur per 100 dry standard cubic feet.	Results of the fuel sulfur content monitoring are included in the applicable semi-annual reports.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: Not required. Recordkeeping: The permittee shall demonstrate compliance with the natural gas total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, specifying the allowable limit or less. Alternatively, the total sulfur content of the fuel gas shall be measured and recorded annually using a stain tube method.	Results of the fuel sulfur content monitoring, as tested by the stain tube method, are included in the applicable semi-annual reports.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reporting: The permittee shall report in accordance with Section B110.	Results of the fuel sulfur content monitoring are included in the applicable semi-annual reports.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
A111 <u>Facility: 20.2.61 NMAC Opacity</u> A. Units 1 - 20 Requirement: All combustion units shall not exceed 20% opacity.	Natural gas is used for fuel	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: Use of natural gas fuel as specified in Condition A110.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.	Natural gas is used for fuel	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Recordkeeping: The permittee shall record dates of any opacity measures and the corresponding opacity readings.	Natural gas is used for fuel in the combustion units. Opacity, if it occurs, is reported in accordance with 20.2.7 NMAC.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reporting: The permittee shall report dates of any opacity measures and the corresponding opacity readings.	Natural gas is used for fuel in the combustion units. Opacity, if it occurs, is reported in accordance with 20.2.7 NMAC.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<u>OIL AND GAS INDUSTRY</u> A200 <u>Oil and Gas Industry</u> A. This section has common equipment related to most Oil and Gas Operations. A201 <u>Engines</u> A. Periodic Emissions Test (Units 1 – 14) Requirement: The permittee shall comply with the allowable emission limits.	Periodic emissions tests were completed as required to demonstrate compliance with allowable emission limits.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: The permittee shall test using a portable analyzer subject to the requirements and limitations of Section B108, General Monitoring Requirements. For periodic testing of NOx and CO, emissions tests shall be carried out as described below. Test results that demonstrate compliance with the NOx and CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.	Periodic emissions tests were completed as required and results are included in the applicable semi-annual reports.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>(a) The monitoring period shall be annually.</p> <p>(b) The first test shall occur within the first monitoring period occurring after permit issuance.</p> <p>(c) All subsequent monitoring shall occur in each succeeding monitoring period. No two monitoring events shall occur closer together in time than 25% of a monitoring period.</p> <p>(d) Follow the General Testing Procedures of Section B111.</p>				
<p>Recordkeeping: The permittee shall maintain records in accordance with Section B109.</p>	<p>Periodic emissions tests were completed as required and results are included in the applicable semi-annual reports.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>Reporting: The permittee shall report in accordance with Section B110.</p>	<p>Periodic emissions tests were completed as required and results are included in the applicable semi-annual reports.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>B. 40 CFR 60, Subpart JJJJ (Units 5, 11 - 14)</p> <p>Requirement: The units will be subject to 40 CFR 60, Subparts A and JJJJ if the source is constructed (ordered) and manufactured after the applicability dates in 40 CFR 60.4230 and the permittee shall comply with the notification requirements in Subpart A and the specific requirements of Subpart JJJJ.</p>	<p>Unit maintenance and repair monitoring, including recordkeeping of engine overhauls, demonstrate applicability of NSPS JJJJ to affected units.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>Monitoring: The permittee shall comply with all applicable monitoring requirements in 40 CFR 60 Subpart A and Subpart JJJJ, including but not limited to 60.4243.</p>	<p>Units currently installed are not subject to NSPS JJJJ.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60 Subpart A and Subpart JJJJ, including but not limited to 60.4245.</p>	<p>Units currently installed are not subject to NSPS JJJJ.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60 Subpart A and Subpart JJJJ, including but not limited to 60.4245.</p>	<p>Units currently installed are not subject to NSPS JJJJ.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p>C. 40 CFR 63, Subpart ZZZZ (Units 5, 11 - 14)</p>	<p>Unit maintenance and repair monitoring, including recordkeeping of engine overhauls, demonstrate applicability</p>	<p><input type="checkbox"/> Continuous</p>	<p><input checked="" type="checkbox"/> Yes</p>	<p><input type="checkbox"/> Yes</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Requirement: The units will be subject to 40 CFR 63, Subparts A and ZZZZ if the source is constructed after an applicability date in 40 CFR 63.6590 and the permittee shall comply with the notification requirements in Subpart A and the specific requirements of Subpart ZZZZ.	of NESHAP ZZZZ to affected units.	<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 63 Subpart A and Subpart ZZZZ.	No NESHAP ZZZZ requirements are applicable to the units currently installed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63 Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.	No NESHAP ZZZZ requirements are applicable to the units currently installed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63 Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.	No NESHAP ZZZZ requirements are applicable to the units currently installed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
A202 Glycol Dehydrators A. Extended Gas Analysis and GRI-GLYCalc calculation (Units 15 - 20) Requirement: To demonstrate compliance with the allowable VOC emission limits, the permittee shall conduct an annual extended gas analysis on the dehydrator inlet gas and calculate emissions using GRI-GLYCalc.	Dehydrator extended gas analysis records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: The permittee shall conduct an annual GRI-GlyCalc analysis using the most recent extended gas analysis, and verify the input data. The permittee may use a method of calculating dehydrator emissions other than the most current version of GRI-GlyCalc if approved by the Department. Changes in the calculated emissions due solely to a change in the calculation methodology shall not be deemed an exceedance of an emission limit.	Dehydrator extended gas analysis records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Recordkeeping: The permittee shall identify in a summary table all parameters that were used as inputs in the GRI-GLYcalc model. The permittee shall keep a record of the results, noting the emission rates for the dehydrator obtained from estimates using GRI-	Dehydrator extended gas analysis records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
GLYcalc.				
Reporting: The permittee shall report in accordance with Section B110.	Dehydrator extended gas analysis records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
B. Glycol Pump Circulation Rate (Units 15 - 20) Requirement: To demonstrate compliance with the allowable VOC emission limits, the glycol pump circulation rate for each unit shall not exceed 210 gallons per hour (3.5 gallons per minute).	Dehydrator glycol recirculation rate records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: The permittee shall monitor the circulation rate quarterly.	Dehydrator glycol recirculation rate records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Recordkeeping: The permittee shall maintain records in accordance with Section B109.	Dehydrator glycol recirculation rate records are included with the applicable semi-annual monitoring reports. Records of unit capacities are maintained as required.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reporting: The permittee shall report in accordance with Section B110.	Dehydrator glycol recirculation rate records are included with the applicable semi-annual monitoring reports	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C. 40 CFR 63, Subpart HH (Units 15 - 20) Requirement: The units are subject to 40 CFR 63, Subpart HH and the permittee shall comply with all applicable requirements.	Dehydrator annual GLYCalc analysis records, including gas analysis, demonstrating dehydrator exemption status are included with the applicable semi-annual monitoring reports.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Monitoring: None. Recordkeeping: The permittee shall generate and maintain the records required by 40 CFR 63.774(d)(1)(ii) to demonstrate compliance with the general standard exemptions found in 40 CFR 63.764(e). Reporting: None.	Dehydrator annual GLYCalc analysis records, including gas analysis, demonstrating dehydrator exemption status are maintained as required.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Section 21

Addendum for Landfill Applications

Landfill Applications are not required to complete Sections 1-C and 1-E. All other Sections are required.

Not applicable, as this facility is not a landfill.

Section 22

Green House Gas Applicability

(submitting under 20.2.70, 20.2.72, 20.2.73, 20.2.74 NMAC)

Title V (20.2.70 NMAC), NSR (20.2.72 NMAC), NOI (20.2.73 NMAC) and PSD (20.2.74 NMAC) applicants must determine if they are subject to Title V permitting and/or PSD permitting for green house gas (GHG) emissions. GHG emissions are the sum of the aggregate group of six green house gases that include carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). There are two thresholds that must be computed to determine applicability. The first threshold is the sum of GHG mass emissions in TPY. GHG mass emissions are the sum of the total annual tons of green house gases without adjusting with the GWPs. The second threshold is the sum of CO₂ equivalent (CO₂e) emissions in TPY GHG. CO₂e emissions are the sum of the mass emissions of each individual GHG multiplied by its global warming potential (GWP) found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.

Green House Gas TV and PSD Applicability Determination:

Notice of Intent Sources (20.2.73 NMAC): By checking this box and certifying this application the applicant certifies that the facility, based upon the quantity of stack emissions, including start up, shut down, and maintenance emissions, is not subject to 20.2.70 NMAC or 20.2.74 NMAC for Green House Gas (GHG) Emissions. The Department may request the emissions calculations and other documents supporting this determination.

Minor NSR (20.2.72 NMAC), PSD Major (20.2.74 NMAC), and Title V (20.2.70 NMAC) sources must complete the steps outlined below to determine GHG TV and/or PSD applicability.

1. Calculate existing mass GHG and CO₂e emissions from your source. For PSD purposes, if this is a modification to an existing source, you must also calculate the increase in mass GHG and CO₂e emissions due to the modification. Start up, shut down, and maintenance emissions must be included.
2. See Tables 1 and 2 below and compare your mass GHG and CO₂e emissions to the appropriate category for your source.
3. If your source meets all of the criteria within a category, then you must obtain a PSD permit and/or a Title V permit for green house gas emissions.
4. If this is a GHG Major source with an existing BACT or if this is a permit application for a PSD or Title V permit with GHG above the thresholds in Tables 1 or 2, include the emissions calculations and supporting documents in the appropriate sections of this application unless instructed otherwise in Tables 1 or 2. Report GHG mass and CO₂e emissions in Table 2-P of this application unless instructed otherwise in Tables 1 or 2. Emissions are reported in short tons per year and represent each emission unit's Potential to Emit (PTE).

NSR (20.2.72 NMAC), PSD Major (20.2.74 NMAC), and Title V (20.2.70 NMAC): Based upon the GHG applicability criteria in this section the applicant certifies that the source is (check all that apply):

- Title V Minor and PSD Minor for GHG Emissions [The Department may request the emissions calculations and other documents supporting this determination.]
- Title V Major for GHG Emissions
- PSD Major for GHG Emissions

The Supreme Court recently ruled “the Agency may not treat greenhouse gases as a pollutant for purposes of defining a “major emitting facility” (or a “modification” thereof) in the PSD context or a “major source” in the Title V context” (Utility Air Regulatory Group v. Environmental Protection Agency). Therefore, until Section 22 of the application has been updated to reflect the Supreme Court ruling, WFC cannot complete this section.

The CO₂e emissions increases in this application are less than 75,000 tpy.

Table 1 - Title V Applicability Criteria

On or after July 1, 2011, newly constructed source, or existing source that does not have a Title V permit	On or after July 1, 2011, modification or Renewal to Existing Title V Source	Requirement
<p>Source emits or has potential to emit (PTE) ≥ 100,000 TPY CO₂e and 100 TPY GHG mass basis</p>	<p>Source emits or has PTE of ≥100,000 TPY CO₂e and 100 TPY GHG mass basis</p>	<p><u>For new sources:</u> For a source that meets the criteria on July 1, 2011, submit a Title V permit application no later than June 30, 2012.</p> <p>For a source that meets the criteria after July 1, 2011, submit a Title V application within 12 months of becoming subject to the GHG operating permit program (12 months from commencement of operation of the new unit or modification that caused the source to be subject to Title V).</p> <p><u>For existing sources:</u> Include GHG with the next Title V application for a renewal or modification.</p> <p><u>For both new and existing sources:</u> Include in the TV application, GHG emissions calculations and supporting documents, report CO₂e and GHG emissions in Table 2-P, and address any applicable CAA requirements (e.g. PSD BACT, NSPS). If there are no applicable requirements and if GHG emissions have been reported to the Department under 20.2.73 NMAC, the requirements of the previous sentence do not apply, but changes in GHG emissions resulting in GHG emission limits must be calculated and reported in Table 2-P for Title V permit modifications. Typically GHG emission limits would be established only when there is an applicable requirement, such as a PSD GHG BACT or limits taken to be GHG synthetic minor.</p>

Table 2 - PSD Applicability Criteria

On or After July 1, 2011, New Source	On or After July 1, 2011, Major Modification to Existing PSD Major Source	On or After July 1, 2011, Modification to Existing PSD Minor Source	Requirement
<p>Source is subject to PSD for another pollutant and GHG PTE is \geq than 75,000 tpy CO₂e</p> <p>or</p> <p>GHG PTE is \geq 100,000 TPY CO₂e and \geq 100/250 TPY mass basis</p>	<p>Source is subject to PSD for another regulated pollutant and net GHG emissions increase is \geq 75,000 tpy CO₂e and greater than zero TPY mass basis</p> <p>or</p> <p>existing source has GHG PTE \geq 100,000 TPY CO₂e and \geq 100/250 TPY mass basis and net emissions GHG increase is \geq 75,000 TPY CO₂e and greater than zero TPY mass basis</p>	<p>Actual or potential emissions of GHGs from the modification is \geq 100,000 TPY CO₂e and \geq 100/250 TPY mass basis.</p> <p>Minor PSD sources cannot net out of PSD review.</p>	<p>The source is subject to PSD permitting for GHG emissions and other regulated pollutants that are significant. In the application include GHG emissions calculations and supporting documents, report CO₂e and GHG emissions in Table 2-P, complete a GHG BACT determination, and include the TPY CO₂e and GHG mass emissions in the public notice.</p> <p>Note: If a minor source permit is issued after January 2, 2011, but before July 1, 2011, and construction has not commenced by July 1, 2011, the permit must be cancelled, reopened, or an additional PSD permitting action taken, if the approved change/construction would trigger GHG PSD after July 1, 2011.</p>

Section 23 Certification

Company Name: Williams Four Corners, LLC

I, Glen Jasek, 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 3rd day of December, 2014, upon my oath or affirmation, before a notary of the State of New Mexico.

Glen Jasek
*Signature

12/3/14
Date

GLEN JASEK
Printed Name

VP & GM, FCA
Title

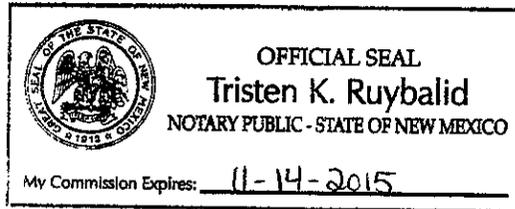
Scribed and sworn before me on this 3rd day of December, 2014.

My authorization as a notary of the State of New Mexico expires on the 14th day of November, 2015.

Tristen K. Ruybalid
Notary's Signature

12/3/2014
Date

Tristen K. Ruybalid
Notary's Printed Name



*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AD NMAC.