

**APPLICATION TO RENEW AND REVISE
TITLE V OPERATING PERMIT NO. P166-R4
TRUNK L COMPRESSOR STATION
RIO ARriba COUNTY, NM**

August 2024

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

Prepared for:
Harvest Four Corners. LLC
1755 Arroyo Drive
Bloomfield, New Mexico 87413
505-632-4600

Prepared by:
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525 Central Park Dr., Suite 500
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405-702-1618

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Mail Application To: New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb		For Department use only:
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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.

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

Acknowledgements:

- ☒ I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
- ☐ \$500 NSR application Filing Fee enclosed **OR** ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
- ☐ Check No.: [REDACTED] in the amount of [REDACTED]
- ☒ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.
- ☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: www.env.nm.gov/air-quality/permit-fees-2/.
- ☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full \$500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: www.env.nm.gov/air-quality/small-biz-eap-2/.)

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

Section 1 – Facility Information

Section 1-A: Company Information		AI # if known: 1037	Updating Permit/NOI #: P166-R4
1	Facility Name: Trunk L Compressor Station	Plant primary SIC Code (4 digits): 1389	
		Plant NAIC code (6 digits): 213112	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): From Bloomfield, go east on Highway 64 to mile marker 101.1, turn right and drive 0.3 miles, take left fork, and drive 0.7 miles, take left fork and drive 1.2 miles, take left fork and drive 0.5 miles, turn left and drive 0.6 miles, take right fork and drive 0.3 miles, take left fork and drive 0.4 miles to the station.		

2	Plant Operator Company Name: Harvest Four Corners, LLC	Phone/Fax: (505) 324-5128 / (505) 801-6517
a	Plant Operator Address: 1755 Arroyo Drive, Bloomfield, New Mexico 87413	
b	Plant Operator's New Mexico Corporate ID or Tax ID: Harvest Four Corners, LLC	
3	Plant Owner(s) name(s): Harvest Four Corners, LLC	Phone/Fax: (505) 324-5128 / (505) 801-6517
a	Plant Owner(s) Mailing Address(s): 1755 Arroyo Drive, Bloomfield, New Mexico 87413	
4	Bill To (Company): Harvest Four Corners, LLC	Phone/Fax: (505) 324-5128
a	Mailing Address: 1755 Arroyo Drive, Bloomfield, New Mexico 87413	E-mail: jdeal@harvestmidstream.com
5	☐ Preparer: ☒ Consultant: Laura Worthen-Lodes	Phone/Fax: (405) 702-1618
a	Mailing Address: 525 Central Park Drive Suite 500 Oklahoma City, OK 73105	E-mail: Laura.Worthen-Lodes@Altamira-US.com
6	Plant Operator Contact: Thomas Ellis	Phone/Fax: (505) 330-6837
a	Address: 1755 Arroyo Drive, Bloomfield, New Mexico 87413	E-mail: tellis@harvestmidstream.com
7	Air Permit Contact: Jennifer Deal	Title: Environmental Specialist
a	E-mail: jdeal@harvestmidstream.com	Phone/Fax: (505) 324-5128
b	Mailing Address: 1755 Arroyo Drive, Bloomfield, New Mexico 87413	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

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

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: 7.65 MMCF	Daily: 183.54 MMCF	Annually: 66,992.1 MMCF
b	Proposed	Hourly: 7.65 MMCF	Daily: 183.54 MMCF	Annually: 66,992.1 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
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Section 1-D: Facility Location Information

1	Latitude (decimal degrees): 36.643333	Longitude (decimal degrees): -107.355556	County: Rio Arriba	Elevation (ft): 6,755
2	UTM Zone: ☐ 12 or ☒ 13		Datum: ☒ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 237,340		UTM N (in meters, to nearest 10 meters): 4,069,570	
3	Name and zip code of nearest New Mexico town: Bloomfield, New Mexico 87413			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Bloomfield, go east on Highway 64 to mile marker 101.1, turn right and drive 0.3 miles, take left fork, and drive 0.7 miles, take left fork and drive 1.2 miles, take left fork and drive 0.5 miles, turn left and drive 0.6 miles, take right fork and drive 0.3 miles, take left fork and drive 0.4 miles to the station.			
5	The facility is 36.5 (distance) miles east (direction) of Bloomfield (nearest town).			
6	Land Status of facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Government ☒ BLM ☐ Forest Service ☐ Military			
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: None; Jicarilla Apache Tribe; Rio Arriba Co.			
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.env.nm.gov/air-quality/modeling-publications/)? ☐ Yes ☒ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:			
9	Name nearest Class I area: San Pedro Parks Wilderness			
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 67.00 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: 4,070 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? ☐ Yes ☒ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.			
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?			

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		☐ AM ☐ PM	End: N/A ☒ AM ☒ PM
3	Month and year of anticipated start of construction: N/A			
4	Month and year of anticipated construction completion: N/A			
5	Month and year of anticipated startup of new or modified facility: N/A			
6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No			

Section 1-F: Other Facility Information

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

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

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." ☒ N/A (This is not a Streamline application.)
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Section 1-H: Current Title V Information - Required for all applications from TV Sources

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC): Nathan Work		Phone: (505)215-6107
a	R.O. Title: Operations Manager	R.O. e-mail: nwork@harvestmidstream.com	
b	R. O. Address: 3746 CR 307, Durango, CO 81303		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): TBD		Phone: TBD
a	A. R.O. Title: TBD	A. R.O. e-mail: TBD	
b	A. R. O. Address: TBD		
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.): Harvest Midstream Company		
a	Address of Parent Company: 1111 Travis Street, Houston, Texas 77002		
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: 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: Yes, Colorado (29 km), Navajo Tribe (5 km), Southern Ute Tribe (29 km), Mountain Ute Tribe (30 km) & Jicarilla Apache Tribe (66 km)
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Section 1-I – Submittal Requirements

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

Hard Copy Submittal Requirements:

- 1) One hard copy **original signed and notarized application package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be **head-to-head**. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. **Please include a copy of the check on a separate page.**
- 2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This **copy** should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☐ CD/DVD attached to paper application

☒ Secure electronic transfer. Air Permit Contact Name: **Laura Worthen Lodes**

Email: Laura.Worthen-Lodes@Altamira-US.com

Phone number: [405-702-1618](tel:405-702-1618)

a. If the file transfer service is chosen by the applicant, after receipt of the application, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Submission of the electronic files through the file transfer service needs to be completed within 3 business days after the invitation is received, so the applicant should ensure that the files are ready when sending the hard copy of the application. The applicant will not need a password to complete the transfer. **Do not use the file transfer service for NOIs, any type of GCP, or technical revisions to NSR permits.**

- 4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.
- 5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling **summary report only** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.
- 6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
 - a. one additional CD copy for US EPA,
 - b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
 - c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

If the application is submitted electronically through the secure file transfer service, these extra CDs do not need to be submitted.

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

- 1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.
- 2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc.), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.
- 3) It is preferred that this application form be submitted as 4 electronic files (**3 MSWord docs**: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and **1 Excel file** of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.
- 4) The **electronic file names** shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the **core permit number** (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the **section #** (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the **header information** throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

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Table 2-A: Regulated Emission Sources

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

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufact-urer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.	
							Date of Construction/ Reconstruction ²	Emissions vented to Stack #					
1	Reciprocating Engine	Waukesha	7042GL	C-12420/1 (Pkg # 76758)	1232 hp	1131 hp	6/12/1997	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
2	Reciprocating Engine	Waukesha	7042GL	360634 (Pkg # X00244)	1232 hp	1131 hp	12/1/1980	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
3	Reciprocating Engine	Waukesha	7042GL	C-12658/3 (Pkg # X00106)	1232 hp	1131 hp	7/28/1998	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
4	Reciprocating Engine	Waukesha	7042GL	C-11890/1 (Pkg # X00107)	1232 hp	1131 hp	1/25/1996	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
5	Reciprocating Engine	Waukesha	7042GL	403312 (Pkg # X00057)	1232 hp	1131 hp	5/3/1991	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
6	Reciprocating Engine	Waukesha	7042GL	364639 (Pkg # X00104)	1232 hp	1131 hp	6/16/1981	N/A	20200202	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
7	Reciprocating Engine	Waukesha	7042GL	C-11059/2 (Pkg # 76762)	1232 hp	1131 hp	11/29/1993	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
8	Reciprocating Engine	Waukesha	7042GL	306882 (Pkg # 76763)	1232 hp	1131 hp	2/1/1977	N/A	20200202	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☐ Replacement Unit ☐ To be Replaced	4SLB	N/A
9	Reciprocating Engine	Waukesha	7042GL	362285 (Pkg # 76764)	1232 hp	1131 hp	3/18/1981	N/A	20200202	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☐ Replacement Unit ☐ To be Replaced	4SLB	N/A
10	Reciprocating Engine	Waukesha	7042GL	C-12095/1 (Pkg # 76765)	1232 hp	1131 hp	7/25/1996	N/A	20200202	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	4SLB	N/A
11	Reciprocating Engine	Waukesha	7042GL	C-11492/2 (Pkg # 76828)	1232 hp	1131 hp	1/31/1995	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
12	Reciprocating Engine	Waukesha	7042GL	C-12679/1 (Pkg # X00065)	1232 hp	1131 hp	9/24/1998	N/A	20200202	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☒ Replacement Unit ☐ To be Replaced	4SLB	N/A
13	Reciprocating Engine	Waukesha	7042GL	TBD	1232 hp	1131 hp	TBD	N/A	20200202	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☐ Replacement Unit ☐ To be Replaced	4SLB	N/A
14	Reciprocating Engine	Waukesha	7042GL	TBD	1232 hp	1131 hp	TBD	N/A	20200202	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☐ Replacement Unit ☐ To be Replaced	4SLB	N/A
15a	TEG Dehydrator	InFab	20MM-720-3PH	6134 C/F	20 MMscfd	20 MMscfd	11/1/1998	22	31000227	☒ Existing (unchanged) ☐ New/Additional ☐ To Be Modified	☐ To Be Removed ☐ Replacement Unit ☐ To be Replaced	N/A	N/A

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufact-urer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/ Reconstruction ²	Emissions vented to Stack #				
15b	Reboiler	InFab	20MM-720-3PH		1.5 MMBtu/hr	1.5 MMBtu/hr	11/1/1998	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							11/1/1998	15b				
16a	TEG Dehydrator	InFab	20MM-720-3PH	6135 C/F	20 MMscfd	20 MMscfd	11/1/1998	22	31000227	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							11/1/1998	22				
16b	Reboiler	InFab	20MM-720-3PH		1.5 MMBtu/hr	1.5 MMBtu/hr	11/1/1998	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							11/1/1998	16b				
17a	TEG Dehydrator	InFab	20MM-720-3PH	6162 G	20 MMscfd	20 MMscfd	12/1/1998	23	31000227	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							12/1/1998	23				
17b	Reboiler	InFab	20MM-720-3PH		1.5 MMBtu/hr	1.5 MMBtu/hr	12/1/1998	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							12/1/1998	17b				
18a	TEG Dehydrator	InFab	20MM-720-3PH	6163 C/F	20 MMscfd	20 MMscfd	12/1/1998	23	31000227	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							12/1/1998	23				
18b	Reboiler	InFab	20MM-720-3PH		1.5 MMBtu/hr	1.5 MMBtu/hr	12/1/1998	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							12/1/1998	18b				
19a	TEG Dehydrator	InFab	20MM-720-3PH	6133 C/F	20 MMscfd	20 MMscfd	10/1/1998	24	31000227	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							10/1/1998	24				
19b	Reboiler	InFab	20MM-720-3PH		1.5 MMBtu/hr	1.5 MMBtu/hr	10/1/1998	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							10/1/1998	19b				
20a	TEG Dehydrator	InFab	20MM-720-3PH	6131 C/F	20 MMscfd	20 MMscfd	9/1/1998	24	31000227	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							9/1/1998	24				
20b	Reboiler	InFab	20MM-720-3PH		1.5 MMBtu/hr	1.5 MMBtu/hr	9/1/1998	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							9/1/1998	20b				
21a	TEG Dehydrator	InFab	20MM-720-3PH	TBD	20 MMscfd	20 MMscfd	TBD	25	31000227	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							TBD	25				
21b	Reboiler	InFab	20MM-720-3PH	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD	N/A	31000228	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							TBD	21b				
22	Condensor & Enclosed Flare	Pesco			4 mmscf/hr	4 mmscf/hr	2/24/1999	N/A	31000205	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							2/24/1999	22				
23	Condensor & Enclosed Flare	Pesco			4 mmscf/hr	4 mmscf/hr	2/24/1999	N/A	31000205	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							2/24/1999	23				
24	Condensor & Enclosed Flare	Pesco			4 mmscf/hr	4 mmscf/hr	2/24/1999	N/A	31000205	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							2/24/1999	24				

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
25	Condensor & Enclosed Flare	Pesco			4 mmscf/hr	4 mmscf/hr	TBD	N/A	31000205	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							TBD	25				
SSM	SSM from 1a-14a	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31000203	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☒ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
F1	Equipment Leaks	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31088811	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☒ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
F2	Truck Loading	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40400311-12	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
M1	Malfunctions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☒ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
T7820	Condensate Storage Tank		Vertical Fixed Roof	N/A	300 bbl	300 bbl	N/A	N/A	40400311-12	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
T7821	Condensate Storage Tank		Vertical Fixed Roof	T-3686	300 bbl	300 bbl	2000	N/A	40400311-12	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							2000	N/A				
T7822	Condensate Storage Tank		Vertical Fixed Roof	2884	300 bbl	300 bbl	7/1/1965	N/A	40400311-12	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							7/1/1965	N/A				
T7856	Condensate Storage Tank		Vertical Fixed Roof	3280	300 bbl	300 bbl	5/1/1969	N/A	40400311-12	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							5/1/1969	N/A				
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

¹ Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

² Specify dates required to determine regulatory applicability.

³ To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

⁴ "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

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

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²	
N/A	Catalytic Heater			0.012			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				MMBtu/hr	Insignificant Activities Item 1.a & 1.b		
N/A	Catalytic Heater			0.012			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				MMBtu/hr	Insignificant Activities Item 1.a & 1.b		
N/A	Catalytic Heater			0.012			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				MMBtu/hr	Insignificant Activities Item 1.a & 1.b		
N/A	Catalytic Heater			0.012			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				MMBtu/hr	Insignificant Activities Item 1.a & 1.b		
T-30	Waste Water Storage Tank			3,360			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-80	Waste Water Storage Tank			3,360			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-90	Produced Water Storage Tank			5,040			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activities Item 1.a & 1.b		
T-100	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-101	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-200	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-201	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-300	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-301	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-400	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		

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	
T-401	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-500	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-501	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-600	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-601	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-700	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-701	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-800	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-801	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-900	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-901	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1000	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1001	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1100	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1101	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1200	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		

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	
T-1201	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1300	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1301	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1400	Lubrication Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-1401	Used Oil Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2100	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2200	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2300	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2400	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2500	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2600	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-2700	Glycol Storage Tank			105			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-8000	Waste Water Storage Tank			3,360			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-8300	Waste Water Storage Tank			4,200			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-8400	Glycol Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-8500	Glycol Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		

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	
T-8600	Waste Water Storage Tank			3,360			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-8700	Solvent Storage Tank			500			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T-8800	Waste Water Storage Tank			15,960			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activity Item No. 5		
T8900	Produced Water Storage Tank			200			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activities Item 1.a & 1.b		
T9000	Methanol Storage Tank			4,200			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gal	Insignificant Activities Item 1.a & 1.b		
N/A	Produced water truck loading			N/A			X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				N/A	Insignificant Activities Item 1.a & 1.b		
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

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

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

[illegible]

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

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

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

Unit No.	NOx		CO		VOC		SOx		TSP ^{1,2}		PM10 ¹		PM2.5 ¹		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	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
2	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
3	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
4	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
5	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
6	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
7	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
8	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
9	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
10	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
11	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
12	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
13	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
14	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
SSM	-	-	-	-	-	29.19	-	-	-	-	-	-	-	-	-	-	-	-
15a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
15b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
16a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
16b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
17a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
17b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
18a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
18b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
19a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
19b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
20a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
20b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
21a ³	-	-	-	-	27.40	120.20	-	-	-	-	-	-	-	-	-	-	-	-
21b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
22	5.77E-03	2.53E-02	4.95E-02	2.17E-01	5.50E-04	2.41E-03	6.00E-05	2.63E-04	-	-	-	-	-	-	-	-	5.00E-08	2.19E-07
23	5.77E-03	2.53E-02	4.95E-02	2.17E-01	5.50E-04	2.41E-03	6.00E-05	2.63E-04	-	-	-	-	-	-	-	-	5.00E-08	2.19E-07
24	5.77E-03	2.53E-02	4.95E-02	2.17E-01	5.50E-04	2.41E-03	6.00E-05	2.63E-04	-	-	-	-	-	-	-	-	5.00E-08	2.19E-07
25	5.77E-03	2.53E-02	4.95E-02	2.17E-01	5.50E-04	2.41E-03	6.00E-05	2.63E-04	-	-	-	-	-	-	-	-	5.00E-08	2.19E-07

Unit No.	NO _x		CO		VOC		SO _x		TSP ^{1,2}		PM10 ¹		PM2.5 ¹		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
T7820 ⁴	-	-	-	-	Not specified	37.1	-	-	-	-	-	-	-	-	-	-	-	-
T7821 ⁴	-	-	-	-	Not specified	37.1	-	-	-	-	-	-	-	-	-	-	-	-
T7822 ⁴	-	-	-	-	Not specified	37.1	-	-	-	-	-	-	-	-	-	-	-	-
T7856 ⁴	-	-	-	-	Not specified	37.1	-	-	-	-	-	-	-	-	-	-	-	-
F1					4.80	21.04												
F2					58.16	1.39												
M1					-	10.00												
Totals	52.66	230.67	92.98	407.25	289.71	1204.46	7.35E-02	0.32	1.23	5.40	1.23	5.40	1.23	5.40	-	-	0.00001	0.00003

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

² As of December 1, 2018, **Total Suspended Particulate (TSP)** no longer has a New Mexico Ambient Air Quality Standard, and therefore **is no longer a regulated pollutant**.

³ The uncontrolled TEG dehydrator still vent PTE is based on the CAM Plan (2013) for the Trunk L dehydrator flares.

⁴ The emissions from the condensate storage tanks are brought forward from NSR construction permit 1527-M5.

Table 2-E: Requested Allowable Emissions

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

Unit No.	NO _x		CO		VOC		SO _x		TSP ^{1,2}		PM ₁₀ ¹		PM _{2.5} ¹		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	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
2	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
3	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
4	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
5	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
6	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
7	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
8	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
9	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
10	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
11	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
12	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
13	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
14	3.74	16.38	6.60	28.93	2.49	10.92	4.81E-03	2.11E-02	8.18E-02	0.36	8.18E-02	0.36	8.18E-02	0.36	-	-	-	-
SSM	-	-	-	-	Not specified	29.19	-	-	-	-	-	-	-	-	-	-	-	-
15a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
15b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
16a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
16b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
17a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
17b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
18a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
18b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
19a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
19b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
20a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
20b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
21a	-	-	-	-	0.60	2.40	-	-	-	-	-	-	-	-	-	-	-	-
21b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	1.25E-02	5.49E-02	1.25E-02	5.49E-02	1.25E-02	5.49E-02	-	-	8.24E-07	3.61E-06
22 ³	9.00E-02	0.40	0.49	2.15	2.44E-02	0.11	3.00E-03	1.20E-02	-	-	-	-	-	-	-	-	2.21E-06	9.70E-06
23 ³	9.00E-02	0.40	0.49	2.15	2.44E-02	0.11	3.00E-03	1.20E-02	-	-	-	-	-	-	-	-	2.21E-06	9.70E-06
24 ³	9.00E-02	0.40	0.49	2.15	2.44E-02	0.11	3.00E-03	1.20E-02	-	-	-	-	-	-	-	-	2.21E-06	9.70E-06

Unit No.	NOx		CO		VOC		SOx		TSP ^{1,2}		PM10 ¹		PM2.5 ¹		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
25 ³	9.00E-02	0.40	0.49	2.15	2.44E-02	0.11	3.00E-03	1.20E-02	-	-	-	-	-	-	-	-	2.21E-06	9.70E-06
T7820 ³	-	-	-	-	Not specified	37.10	-	-	-	-	-	-	-	-	-	-	-	-
T7821 ³	-	-	-	-	Not specified	37.10	-	-	-	-	-	-	-	-	-	-	-	-
T7822 ³	-	-	-	-	Not specified	37.10	-	-	-	-	-	-	-	-	-	-	-	-
T7856 ³	-	-	-	-	Not specified	37.10	-	-	-	-	-	-	-	-	-	-	-	-
F1	-	-	-	-	4.80	21.04	-	-	-	-	-	-	-	-	-	-	-	-
F2	-	-	-	-	46.76	1.39	-	-	-	-	-	-	-	-	-	-	-	-
M1	-	-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals⁴	53.00	232.15	94.75	415.00	90.81	380.28	0.09	0.37	1.23	5.40	1.23	5.40	1.23	5.40	-	-	1.46E-05	6.41E-05

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

² As of December 1, 2018, **Total Suspended Particulate (TSP)** no longer has a New Mexico Ambient Air Quality Standard, and therefore **is no longer a regulated pollutant**.

³ The requested allowable emissions from the dehydrator flares and the condensate storage tanks are brought forward from NSR construction permit 1527-M5.

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

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

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Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
1	1	V	No	22	667	100			122	1.02
2	2	V	No	22	667	100			122	1.02
3	3	V	No	22	667	100			122	1.02
4	4	V	No	22	667	100			122	1.02
5	5	V	No	22	667	100			122	1.02
6	6	V	No	22	667	100			122	1.02
7	7	V	No	22	667	100			122	1.02
8	8	V	No	22	667	100			122	1.02
9	9	V	No	22	667	100			122	1.02
10	10	V	No	22	667	100			122	1.02
11	11	V	No	22	667	100			122	1.02
12	12	V	No	22	667	100			122	1.02
13	13	V	No	22	667	100			122	1.02
14	14	V	No	22	667	100			122	1.02
15b	15b	V	No	10	600	5			6	1.00
16b	16b	V	No	10	600	5			6	1.00
17b	17b	V	No	10	600	5			6	1.00
18b	18b	V	No	10	600	5			6	1.00
19b	19b	V	No	10	600	5			6	1.00
20b	20b	V	No	10	600	5			6	1.00
21b	21b	V	No	10	600	5			6	1.00
22	15a & 16a; 22	V	No	20	1832	13			66	0.6
23	17a & 18a; 23	V	No	20	1832	13			66	0.6
24	19a & 20a; 24	V	No	20	1832	13			66	0.6
25	21a; 25	V	No	20	1832	6.5			66	0.6

Table 2-J: Fuel

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

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
1	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
2	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
3	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
4	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
5	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
6	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
7	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
8	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
9	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
10	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
11	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
12	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
13	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
14	Natural gas	Raw/field natural gas	900 Btu/cf	9.10 Mscf	79.68 MMscf	-	-
15b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-
16b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-
17b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-
18b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
19b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-
20b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-
21b	Natural gas	Raw/field natural gas	900 Btu/cf	1.65 Mscf	14.44 MMscf	-	-
22	Natural gas	Raw/field natural gas	810 Btu/cf	780 scf	6.83 MMscf	-	-
23	Natural gas	Raw/field natural gas	810 Btu/cf	780 scf	6.83 MMscf	-	-
24	Natural gas	Raw/field natural gas	810 Btu/cf	780 scf	6.83 MMscf	-	-
25	Natural gas	Raw/field natural gas	810 Btu/cf	780 scf	6.83 MMscf	-	-

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 X HAP or □ TAP		Formaldehyde X HAP or □ TAP		n-Hexane X HAP or □ TAP		Toluene X 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	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
2	2	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
3	3	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
4	4	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
5	5	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
6	6	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
7	7	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
8	8	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
9	9	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
10	10	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
11	11	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
12	12	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
13	13	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
14	14	0.4	1.9	-	0.1	0.4	1.8	-	-	-	-								
SSM	SSM	-	0.8	-	0.1	-	-	-	0.6	-	0.1								
15a	15a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								
15b	15b	-	0.0	-	-	-	-	-	-	-	-								
16a	16a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								
16b	16b	-	0.0	-	-	-	-	-	-	-	-								
17a	17a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								
17b	17b	-	0.0	-	-	-	-	-	-	-	-								
18a	18a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								
18b	18b	-	0.0	-	-	-	-	-	-	-	-								
19a	19a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								
19b	19b	-	0.0	-	-	-	-	-	-	-	-								
20a	20a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								

Stack No.	Unit No.(s)	Total HAPs		Benzene X HAP or ☐ TAP		Formaldehyde X HAP or ☐ TAP		n-Hexane X HAP or ☐ TAP		Toluene X 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
20b	20b	-	0.0	-	-	-	-	-	-	-	-								
21a	21a	0.1	0.3	-	0.2	-	-	-	-	-	0.1								
21b	21b	-	0.0	-	-	-	-	-	-	-	-								
22	22	0.1	0.6	0.1	0.3	-	-	-	-	-	0.2								
23	23	0.1	0.6	0.1	0.3	-	-	-	-	-	0.2								
24	24	0.1	0.6	0.1	0.3	-	-	-	-	-	0.2								
25	25	0.1	0.6	0.1	0.3	-	-	-	-	-	0.2								
T7820	T7820	-	1.0	-	0.1	-	-	-	0.7	-	0.1								
T7821	T7821	-	1.0	-	0.1	-	-	-	0.7	-	0.1								
T7822	T7822	-	1.0	-	0.1	-	-	-	0.7	-	0.1								
T7856	T7856	-	1.0	-	0.1	-	-	-	0.7	-	0.1								
F1	F1	0.1	0.4	-	-	-	-	0.1	0.3	-	0.1								
F2	F2	1.8	0.0	0.2	-	-	-	1.4	-	0.2	-								
M1	M1	-	0.3	-	-	-	-	-	0.2	-	-								
Totals		9.2	37.0	0.9	3.8	5.9	25.7	1.6	4.3	0.6	2.6								

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

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

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
T7820	31000299	Condensate	Condensate	1.69	43.70	57.90	5.82	90.50	8.06
T7821	31000299	Condensate	Condensate	1.69	43.70	57.90	5.82	90.50	8.06
T7822	31000299	Condensate	Condensate	1.69	43.70	57.90	5.82	90.50	8.06
T7856	31000299	Condensate	Condensate	1.69	43.70	57.90	5.82	90.50	8.06
T8000	31000299	Waste Water	H ₂ O & < 1% Heavy hydrocarbons	8.30	N/A*	N/A*	N/A*	N/A*	N/A*
T8300	31000299	Waste Water	H ₂ O & < 1% Heavy hydrocarbons	8.30	N/A*	N/A*	N/A*	N/A*	N/A*
T8400	31000299	Glycol	Glycol	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)					
T8500	31000299	Glycol	Glycol	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)					
T8600	31000299	Waste Water	H ₂ O & < 1% Heavy hydrocarbons	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)					
T8700	31000299	Solvent	Solvent	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)					
T8800	31000299	Waste Water	H ₂ O & < 1% Heavy hydrocarbons	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)					
T8900	31000299	Produced Water	H ₂ O & Hydrocarbons	8.30	N/A*	N/A*	N/A*	N/A*	N/A*
T9000	31000299	Methanol	Methanol	6.63	32	57.90	1.67	90.50	1.674
					* N/A: The emission calculations do not yield this data.				

Table 2-L: Tank Data

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M³)			Roof	Shell			
T30		Waste Water	N/A	FX	80	12.7	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T80		Waste Water	N/A	FX	80	12.7	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T90		Produced Water	N/A	FX	120	19.1	12	N/A*	MG	MG	G	254,400	N/A*
T100		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T101		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T200		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T201		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T300		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T301		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T400		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T401		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T500		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T501		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T600		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T601		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T700		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T701		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T800		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T801		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T900		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T901		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1000		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1001		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1100		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1101		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1200		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1201		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1300		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1301		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1400		Lubrication Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T1401		Used Oil	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2100		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2200		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2300		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2400		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2500		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2600		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T2700		Glycol	N/A	FX	3	0.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M ³)			Roof	Shell			
T7820		Condensate	N/A	FX	300	47.7	12.00	1.41	MG	MG	G	115,017	10.46
T7821		Condensate	N/A	FX	300	47.7	12.00	1.41	MG	MG	G	115,017	10.46
T7822		Condensate	N/A	FX	300	47.7	12.00	1.41	MG	MG	G	115,017	10.46
T7856		Condensate	N/A	FX	300	47.7	12.00	1.41	MG	MG	G	115,017	10.46
T8000		Waste Water	N/A	FX	80	12.7	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8300		Waste Water	N/A	FX	100	15.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8400		Glycol	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8500		Glycol	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8600		Waste Water	N/A	FX	80	12.7	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8700		Solvent	N/A	FX	12	1.9	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8800		Waste Water	N/A	FX	380	60.4	Insignificant source under Insignificant Activites List, Item No. 5 (Vapor pressure < 10 mm Hg)						
T8900		Produced Water	N/A	FX	5	0.8	3.66	N/A*	MG	MG	G	10,600	N/A*
T9000		Methanol	N/A	FX	100	15.9	2.44	0.33	MG	MG	G	49,633.68	13
							* N/A: The emission calculations do not yield this data						

The assumed produced water storage tank throughputs (T30 and T8900) = facility-wide total produced water throughput multiplied by the tank fraction volume of total aggregated produced water tanks volume.

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

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

Note: 1.00 bbl = 0.159 M³ = 42.0 gal

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

Material Processed				Material Produced			
Description	Chemical Composition	Phase (Gas, Liquid, or Solid)	Quantity (specify units)	Description	Chemical Composition	Phase	Quantity (specify units)
Low pressure natural gas	C1-C6+	Gas	66,992 MMcf/yr ¹	High pressure natural gas	C1-C6+	Gas	66,992 MMcf/yr ¹
Condensate	Hydrocarbons	Liquid	10,954 bbl/yr ¹	Condensate	Hydrocarbons	Liquid	10,954 bbl/yr ¹
Produced water	Water & hydrocarbons	Liquid	265,000 gal/yr ¹	Produced water	Water & hydrocarbons	Liquid	265,000 gal/yr ¹
¹ The station capacity is a direct function of available horsepower. The throughput is therefore dependent on atmospheric temperature and pressure, gas temperature and pressure, relative humidity and gas quality, was well as other factors. The “throughput” expressed above is a nominal quantity (with a 15 percent safety factor), neither an absolute maximum, nor an average. Actual throughput will vary from the nominal amount.							

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

Table 2-N: CEM Equipment

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

[illegible]

Table 2-O: Parametric Emissions Measurement Equipment

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

[illegible]

Table 2-P: Greenhouse Gas Emissions

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

☐ By checking this box, the applicant acknowledges the total CO₂e emissions are less than 75,000 tons per year.

		CO ₂ ton/yr	N 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										
1	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
2	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
3	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
4	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
5	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
6	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
7	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
8	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
9	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
10	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
11	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
12	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
13	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11
14	mass GHG	6005.92	0.0113	0.113											6006.04	-
	CO ₂ e	6005.92	3.3674	2.825											-	6012.11

Table 2-P: Greenhouse Gas Emissions

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

☐ By checking this box, the applicant acknowledges the total CO₂e emissions are less than 75,000 tons per year.

		CO ₂ ton/yr	N 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									
15a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
15b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.84
16a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
16b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.83
17a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
17b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.83
18a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
18b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.83
19a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
19b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.83
20a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
20b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.83
21a	mass GHG	4.47	-	0.145										4.62	-
	CO ₂ e	4.47	-	3.625										-	8.10
21b	mass GHG	841.96	0.00159	0.0159										841.98	-
	CO ₂ e	841.96	0.47382	0.3975										-	842.83
22	mass GHG	353.98	9.28E-04	-										353.98	-
	CO ₂ e	353.98	0.28	-										-	354.26
23	mass GHG	353.98	9.28E-04	-										353.98	-
	CO ₂ e	353.98	0.28	-										-	354.26
24	mass GHG	353.98	9.28E-04	-										353.98	-
	CO ₂ e	353.98	0.28	-										-	354.26
25	mass GHG	353.98	9.28E-04	-										353.98	-

Table 2-P: Greenhouse Gas Emissions

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

☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO ₂ ton/yr	N 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									
^{2,3}	CO ₂ e	353.98	0.28	-										-	354.26

Table 2-P: Greenhouse Gas Emissions

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

☐ By checking this box, the applicant acknowledges the total CO₂e emissions are less than 75,000 tons per year.

		CO ₂ ton/yr	N 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									
SSM from 1a-14a	mass GHG	2.72	-	92.87										95.59	-
	CO ₂ e	2.72	-	2321.85										-	2324.57
F1	mass GHG	1.788	-	49.80										51.59	-
	CO ₂ e	1.788	-	1245.03										-	1246.81
F2	mass GHG	-	-	-										0.00	-
	CO ₂ e	-	-	-										-	0.00
M1	mass GHG	0.930	-	31.81										32.75	-
	CO ₂ e	0.930	-	795.37										-	796.30
Tanks	mass GHG	-	-	-										0.00	-
	CO ₂ e	-	-	-										-	0.00
Tank flash	mass GHG	0.66	-	10.70										11.36	-
	CO ₂ e	0.66	-	10.70										-	11.36
Compressor Venting	mass GHG	32.9	-	1125.7										1158.62	-
	CO ₂ e	32.9	-	28142.3										-	28175.27
Pneumatic Devices & Pumps	mass GHG	9.39	-	321.16										330.55	-
	CO ₂ e	9.39	-	8029.03										-	8038.43
	mass GHG													0.00	-
	CO ₂ e													-	0.00
	mass GHG													0.00	-
	CO ₂ e													-	0.00
	mass GHG													0.00	-
	CO ₂ e													-	0.00
	mass GHG													0.00	-
	CO ₂ e													-	0.00
Total	mass GHG	91472.2	0.17	1634.8										93107.15	N/A
	CO ₂ e	91472.2	51.6	40612.0										N/A	132135.8

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

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

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

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

⁵ CO₂e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

"Tanks" includes the aggregated GHG emissions from working/breathing losses from condensate storage tanks T7820, T7821, T7822, and T7856. "Tank flash" includes GHG from flash emissions from the condensate tanks.

Section 3

Application Summary

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

The **Process Summary** shall include a brief description of the facility and its processes.

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

The Trunk L Compressor Station (Trunk L) is a production gathering field compressor station that pressurizes and dehydrates natural gas for transport through natural gas pipelines. The facility operates under Title V Operating Permit P166-R4, issued August 7, 2020. The facility is additionally authorized under construction permit 1527-M5. For Title V purposes, the facility is considered to have "commenced operation" on the date of issuance of the modified construction permit, October 18, 2018.

20.2.70.404.C(3)(b) of the New Mexico Administrative Code (NMAC) requires that a complete application for an Operating Permit modification be filed within 12 months of commencing operation under a revised [New Source Review (NSR)] construction permit (i.e., permit 1527-M5). Therefore, Harvest is submitting this application to the New Mexico Air Quality Bureau (NMAQB) to modify its Title V Operating Permit P166-R3 for Trunk L under 20.2.70.404.C(3)(b) NMAC. As this modification application is being submitted less than six (6) months from the facility's Title V permit renewal application deadline on August 7, 2024, Harvest requests that this application also serve as the Title V Operating Permit renewal application under 20.2.70.300.B(2) NMAC (i.e., both the modification and renewal applications for the Title V Operating Permit are being submitted for concurrent review, within one document).

Based on the facility-wide Potential To Emit (PTE) for carbon monoxide (CO) and volatile organic compounds (VOC) exceed 250 tons per year (tpy) each, Trunk L is a major source under the *Prevention of Significant Deterioration (PSD)* permitting program (20.2.74 NMAC). Construction permit 1527-M5 was a significant permit revision under NSR, but only a PSD minor revision and did not trigger PSD review.

The facility is an area source of Hazardous Air Pollutants (HAP) under 40 CFR 63, subpart HH, *National Emission Standards for Hazardous Air Pollutants [NESHAP] for Oil and Gas Production Facilities*, and a

major source of HAP under 40 CFR 63, subpart ZZZZ, *NESHAP for Stationary Reciprocating Internal Combustion Engines*.

Currently, Title V Operating Permit P166-R3 includes:

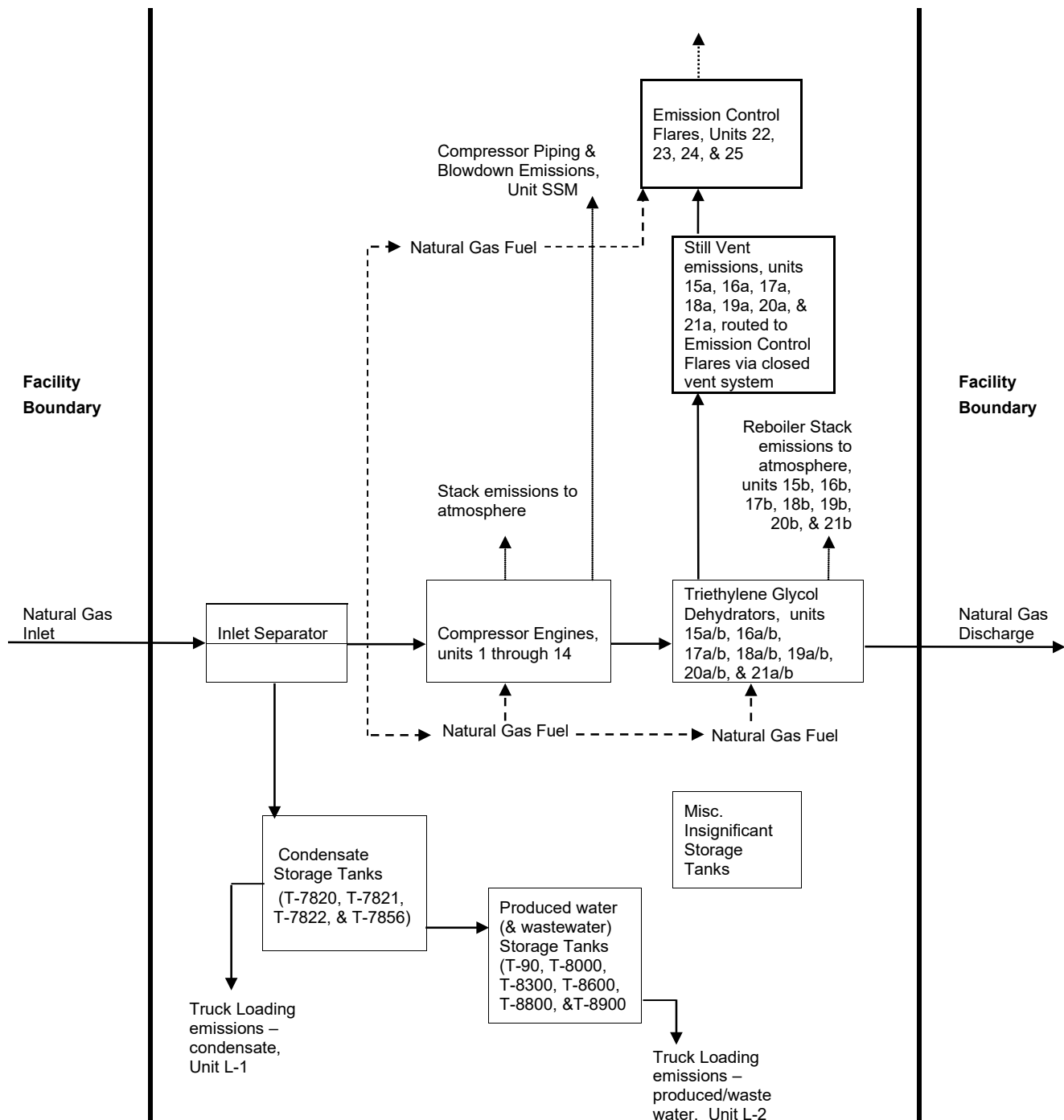
- Fourteen (14) Waukesha 7042GL natural gas-fired compressor engines (units 1 through 14), each equipped with low-speed turbochargers;
- Seven (7) 20 million cubic feet per day (MMcfd), triethylene glycol (TEG) natural gas dehydrators (units 15 through 21);
- Four (4) enclosed flares (units 22, 23, 24, and 25) for combustion emission control of the TEG dehydrator volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions;
- Four (4) 300-barrel (bbl) condensate storage tanks (units T-7820, T-7821, T-7822, and T-7856);
- Up to 29.2 tons per year (tpy) of VOC emissions from compressor and associated piping blowdowns during routine and predictable startup, shutdown and/or maintenance (SSM) activities associated with the station. Note that these SSM emissions are un-combusted gas emissions only; and
- Up to ten (10.0) tons per year of VOC emissions from the venting of natural gas due to malfunctions (unit M1).

The facility also has fugitive emissions of VOC from facility-wide pipelines and components, and miscellaneous insignificant emission sources including liquid storage tanks and small heaters.

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.

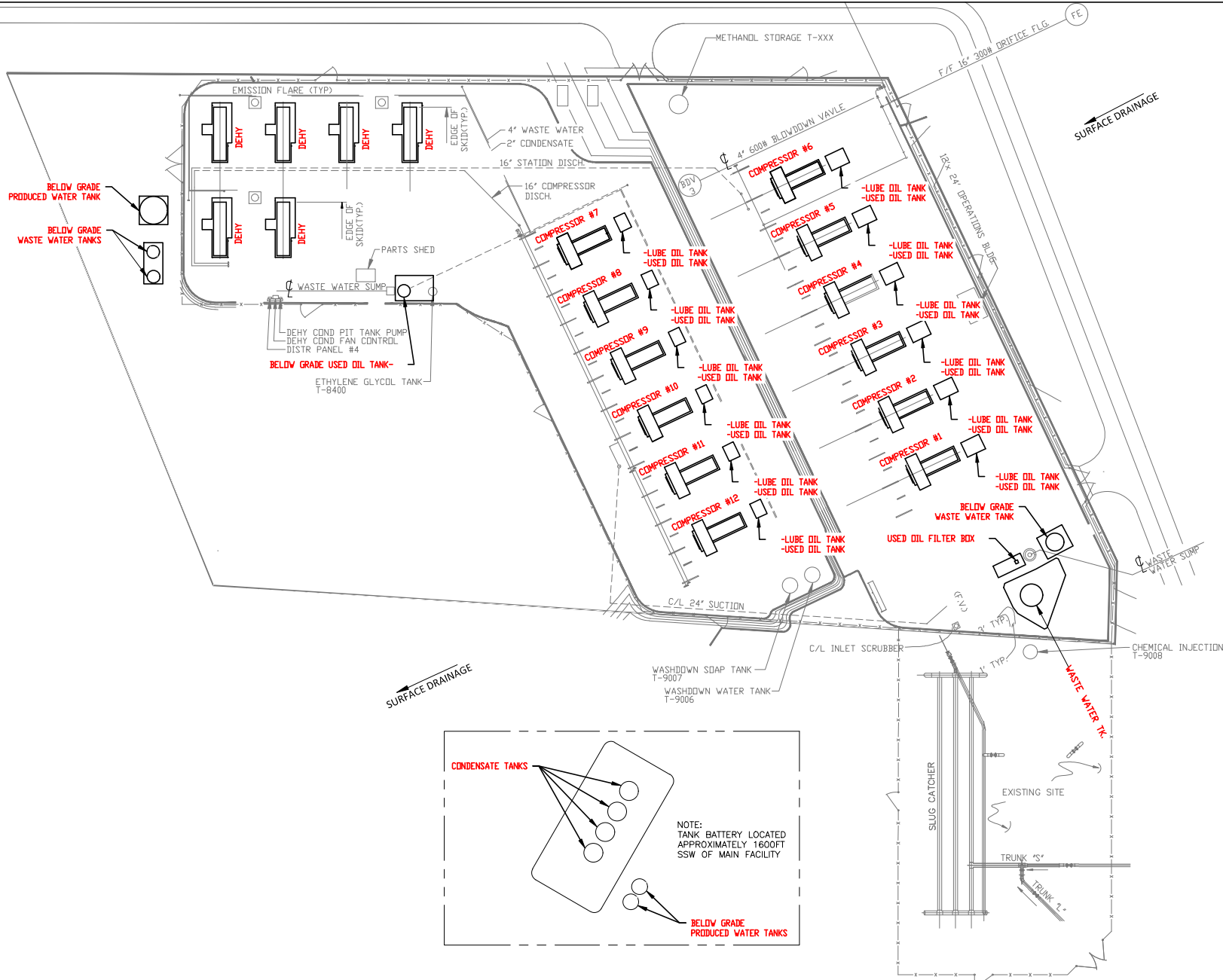


Section 5

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.

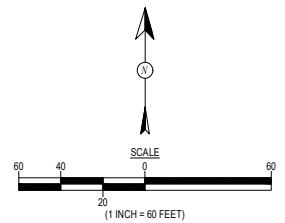


FACILITY LAYOUT
 WILLIAMS FOUR CORNERS LLC
 TRUNK I FACILITY
 SW¼, SW¼, SECTION 22, T28N, R5W
 RIO ARriba COUNTY, NEW MEXICO
 N36.64301, W107.35457



DRAWN BY: C. Lameman	DATE DRAWN: November 5, 2013
REVISIONS BY: T. Goossen	DATE REVISED: March 27, 2018
CHECKED BY: M. Hannan	DATE CHECKED: March 27, 2018
APPROVED BY: M. Hannan	DATE APPROVED: March 27, 2018

NOTE: SITE DIAGRAM OBTAINED FROM WILLIAMS, EDITED BY CIRRUS 11/28/2018.



Section 6

All Calculations

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

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

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

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

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:

- A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.
- B. At least 5 significant figures shall be retained in all intermediate calculations.
- C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

- (1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
- (2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
- (3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
- (4) The final result of the calculation shall be expressed in the units of the standard.

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

Reciprocating Engines

The uncontrolled Potential to Emit (PTE) for nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOC) from each of the fourteen Waukesha 7042GL engines (units 1 through 14) are calculated from engine manufacturer's data and the site-rated horsepower (hp) rating of the engine. Sulfur dioxide (SO₂) and particulate emissions from the engines are calculated from AP-42, Table 3.2-2 emission factors and the maximum fuel use. Uncontrolled hazardous air pollutants (HAP) from the RICE are calculated with GRI-HAPCalc 3.1 emissions estimation software. The emission calculations assume operation at full site capacity for 8,760 hours per year.

Each of the engines starts up with no load and a rich fuel mixture. Because the engine takes only minutes to reach the operating temperature of the engine, emissions are minimized. Emissions during startup are not expected to exceed the steady-state allowable emission rate limits. There are no Environmental Protection Agency (EPA)-approved test methods available to measure emissions during startup.

Similarly, emissions during shut down 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 engine is not in operation during maintenance.

SSM from Compressors and Piping

Emissions from compressor and associated piping blowdowns during routine and predictable startup, shutdown and/or maintenance activities (SSM) from the compressors and piping associated with the station (unit SSM) 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 the atmosphere. Also, after shutdowns, high pressure gas in the compressors and associated piping is released to atmosphere as a safety precaution.

One common reason for compressor startups and shutdowns is a change in the amount of compression required from the station due to fluctuations in the pipeline. To prolong the life of equipment and reduce engine emissions, the compressors are shutdown when not needed. It is "routine or predictable" that the

compressors at the station will come on-line and drop off-line many times during the course of operation. It is also standard industry practice.

A compressor is also shut down for maintenance of the engine, the compressor, or other equipment at the station. This maintenance is scheduled based the unit time in service and/or monitoring of equipment (visual and automated), in accordance with company and standard industry practice. This maintenance is also “routine or predictable”.

The SSM emissions of VOC and HAP from blowdown of the compressors and piping associated with the facility are calculated from the composition of the natural gas, the quantity of gas vented during each event, and the estimated number of annual events. The composition of the natural gas is based on an extended gas analysis of the facility inlet gas line sampled on October 26, 2022. The quantity of gas vented during each event is determined by Harvest engineering. The annual number of blowdown events for the compressors are estimated based on historical data. A safety factor is added because VOC and HAP emissions from each blowdown event are dependent on the composition of the gas in the pipeline, and because the annual number of blowdowns may vary. Experience indicates the composition of the gas is likely to vary. Use of a safety factor is designed to ensure an adequate emissions limit, which includes emissions from other miscellaneous SSM activities.

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

Dehydrator Still Vents

A triethylene glycol (TEG) dehydration unit can be considered to consist of two emission sub-units, a dehydrator still vent, and a dehydrator reboiler. The reboiler is a small heater combustion source that provides heat to regenerate rich TEG back to lean TEG. Therefore, the TEG dehydrator unit identification numbers are divided into ‘a’ and ‘b’ sub-units to differentiate the dehydrator still vents (units 15a, 16a, 17a, 18a, 19a, 20a and 21a) from the dehydrator reboilers (units 15b, 16b, 17b, 18b, 19b, 20b and 21b). The TEG dehydrators are permitted to operate continuously.

The PTE of VOC and HAP from the dehydrator still vents are calculated with GRI-GLYCalc 4.0 emission estimation software using an extended inlet natural gas analysis sampled on October 26, 2022; the maximum daily natural gas throughput of the dehydrators; and the maximum permitted glycol pump rate as program input. The emission calculations assume operation at full capacity for 8,760 hours per year. Emissions from the flash tanks are recycled/recompressed. The results of the GLYCalc analysis show that the VOC emissions using contemporary operating data are below the current permitted levels for all of the dehydrators. Harvest does not seek any changes to the currently permitted emissions to the units

15a, 16a, 17a, 18a, 19a, 20a and/or 21a dehydrator still vent emissions. Accordingly, the requested allowable emissions in Table 2-E are carried forward from the existing permit.

The VOC, HAP, CO₂ and CH₄ emissions from the dehydrator still vents (Units 15a-21a) are calculated using GRI-GLYCalc 4.0. It is assumed each dehydrator is equipped with a Kimray 45015 glycol pump. The manufacturer's maximum design recirculation rate for this pump is 7.5 gallons per minute. Emissions are calculated assuming each dehydrator operates at full capacity for 8,760 hours per year and each glycol pump operates at its design capacity. Emissions from the flash tanks are recycled/recompressed. Though the emissions are calculated using a current extended gas analysis and current operational data, the dehydrator VOC emissions in Table 2-E are unchanged from the previous Title V application and current permit. The dehydrator still vent emissions are routed via a closed vent system to a process flare for emissions control.

During startup, the dehydrator reboilers are brought up to temperature before allowing glycol into the absorbers. 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 reboilers are 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 units will not be in operation during maintenance or maintenance is limited to tasks for which there are no excess emissions.

The emissions in Table 2-E are carried forward from the previous construction permit application.

Dehydrator Control (Process) Flares

Three of the flares control emissions from two of the 20-mmcf/d dehydrators, and one flare controls the remaining 20 mmcf/d dehydrator. Emissions are calculated using the combined gas throughput rates identified by GRI-GLYCalc.

NO_x and CO emissions from the flares (Units 22, 23, 24 & 25) are calculated using TCEQ emission factors. VOC (from the pilot gas), SO₂, and lead emissions are calculated using the AP-42 emissions factor from Table 1.4-2. To allow for variations in inlet gas composition, a safety factor of 1.16 is applied to the heat content of the various gas streams. The safety factor of 1.16 is selected so that the heat content of the combined stream will be at the high end of a low Btu gas as defined in the TCEQ flare guidance document (999 Btu/scf).

The NO_x and CO emissions from the flares (Units 22-25) are calculated using Texas Commission on Environmental Quality (TCEQ) emission factors. VOC, SO₂ and lead emissions are calculated using AP-42

emissions factors from Table 1.4-2. Particulate emissions are assumed to be negligible, as the flares are smokeless. The flow rates are identified from the GRI-GLYCalc 4.0 output file. The heat contents are calculated from data in the GRI-GLYCalc 4.0 output file. Note that though the flares control dehydrator still vent emissions, uncombusted VOC and HAP emissions from the dehydrators are accounted for in the dehydrator emissions calculations, rather than in the flare emissions calculations.

There are no SSM emissions associated with operation of the flares. The flares do not require warm-up periods. The dehydrator equipment is not turned on unless the flares are in operation and the flares are not shut down while the equipment is in operation. No maintenance is conducted on the flares while they are in operation.

Though emission calculations are provided using updated GRI-GLYCalc data and TCEQ flare emission factors for NO_x and CO, the flare VOC emissions in Table 2-E are unchanged from the previous Title V application and current permit.

The NO_x and CO emissions are carried forward from the previous construction permit application.

Dehydrator Reboilers

Emissions of NO_x, CO, VOC and SO₂ from each of the dehydrator reboilers (units 15b, 16b, 17b, 18b 19b, 20b and 21b) are calculated from the Enertek and Infab manufacturer emission factors. Particulate emissions are calculated using AP-42 emission factors from Table 1.4-2. Reboiler HAP emissions are calculated using GRI-HAPCalc 3.1 and the rated heat capacity of the reboiler.

During a 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.

The reboiler criteria pollutant emissions in Table 2-E are unchanged from the previous Title V application and current permit.

Fugitive Emissions

Fugitive emission leaks from process piping leaks (valves, flanges, seals, etc.) (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); equipment counts are estimated by Harvest; and the gas stream composition obtained from the facility inlet extended gas analysis. The HAP components of the natural gas are derived from the species molar percentages in the natural gas.

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

Condensate Storage Tanks

Flash emissions from the condensate storage tanks (units T7820, T7821, T7822 & T-7856) are calculated using HYSYS 2.4.1 and the same condensate throughput as was used in the current Title V operating permit. As it is not feasible to monitor the amount of condensate flashed in each tank, the HYSYS emissions estimate represents the facility-wide total flash emissions from all four condensate tanks.

Working/breathing losses from the condensate tanks are calculated using AP-42, Section 7.

The condensate tank emissions in Table 2-E are unchanged from the previous Title V application and the current permit.

Truck Loading Emissions – Condensate (Insignificant)

Emissions of VOC and HAP from condensate truck loading activities (unit L1) are estimated using emission factors from AP-42 Section 5.2, *Truck Loading*, and the estimated maximum throughput of condensate and produced water loaded annually. The emission calculations assume submerged loading during transfer operations. The HAP emissions are based on the HAP vapor mass fractions of VOC in the TANKS 4.09d output.

The emissions of VOC and HAPs from the condensate loading activities are less than 1 tpy of VOC, and the HAP emissions are below the Clean Air Act (CAA) section 112(g) HAP de minimus values. Therefore, the condensate truck loading is an insignificant source under the Title V Insignificant Activities List, Item 1.

Miscellaneous Storage Tanks (Insignificant)

The storage tanks at Trunk L identified below are considered insignificant sources under NMAQB's *Operating Permit Program List of Insignificant Activities* (March 24, 2005). As appropriate, storage tank emission calculations are provided for tanks in which insignificance is established based on VOC emissions of less than 1 ton per year (Insignificant Activity List Item #1).

- The VOC and HAP emissions from the produced water storage tanks (units T90 and T8900, respectively) are calculated by selecting the most conservative emission factors from the Colorado

Department of Public Health and Environment (CDPHE) February 8, 2010 PS Memo 09-02 "Oil and Gas Produced Water Tank Batteries Regulatory Definitions and Guidance" and the Texas Commission on Environmental Quality (TCEQ) August 2010 project "Emission Factor Determination for Produced Water Storage Tanks", and the maximum annual facility-wide produced water throughput. The calculated VOC emission rate from the produced water storage tanks are below 1 tpy, and the HAP emissions are below the Clean Air Act (CAA) section 112(g) HAP de minimus values. Therefore, the produced water storage tanks (units T90 and T8900) are each an insignificant source under the Title V Insignificant Activities List, Item 1.

- The wastewater storage tanks (units T-30, T-80, T-8000, T-8300, T-8600 and T-8800) are assumed to contain one percent (1%) Residual Oil #6 and 99 percent (99%) water. The vapor pressure of the hydrocarbon liquid component of the stored contents is well under 10 mm Hg (≈ 0.2 psia), and therefore the wastewater storage tanks are insignificant under the Insignificant Activities List, Item No. 5.
- Residual Oil #6 is used to approximate the stored contents of the lubrication (lube) oil and used lubrication oil storage tanks (units T100, T101, T200, T201, T300, T301, T400, T401, T500, T501, T600, T601, T700, T701, T800, T801, T900, T901, T1000, T1001, T1100, T1101, T1200, T1201, T1300, T1301, T1400 & T1401). The stored liquids have a vapor pressure of less than 10 mm Hg (≈ 0.2 psia); therefore, the lube oil and used lube oil storage tanks are insignificant under the Insignificant Activities List, Item No. 5.
- The triethylene glycol (TEG) storage tanks (units T2100, T2200, T2300, T2400, T2500, T2600, T2700, T8400 & T8500) contain glycol. The vapor pressure of glycol is less than 10 mm Hg (≈ 0.2 psia); therefore, the TEG storage tanks are insignificant under Item No. 5 of the Insignificant Activities List. (These tanks are also insignificant because the storage capacities are less than 500 gallons.)
- Jet kerosene was used as an estimate for petroleum solvent. The vapor pressure of jet kerosene is less than 10 mm Hg (≈ 0.2 psia); therefore, the petroleum solvent storage tank (unit T8700) is insignificant under Item No. 5 of the Insignificant Activities List.
- VOC emissions for the methanol storage tank (unit T9000) are calculated using the AP-42, Section 7 and the estimated maximum tank throughput. The calculated emissions from the methanol tank are less than 1 tpy of VOC, and the HAP (methanol) emissions are below the Clean Air Act (CAA) section 112(g) HAP de minimus values. Therefore, the unit T9000 methanol storage tank is an insignificant source under the Title V Insignificant Activities List, Item 1.

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

Truck Loading Emissions - Produced Water (Insignificant)

Emissions of VOC and HAP from produced water truck loading activities (unit L2) are estimated using emission factors from AP-42 Section 5.2, *Truck Loading* and the estimated maximum annual facility throughput of produced water. The emission calculations assume submerged loading during transfer operations. The HAPs are calculated from the weight ratios of the CDPHE/TCEQ produced water emission factors of HAP to VOC (lb/bbl HAP / lb/bbl VOC), and applied to the truck loading pph and tpy VOC emission rates.

The emissions of VOC and HAPs from the produced water loading activities are less than 1 tpy of VOC, and the HAP emissions are below the Clean Air Act (CAA) section 112(g) HAP de minimus values. Therefore, the produced water truck loading is an insignificant source under the Title V Insignificant Activities List, Item 1.

Malfunctions

Malfunction emissions (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 releases. Based on the gas release rate associated with the set annual emission rate, the hazardous air pollutant (HAP) emissions are calculated using the composition of the extended gas analysis.

Note that these malfunction emissions include the venting of gas only, not combustion emissions.

Engine Exhaust Emissions Data and Calculations

Unit Number: 1-14

Description: Waukesha L7042GL

Note: Where more than one emissions unit is identified above, this worksheet provides the emission rates and operating parameters for each individual emissions unit.

Horsepower Calculations

6,745 ft above MSL

1,232 hp

1,131 hp

1,103 hp

Elevation

Nameplate hp

Site-rated hp

Site-rated hp

Mfg. data

NMAQB Procedure # 02.002-00

Mfg. product bulletin Power Derate,
S8154-6, April 2001

Engine Specifications

1000 rpm

7040 cu in

127.19 psi

Engine rpm

Engine displacement

BMEP

Mfg. data

Mfg. data

Mfg. data

Fuel Consumption

7241 Btu/hp-hr

8.19 MMBtu/hr

9,096 scf/hr

71,710 MMBtu/yr

79.68 MMscf/yr

900 Btu/scf

Brake specific fuel consumption

Hourly fuel consumption

Hourly fuel consumption

Annual fuel consumption

Annual fuel consumption

Field gas heating value

Mfg. data

Btu/hp-hr x NMAQB site-rated hp / 1,000,000

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

MMBtu/hr x 8,760 hr/yr

scf/hr x 8,760 hr/yr / 1,000,000

Nominal heat content

Steady-State Emission Rates

Pollutant	Uncontrolled,		
	g/hp-hr	pph	tpy
NOX	1.50	3.74	16.38
CO	2.65	6.60	28.93
VOC	1.00	2.49	10.92

NOX, CO & VOC emission factors (g/hp-hr) taken from Waukesha document S-8483-4, dated 04/01

Pollutant	Uncontrolled,		
	lb/MMBtu	pph	tpy
SO2	5.88E-04	4.81E-03	2.11E-02
TSP	9.99E-03	8.18E-02	3.58E-01
PM10	9.99E-03	8.18E-02	3.58E-01
PM2.5	9.99E-03	8.18E-02	3.58E-01

Emission factors (lb/MMBtu) taken from AP-42, Table 3.2-2

Particulate factors include both filterable and condensable emissions

Emissions calculated using the NMAQB site-rated hp

Annual emissions based on 8,760 hr/yr operation

Exhaust Parameters

667 °F

5994 acfm

1.02 ft

122.06 fps

22.00 ft

Stack exit temperature

Stack flowrate

Stack exit diameter

Stack exit velocity

Stack height

Mfg. data

Mfg. data

Mfg. data

Stack flowrate / stack area / 60

Mfg. data

GRI-HAPCalc® 3.0
Engines Report

Facility ID:	TRUNK L	Notes:
Operation Type:	COMPRESSOR STATION	
Facility Name:	TRUNK L COMPRESSOR STATION	
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: L7042GL

Hours of Operation:	8,760	Yearly
Rate Power:	1,131	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>
<u>HAPs</u>			
Formaldehyde	1.8364	0.16830000 g/bhp-hr	GRI Literature
Benzene	0.0567	0.00520000 g/bhp-hr	GRI Literature
Toluene	0.0229	0.00210000 g/bhp-hr	GRI Literature
Xylenes(m,p,o)	0.0153	0.00140000 g/bhp-hr	GRI Literature
Total	1.9313		

GRI-HAPCalc® 3.0
External Combustion Devices Report

Facility ID:	TRUNK L	Notes:
Operation Type:	COMPRESSOR STATION	
Facility Name:	TRUNK L COMPRESSOR STATION	
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:	1.48	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			
3-Methylchloranthrene	0.0000	0.0000000018 lb/MMBtu	EPA
7,12-Dimethylbenz(a)anthracene	0.0000	0.0000000157 lb/MMBtu	EPA
Formaldehyde	0.0023	0.0003522500 lb/MMBtu	GRI Field
Methanol	0.0028	0.0004333330 lb/MMBtu	GRI Field
Acetaldehyde	0.0019	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	0.0002	0.0000323000 lb/MMBtu	GRI Field
n-Hexane	0.0021	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	0.0093			
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Criteria Pollutants

VOC	0.0350	0.0053921569	lb/MMBtu	EPA
PM	0.0483	0.0074509804	lb/MMBtu	EPA
PM, Condensable	0.0362	0.0055882353	lb/MMBtu	EPA
PM, Filterable	0.0121	0.0018627451	lb/MMBtu	EPA
CO	0.1992	0.0307275000	lb/MMBtu	GRI Field
NMHC	0.0553	0.0085294118	lb/MMBtu	EPA
NOx	0.5721	0.0882553330	lb/MMBtu	GRI Field
SO2	0.0038	0.0005880000	lb/MMBtu	EPA

Other Pollutants

Dichlorobenzene	0.0000	0.0000011765	lb/MMBtu	EPA
Methane	0.0381	0.0058790650	lb/MMBtu	GRI Field
Acetylene	0.0346	0.0053314000	lb/MMBtu	GRI Field
Ethylene	0.0034	0.0005264000	lb/MMBtu	GRI Field
Ethane	0.0109	0.0016804650	lb/MMBtu	GRI Field
Propylene	0.0061	0.0009333330	lb/MMBtu	GRI Field
Propane	0.0078	0.0012019050	lb/MMBtu	GRI Field
Butane	0.0090	0.0013866350	lb/MMBtu	GRI Field
Cyclopentane	0.0003	0.0000405000	lb/MMBtu	GRI Field
Pentane	0.0134	0.0020656400	lb/MMBtu	GRI Field
n-Pentane	0.0130	0.0020000000	lb/MMBtu	GRI Field
Cyclohexane	0.0003	0.0000451000	lb/MMBtu	GRI Field
Methylcyclohexane	0.0011	0.0001691000	lb/MMBtu	GRI Field
n-Octane	0.0003	0.0000506000	lb/MMBtu	GRI Field
n-Nonane	0.0000	0.0000050000	lb/MMBtu	GRI Field
CO2	762.6353	117.6470588235	lb/MMBtu	EPA

Dehydrator Reboiler Exhaust Emissions Data and Calculations

Unit Number: 15b, 16b, 17b, 18b, 19b, 20b, & 21b

Description: Dehydrator Reboiler (20 MMSCFD)

Note: Where more than one emissions unit is identified above, this worksheet provides the emission rates and operating parameters for each individual emissions unit.

Fuel Consumption

1.48 MMBtu/hr	Capacity	scf/hr x Btu/scf / 1,000,000
1,648 scf/hr	Hourly fuel consumption	Mfg. data (InFab)
12,993 MMBtu/yr	Annual fuel consumption	MMBtu/hr x 8,760 hr/yr
14.44 MMscf/yr	Annual fuel consumption	scf/hr x 8,760 hr/yr / 1,000,000
900 Btu/scf	Field gas heating value	Nominal heat content

Steady-State Emission Rates

Pollutant	Uncontrolled,		
	lb/day	pph	tpy
NOX	1.03	0.04	0.19
CO	1.07	0.04	0.20
VOC	0.16	0.01	0.03
SO2	0.02	0.00	0.00

NOX emission factor (lb/day) taken from August 1994 Enertek Letter

CO, TOC and SO2 emission factors (lb/day) taken from July 1998 InFab Letter

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

Pollutant	Uncontrolled,		
	lb/MMscf	pph	tpy
TSP	7.60	1.25E-02	5.49E-02
PM10	7.60	1.25E-02	5.49E-02
PM2.5	7.60	1.25E-02	5.49E-02
Lead	5.00E-04	8.24E-07	3.61E-06

Emission factors (lb/MMscf) taken from AP-42, Table 1.4-2

Annual emissions based on 8,760 hr/yr operation

Exhaust Parameters

600 °F	Exhaust temperature	Mfg. data (Enertek & InFab)
287 cfm	Stack flowrate	Stack velocity x stack area
12 in	Stack diameter	Mfg. data (InFab)
6.1 fps	Stack velocity	Mfg. data (Enertek & InFab)
10.0 ft	Stack height	Mfg. data (InFab)

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Trunk L TEG Dehydrator

File Name: P:\HarvestMidstream\New Mexico\TrunkL\Title V Renewal - Trunk L\2024 TV renewal app-Trunk L\Glycalc Runs\Reboiler_file.ddf

Date: June 04, 2024

DESCRIPTION:

Description: Units 15-21
 Capacity: 20 MMSCFD
 Extended Gas Analysis 8/26/2022

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 105.00 deg. F
 Pressure: 419.00 psig
 Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	1.0800
Nitrogen	0.3200
Methane	82.5500
Ethane	8.7400
Propane	3.6700
Isobutane	0.7200
n-Butane	1.3200
Isopentane	0.4000
n-Pentane	0.3000
Cyclopentane	0.0200
n-Hexane	0.1500
Cyclohexane	0.0500
Other Hexanes	0.3000
Heptanes	0.1200
Methylcyclohexane	0.1100
2,2,4-Trimethylpentane	0.0100
Benzene	0.0200
Toluene	0.0500
Xylenes	0.0200
C8+ Heavies	0.0700

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: 7.5 gpm

PUMP:

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

FLASH TANK:

Flash Control: Recycle/recompression
Temperature: 160.0 deg. F
Pressure: 125.0 psig

REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Condenser
Temperature: 212.0 deg. F
Pressure: 22.4 psia

Control Device: Combustion Device
Destruction Efficiency: 98.0 %
Excess Oxygen: 5.0 %
Ambient Air Temperature: 70.0 deg. F

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Trunk L TEG Dehydrator

File Name: P:\HarvestMidstream\New Mexico\TrunkL\Title V Renewal - Trunk L\2024 TV renewal app-Trunk L\Glycalc Runs\Reboiler_file.ddf

Date: June 04, 2024

DESCRIPTION:

Description: Units 15-21
 Capacity: 20 MMSCFD
 Extended Gas Analysis 8/26/2022

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0345	0.828	0.1512
Ethane	0.0263	0.630	0.1150
Propane	0.0381	0.915	0.1669
Isobutane	0.0156	0.374	0.0683
n-Butane	0.0403	0.967	0.1765
Isopentane	0.0173	0.416	0.0760
n-Pentane	0.0171	0.409	0.0747
Cyclopentane	0.0069	0.166	0.0303
n-Hexane	0.0210	0.503	0.0918
Cyclohexane	0.0400	0.961	0.1754
Other Hexanes	0.0295	0.709	0.1293
Heptanes	0.0457	1.097	0.2002
Methylcyclohexane	0.1262	3.029	0.5529
2,2,4-Trimethylpentane	0.0017	0.041	0.0076
Benzene	0.1247	2.993	0.5462
Toluene	0.5355	12.852	2.3455
Xylenes	0.4471	10.731	1.9584
C8+ Heavies	0.3747	8.992	1.6410
Total Emissions	1.9423	46.615	8.5073
Total Hydrocarbon Emissions	1.9423	46.615	8.5073
Total VOC Emissions	1.8815	45.157	8.2411
Total HAP Emissions	1.1300	27.121	4.9495
Total BTEX Emissions	1.1073	26.576	4.8501

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.7257	41.416	7.5584
Ethane	1.3133	31.519	5.7522
Propane	1.9058	45.739	8.3474
Isobutane	0.7799	18.717	3.4159
n-Butane	2.0148	48.355	8.8247
Isopentane	0.8674	20.817	3.7990
n-Pentane	0.8526	20.463	3.7345

Cyclopentane	0.3457	8.297	1.5142
n-Hexane	1.0480	25.153	4.5903
Cyclohexane	2.0024	48.058	8.7706
Other Hexanes	1.4765	35.435	6.4669
Heptanes	2.2860	54.863	10.0125
Methylcyclohexane	6.3112	151.469	27.6431
2,2,4-Trimethylpentane	0.0863	2.072	0.3781
Benzene	6.2408	149.779	27.3347
Toluene	26.7907	642.977	117.3432
Xylenes	22.3675	536.819	97.9695
C8+ Heavies	18.7333	449.599	82.0518

Total Emissions	97.1478	2331.546	425.5072

Total Hydrocarbon Emissions	97.1478	2331.546	425.5072
Total VOC Emissions	94.1088	2258.611	412.1966
Total HAP Emissions	56.5333	1356.799	247.6159
Total BTEX Emissions	55.3989	1329.575	242.6474

FLASH GAS EMISSIONS

Note: Flash Gas Emissions are zero with the
Recycle/recompression control option.

FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr

Methane	41.5682	997.637	182.0688
Ethane	10.0641	241.540	44.0810
Propane	7.2215	173.316	31.6301
Isobutane	2.1326	51.182	9.3407
n-Butane	4.3519	104.446	19.0613
Isopentane	1.6971	40.730	7.4333
n-Pentane	1.4057	33.736	6.1568
Cyclopentane	0.1451	3.482	0.6354
n-Hexane	1.0436	25.046	4.5709
Cyclohexane	0.5143	12.343	2.2525
Other Hexanes	1.8789	45.093	8.2294
Heptanes	1.2286	29.486	5.3812
Methylcyclohexane	1.3616	32.678	5.9637
2,2,4-Trimethylpentane	0.0870	2.089	0.3813
Benzene	0.2690	6.456	1.1782
Toluene	0.8047	19.313	3.5247
Xylenes	0.3000	7.201	1.3141
C8+ Heavies	2.3016	55.238	10.0809

Total Emissions	78.3754	1881.011	343.2844

Total Hydrocarbon Emissions	78.3754	1881.011	343.2844
Total VOC Emissions	26.7431	641.834	117.1346
Total HAP Emissions	2.5044	60.105	10.9691
Total BTEX Emissions	1.3737	32.970	6.0170

COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr

Methane	0.0345	0.828	0.1512
Ethane	0.0263	0.630	0.1150
Propane	0.0381	0.915	0.1669
Isobutane	0.0156	0.374	0.0683
n-Butane	0.0403	0.967	0.1765
Isopentane	0.0173	0.416	0.0760
n-Pentane	0.0171	0.409	0.0747
Cyclopentane	0.0069	0.166	0.0303
n-Hexane	0.0210	0.503	0.0918
Cyclohexane	0.0400	0.961	0.1754
Other Hexanes	0.0295	0.709	0.1293
Heptanes	0.0457	1.097	0.2002
Methylcyclohexane	0.1262	3.029	0.5529
2,2,4-Trimethylpentane	0.0017	0.041	0.0076
Benzene	0.1247	2.993	0.5462
Toluene	0.5355	12.852	2.3455
Xylenes	0.4471	10.731	1.9584
C8+ Heavies	0.3747	8.992	1.6410
Total Emissions	1.9423	46.615	8.5073
Total Hydrocarbon Emissions	1.9423	46.615	8.5073
Total VOC Emissions	1.8815	45.157	8.2411
Total HAP Emissions	1.1300	27.121	4.9495
Total BTEX Emissions	1.1073	26.576	4.8501

COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT:

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	189.6272	0.1512	99.92
Ethane	49.8332	0.1150	99.77
Propane	39.9775	0.1669	99.58
Isobutane	12.7566	0.0683	99.46
n-Butane	27.8860	0.1765	99.37
Isopentane	11.2323	0.0760	99.32
n-Pentane	9.8913	0.0747	99.24
Cyclopentane	2.1496	0.0303	98.59
n-Hexane	9.1612	0.0918	99.00
Cyclohexane	11.0231	0.1754	98.41
Other Hexanes	14.6964	0.1293	99.12
Heptanes	15.3938	0.2002	98.70
Methylcyclohexane	33.6067	0.5529	98.35
2,2,4-Trimethylpentane	0.7594	0.0076	99.00
Benzene	28.5128	0.5462	98.08
Toluene	120.8679	2.3455	98.06
Xylenes	99.2836	1.9584	98.03
C8+ Heavies	92.1328	1.6410	98.22
Total Emissions	768.7916	8.5073	98.89
Total Hydrocarbon Emissions	768.7916	8.5073	98.89
Total VOC Emissions	529.3312	8.2411	98.44
Total HAP Emissions	258.5850	4.9495	98.09
Total BTEX Emissions	248.6644	4.8501	98.05

CONDENSER AND COMBUSTION DEVICE

Condenser Outlet Temperature: 212.00 deg. F
 Condenser Pressure: 22.40 psia
 Condenser Duty: 3.89e-001 MM BTU/hr
 Produced Water: 4.66 bbls/day
 Ambient Temperature: 70.00 deg. F
 Excess Oxygen: 5.00 %
 Combustion Efficiency: 98.00 %
 Supplemental Fuel Requirement: 3.89e-001 MM BTU/hr

Component	Emitted	Destroyed
Methane	2.00%	98.00%
Ethane	2.00%	98.00%
Propane	2.00%	98.00%
Isobutane	2.00%	98.00%
n-Butane	2.00%	98.00%
Isopentane	2.00%	98.00%
n-Pentane	2.00%	98.00%
Cyclopentane	2.00%	98.00%
n-Hexane	2.00%	98.00%
Cyclohexane	2.00%	98.00%
Other Hexanes	2.00%	98.00%
Heptanes	2.00%	98.00%
Methylcyclohexane	2.00%	98.00%
2,2,4-Trimethylpentane	2.00%	98.00%
Benzene	2.00%	98.00%
Toluene	2.00%	98.00%
Xylenes	2.00%	98.00%
C8+ Heavies	2.00%	98.00%

ABSORBER

Calculated Absorber Stages: 1.39
 Specified Dry Gas Dew Point: 7.00 lbs. H2O/MMSCF
 Temperature: 105.0 deg. F
 Pressure: 419.0 psig
 Dry Gas Flow Rate: 20.0000 MMSCF/day
 Glycol Losses with Dry Gas: 0.1694 lb/hr
 Wet Gas Water Content: Saturated
 Calculated Wet Gas Water Content: 134.73 lbs. H2O/MMSCF
 Calculated Lean Glycol Recirc. Ratio: 4.21 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
Water	5.18%	94.82%
Carbon Dioxide	99.74%	0.26%
Nitrogen	99.98%	0.02%
Methane	99.98%	0.02%
Ethane	99.93%	0.07%
Propane	99.87%	0.13%
Isobutane	99.81%	0.19%
n-Butane	99.75%	0.25%
Isopentane	99.72%	0.28%
n-Pentane	99.65%	0.35%

Cyclopentane	98.54%	1.46%
n-Hexane	99.39%	0.61%
Cyclohexane	97.41%	2.59%
Other Hexanes	99.54%	0.46%
Heptanes	98.80%	1.20%
Methylcyclohexane	96.90%	3.10%
2,2,4-Trimethylpentane	99.44%	0.56%
Benzene	81.17%	18.83%
Toluene	72.87%	27.13%
Xylenes	51.55%	48.45%
C8+ Heavies	92.10%	7.90%

FLASH TANK

Flash Control: Recycle/recompression
Flash Temperature: 160.0 deg. F
Flash Pressure: 125.0 psig

Component	Left in Glycol	Removed in Flash Gas
Water	99.87%	0.13%
Carbon Dioxide	27.67%	72.33%
Nitrogen	3.92%	96.08%
Methane	3.99%	96.01%
Ethane	11.54%	88.46%
Propane	20.88%	79.12%
Isobutane	26.78%	73.22%
n-Butane	31.64%	68.36%
Isopentane	34.05%	65.95%
n-Pentane	37.98%	62.02%
Cyclopentane	70.58%	29.42%
n-Hexane	50.31%	49.69%
Cyclohexane	80.19%	19.81%
Other Hexanes	44.44%	55.56%
Heptanes	65.20%	34.80%
Methylcyclohexane	82.94%	17.06%
2,2,4-Trimethylpentane	50.41%	49.59%
Benzene	96.07%	3.93%
Toluene	97.31%	2.69%
Xylenes	98.85%	1.15%
C8+ Heavies	90.35%	9.65%

REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	37.17%	62.83%
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	1.00%	99.00%
n-Pentane	0.96%	99.04%
Cyclopentane	0.65%	99.35%
n-Hexane	0.82%	99.18%
Cyclohexane	3.81%	96.19%
Other Hexanes	1.76%	98.24%
Heptanes	0.69%	99.31%
Methylcyclohexane	4.64%	95.36%
2,2,4-Trimethylpentane	2.43%	97.57%
Benzene	5.17%	94.83%
Toluene	8.08%	91.92%
Xylenes	13.03%	86.97%
C8+ Heavies	13.10%	86.90%

STREAM REPORTS:

WET GAS STREAM

Temperature: 105.00 deg. F
Pressure: 433.70 psia
Flow Rate: 8.36e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	2.84e-001	1.13e+002
Carbon Dioxide	1.08e+000	1.04e+003
Nitrogen	3.19e-001	1.97e+002
Methane	8.23e+001	2.91e+004
Ethane	8.71e+000	5.78e+003
Propane	3.66e+000	3.56e+003
Isobutane	7.18e-001	9.20e+002
n-Butane	1.32e+000	1.69e+003
Isopentane	3.99e-001	6.34e+002
n-Pentane	2.99e-001	4.76e+002
Cyclopentane	1.99e-002	3.08e+001
n-Hexane	1.50e-001	2.84e+002
Cyclohexane	4.98e-002	9.25e+001
Other Hexanes	2.99e-001	5.68e+002
Heptanes	1.20e-001	2.64e+002
Methylcyclohexane	1.10e-001	2.37e+002
2,2,4-Trimethylpentane	9.97e-003	2.51e+001
Benzene	1.99e-002	3.43e+001
Toluene	4.98e-002	1.01e+002
Xylenes	1.99e-002	4.67e+001
C8+ Heavies	6.98e-002	2.62e+002
Total Components	100.00	4.54e+004

DRY GAS STREAM

Temperature: 105.00 deg. F
Pressure: 433.70 psia

Flow Rate: 8.33e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	1.47e-002	5.83e+000
Carbon Dioxide	1.08e+000	1.04e+003
Nitrogen	3.20e-001	1.97e+002
Methane	8.26e+001	2.91e+004
Ethane	8.74e+000	5.77e+003
Propane	3.67e+000	3.55e+003
Isobutane	7.19e-001	9.18e+002
n-Butane	1.32e+000	1.68e+003
Isopentane	3.99e-001	6.32e+002
n-Pentane	2.99e-001	4.74e+002
Cyclopentane	1.97e-002	3.04e+001
n-Hexane	1.49e-001	2.82e+002
Cyclohexane	4.87e-002	9.01e+001
Other Hexanes	2.99e-001	5.66e+002
Heptanes	1.19e-001	2.61e+002
Methylcyclohexane	1.07e-001	2.30e+002
2,2,4-Trimethylpentane	9.95e-003	2.50e+001
Benzene	1.62e-002	2.79e+001
Toluene	3.65e-002	7.38e+001
Xylenes	1.03e-002	2.41e+001
C8+ Heavies	6.45e-002	2.41e+002
Total Components	100.00	4.52e+004

LEAN GLYCOL STREAM

Temperature: 105.00 deg. F
Flow Rate: 7.48e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.83e+001	4.14e+003
Water	1.50e+000	6.32e+001
Carbon Dioxide	6.34e-012	2.67e-010
Nitrogen	9.77e-014	4.11e-012
Methane	4.70e-018	1.98e-016
Ethane	4.43e-008	1.86e-006
Propane	4.40e-009	1.85e-007
Isobutane	1.23e-009	5.19e-008
n-Butane	2.47e-009	1.04e-007
Isopentane	2.09e-004	8.79e-003
n-Pentane	1.97e-004	8.27e-003
Cyclopentane	5.39e-005	2.27e-003
n-Hexane	2.06e-004	8.67e-003
Cyclohexane	1.88e-003	7.92e-002
Other Hexanes	6.30e-004	2.65e-002
Heptanes	3.79e-004	1.59e-002
Methylcyclohexane	7.29e-003	3.07e-001
2,2,4-Trimethylpentane	5.10e-005	2.15e-003
Benzene	8.09e-003	3.40e-001
Toluene	5.60e-002	2.36e+000
Xylenes	7.96e-002	3.35e+000
C8+ Heavies	6.71e-002	2.82e+000

Total Components 100.00 4.21e+003

RICH GLYCOL AND PUMP GAS STREAM

Temperature: 105.00 deg. F
 Pressure: 433.70 psia
 Flow Rate: 8.08e+000 gpm
 NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.20e+001	4.13e+003
Water	3.79e+000	1.70e+002
Carbon Dioxide	8.94e-002	4.01e+000
Nitrogen	6.56e-003	2.95e-001
Methane	9.64e-001	4.33e+001
Ethane	2.53e-001	1.14e+001
Propane	2.03e-001	9.13e+000
Isobutane	6.48e-002	2.91e+000
n-Butane	1.42e-001	6.37e+000
Isopentane	5.73e-002	2.57e+000
n-Pentane	5.05e-002	2.27e+000
Cyclopentane	1.10e-002	4.93e-001
n-Hexane	4.68e-002	2.10e+000
Cyclohexane	5.78e-002	2.60e+000
Other Hexanes	7.53e-002	3.38e+000
Heptanes	7.86e-002	3.53e+000
Methylcyclohexane	1.78e-001	7.98e+000
2,2,4-Trimethylpentane	3.91e-003	1.76e-001
Benzene	1.52e-001	6.85e+000
Toluene	6.67e-001	3.00e+001
Xylenes	5.79e-001	2.60e+001
C8+ Heavies	5.31e-001	2.39e+001
Total Components	100.00	4.49e+003

FLASH TANK OFF GAS STREAM

Temperature: 160.00 deg. F
 Pressure: 139.70 psia
 Flow Rate: 1.30e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	3.49e-001	2.16e-001
Carbon Dioxide	1.92e+000	2.90e+000
Nitrogen	2.95e-001	2.83e-001
Methane	7.56e+001	4.16e+001
Ethane	9.76e+000	1.01e+001
Propane	4.77e+000	7.22e+000
Isobutane	1.07e+000	2.13e+000
n-Butane	2.18e+000	4.35e+000
Isopentane	6.86e-001	1.70e+000
n-Pentane	5.68e-001	1.41e+000
Cyclopentane	6.03e-002	1.45e-001
n-Hexane	3.53e-001	1.04e+000
Cyclohexane	1.78e-001	5.14e-001
Other Hexanes	6.36e-001	1.88e+000

Heptanes	3.57e-001	1.23e+000
Methylcyclohexane	4.04e-001	1.36e+000
2,2,4-Trimethylpentane	2.22e-002	8.70e-002
Benzene	1.00e-001	2.69e-001
Toluene	2.55e-001	8.05e-001
Xylenes	8.24e-002	3.00e-001
C8+ Heavies	3.94e-001	2.30e+000

Total Components	100.00	8.18e+001

FLASH TANK GLYCOL STREAM

Temperature: 160.00 deg. F
Flow Rate: 7.90e+000 gpm

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

TEG	9.37e+001	4.13e+003
Water	3.85e+000	1.70e+002
Carbon Dioxide	2.52e-002	1.11e+000
Nitrogen	2.62e-004	1.16e-002
Methane	3.91e-002	1.73e+000
Ethane	2.98e-002	1.31e+000
Propane	4.32e-002	1.91e+000
Isobutane	1.77e-002	7.80e-001
n-Butane	4.57e-002	2.01e+000
Isopentane	1.99e-002	8.76e-001
n-Pentane	1.95e-002	8.61e-001
Cyclopentane	7.89e-003	3.48e-001
n-Hexane	2.40e-002	1.06e+000
Cyclohexane	4.72e-002	2.08e+000
Other Hexanes	3.41e-002	1.50e+000
Heptanes	5.22e-002	2.30e+000
Methylcyclohexane	1.50e-001	6.62e+000
2,2,4-Trimethylpentane	2.01e-003	8.85e-002
Benzene	1.49e-001	6.58e+000
Toluene	6.61e-001	2.91e+001
Xylenes	5.83e-001	2.57e+001
C8+ Heavies	4.89e-001	2.16e+001

Total Components	100.00	4.41e+003

FLASH GAS EMISSIONS

Control Method: Recycle/recompression
Control Efficiency: 100.00

Note: Flash Gas Emissions are zero with the
Recycle/recompression control option.

REGENERATOR OVERHEADS STREAM

Temperature: 212.00 deg. F
Pressure: 14.70 psia
Flow Rate: 2.68e+003 scfh

Component	Conc.	Loading
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	(vol%)	(lb/hr)
-----	-----	-----
Water	8.40e+001	1.07e+002
Carbon Dioxide	3.58e-001	1.11e+000
Nitrogen	5.85e-003	1.16e-002
Methane	1.52e+000	1.73e+000
Ethane	6.19e-001	1.31e+000
Propane	6.12e-001	1.91e+000
Isobutane	1.90e-001	7.80e-001
n-Butane	4.91e-001	2.01e+000
Isopentane	1.70e-001	8.67e-001
n-Pentane	1.67e-001	8.53e-001
Cyclopentane	6.98e-002	3.46e-001
n-Hexane	1.72e-001	1.05e+000
Cyclohexane	3.37e-001	2.00e+000
Other Hexanes	2.43e-001	1.48e+000
Heptanes	3.23e-001	2.29e+000
Methylcyclohexane	9.11e-001	6.31e+000
2,2,4-Trimethylpentane	1.07e-002	8.63e-002
Benzene	1.13e+000	6.24e+000
Toluene	4.12e+000	2.68e+001
Xylenes	2.98e+000	2.24e+001
C8+ Heavies	1.56e+000	1.87e+001
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Total Components	100.00	2.05e+002

CONDENSER PRODUCED WATER STREAM

Temperature: 212.00 deg. F
Flow Rate: 1.36e-001 gpm

Component	Conc. (wt%)	Loading (lb/hr)	(ppm)
-----	-----	-----	-----
Water	1.00e+002	6.80e+001	999514.
Carbon Dioxide	5.75e-004	3.91e-004	6.
Nitrogen	2.85e-007	1.94e-007	0.
Methane	6.64e-005	4.52e-005	1.
Ethane	5.32e-005	3.62e-005	1.
Propane	1.04e-004	7.05e-005	1.
Isobutane	2.11e-005	1.43e-005	0.
n-Butane	6.59e-005	4.48e-005	1.
Isopentane	1.78e-005	1.21e-005	0.
n-Pentane	1.79e-005	1.22e-005	0.
Cyclopentane	3.87e-005	2.63e-005	0.
n-Hexane	1.57e-005	1.07e-005	0.
Cyclohexane	1.29e-004	8.75e-005	1.
Other Hexanes	1.88e-005	1.28e-005	0.
Heptanes	1.71e-005	1.16e-005	0.
Methylcyclohexane	1.82e-004	1.24e-004	2.
2,2,4-Trimethylpentane	4.58e-007	3.11e-007	0.
Benzene	7.58e-003	5.15e-003	76.
Toluene	2.32e-002	1.58e-002	232.
Xylenes	1.64e-002	1.12e-002	164.
C8+ Heavies	8.69e-007	5.92e-007	0.
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Total Components	100.00	6.80e+001	1000000.

CONDENSER RECOVERED OIL STREAM

Temperature: 212.00 deg. F

The calculated flow rate is less than 0.000001 #mol/hr.
The stream flow rate and composition are not reported.

CONDENSER VENT STREAM

Temperature: 212.00 deg. F

Pressure: 22.40 psia

Flow Rate: 1.25e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	6.56e+001	3.88e+001
Carbon Dioxide	7.69e-001	1.11e+000
Nitrogen	1.26e-002	1.16e-002
Methane	3.28e+000	1.73e+000
Ethane	1.33e+000	1.31e+000
Propane	1.32e+000	1.91e+000
Isobutane	4.09e-001	7.80e-001
n-Butane	1.06e+000	2.01e+000
Isopentane	3.66e-001	8.67e-001
n-Pentane	3.60e-001	8.53e-001
Cyclopentane	1.50e-001	3.46e-001
n-Hexane	3.71e-001	1.05e+000
Cyclohexane	7.25e-001	2.00e+000
Other Hexanes	5.22e-001	1.48e+000
Heptanes	6.95e-001	2.29e+000
Methylcyclohexane	1.96e+000	6.31e+000
2,2,4-Trimethylpentane	2.30e-002	8.63e-002
Benzene	2.43e+000	6.24e+000
Toluene	8.85e+000	2.68e+001
Xylenes	6.42e+000	2.24e+001
C8+ Heavies	3.35e+000	1.87e+001
Total Components	100.00	1.37e+002

COMBUSTION DEVICE OFF GAS STREAM

Temperature: 1000.00 deg. F

Pressure: 14.70 psia

Flow Rate: 8.37e+000 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Methane	9.75e+000	3.45e-002
Ethane	3.96e+000	2.63e-002
Propane	3.92e+000	3.81e-002
Isobutane	1.22e+000	1.56e-002
n-Butane	3.14e+000	4.03e-002
Isopentane	1.09e+000	1.73e-002
n-Pentane	1.07e+000	1.71e-002
Cyclopentane	4.47e-001	6.91e-003
n-Hexane	1.10e+000	2.10e-002
Cyclohexane	2.16e+000	4.00e-002
Other Hexanes	1.55e+000	2.95e-002

Heptanes	2.07e+000	4.57e-002
Methylcyclohexane	5.83e+000	1.26e-001
2,2,4-Trimethylpentane	6.85e-002	1.73e-003
Benzene	7.24e+000	1.25e-001
Toluene	2.63e+001	5.35e-001
Xylenes	1.91e+001	4.47e-001
C8+ Heavies	9.97e+000	3.75e-001
-----	-----	-----
Total Components	100.00	1.94e+000

Flare Emissions Data and Calculations

Unit Number: 22 - 25
Description: Dehydrator Flare

Note: Where more than one emissions unit is identified above, this worksheet provides the emission rates and operating parameters for each individual emissions unit.

Flash Tank Off Gas Stream

0 scf/hr	Hourly Flowrate	GRI-GLYCalc - Recycle/recompression
0.00 MMBtu/hr	Hourly Flowrate	scf/hr x Btu/scf / 1,000,000
0.00 MMscf/yr	Annual Flowrate	scf/hr x 8,760 hr/yr / 1,000,000
0.00 MMBtu/yr	Annual Flowrate	MMBtu/hr x 8,760 hr/yr
0 Btu/scf	Field gas heating value	Calculated from GRI-GLYCalc results

Condenser Vent Stream

680 scf/hr	Hourly Flowrate	GRI-GLYCalc (340 scfh/dehy x 2 dehy)
0.52 MMBtu/hr	Hourly Flowrate	scf/hr x Btu/scf / 1,000,000
5.96 MMscf/yr	Annual Flowrate	scf/hr x 8,760 hr/yr / 1,000,000
4,519.96 MMBtu/yr	Annual Flowrate	MMBtu/hr x 8,760 hr/yr
759 Btu/scf	Field gas heating value	Calculated from GRI-GLYCalc results

Pilot Gas Stream

100 scf/hr	Hourly Flowrate	Mfg. data
0.12 MMBtu/hr	Hourly Flowrate	scf/hr x Btu/scf / 1,000,000
0.88 MMscf/yr	Annual Flowrate	scf/hr x 8,760 hr/yr / 1,000,000
1,017.78 MMBtu/yr	Annual Flowrate	MMBtu/hr x 8,760 hr/yr
1,162 Btu/scf	Field gas heating value	Calculated from GRI-GLYCalc results

Supplemental Fuel Gas Stream

758.8 Btu/scf	Heat content (B _{dehy})	Calculated from GRI-GLYCalc results
680.0 scf/hr	Hourly flowrate (Q _{dehy})	Calculated from GRI-GLYCalc results
1,162 Btu/scf	Heat content (B _{fuel})	Calculated from GRI-GLYCalc results
300 Btu/scf	Heat content (B _{mix})	Minimum required
0.00 scf/hr	Hourly flowrate (Q _{fuel})	$Q_{fuel} = Q_{dehy} * (B_{mix} - B_{dehy}) / (B_{fuel} - B_{mix})$
0.00 MMBtu/hr	Hourly Flowrate	scf/hr x Btu/scf / 1,000,000
0.00 MMscf/yr	Annual Flowrate	scf/hr x 8,760 hr/yr / 1,000,000
0.00 MMBtu/yr	Annual Flowrate	MMBtu/hr x 8,760 hr/yr

Note: Supplemental fuel is only required if the heat content of the combined streams from the regenerator still vent, condenser vent and/or flash tank off-gas streams are less than 300 Btu/scf.

Combined Stream

780 scf/hr	13.0 Hourly Flowrate	Sum of all streams
0.63 MMBtu/hr	Hourly Flowrate	Sum of all streams
6.83 MMscf/yr	Annual Flowrate	Sum of all streams
5537.74 MMBtu/yr	Annual Flowrate	Sum of all streams
810 Btu/scf	Heat content	Weighted average of all streams

Steady-State Emission Rates

Pollutant	Uncontrolled,		
	lb/MMBtu	pph	tpy
NOX	0.0641	0.04	0.18
CO	0.5496	0.35	1.52

Emission factors (lb/MMBtu) from the Texas Commission on Environmental Quality (TCEQ) January 2010 document "Technical Supplement 4: Flares" for air-assisted units combusting low-Btu waste streams (192-1000 Btu/scf)

Emissions are calculated using all the gas streams

Flare Emissions Data and Calculations

Unit Number: 22 - 25
Description: Dehydrator Flare

Steady-State Emission Rates Continued

Pollutant	Uncontrolled,		
	lb/MMscf	pph	tpy
VOC	5.5	0.0006	0.0024
SO2	0.6	0.0005	0.0020
Lead	5.00E-04	0.000000	0.000002

Emission factors (lb/MMscf) taken from AP-42, Table 1.4-2
VOC emissions are calculated using only the pilot and supplemental fuel gas streams
SO2 and lead emissions are calculated using all the gas streams

VOC emissions are calculated using the pilot and supplemental fuel only. VOC emissions from the regenerator still vent, condenser vent, and/or flash tank off-gas streams are included with the dehydrator emissions
TSP, PM10 and PM2.5 emissions are assumed to be negligible, as the flare is smokeless

Flare Effective Diameter

25.85 lb/lb-mole	Molecular weight	Weighted average
13.00 scfm	Flowrate	scf/hr / 60 min/hr
44,251 cal/sec	Gross heat release	scfm x Btu/scf x 252 cal/Btu / 60 sec/min
33,452 cal/sec	Effective heat release (q _n)	cal/sec x (1-(0.048 x (MW ^{0.5})))
0.18 meters	Effective stack diameter	(0.000001 x cal/sec[q _n]) ^{0.5}

Exhaust Parameters

1,832 °F	Exhaust temperature	NMAQB
0.60 ft	Effective stack diameter	Calculated per NMAQB guidelines
65.62 fps	Stack velocity	NMAQB
20.00 ft	Stack height	Mfg. data

Gas Stream Compositions

Flash Tank Off Gas Stream Composition					
Component	Mole Percent, %	Molecular Weight, lb/lb-mole	Component Weight, lb/lb-mole	Heat Content, Btu/scf	Component Heat Content, Btu/scf
Water	0.00E+00	18.02	0.00	0.00	0.00
Carbon dioxide	0.00E+00	44.01	0.00	0.00	0.00
Hydrogen sulfide	0.00E+00	34.07	0.00	637.02	0.00
Nitrogen	0.00E+00	28.01	0.00	0.00	0.00
Methane	0.00E+00	16.04	0.00	1,009.70	0.00
Ethane	0.00E+00	30.07	0.00	1,768.70	0.00
Propane	0.00E+00	44.09	0.00	2,517.20	0.00
IsoButane	0.00E+00	58.12	0.00	3,252.60	0.00
n-Butane	0.00E+00	58.12	0.00	3,262.00	0.00
IsoPentane	0.00E+00	72.15	0.00	3,999.70	0.00
n-Pentane	0.00E+00	72.15	0.00	4,008.70	0.00
Cyclopentane	0.00E+00	70.14	0.00	3,763.70	0.00
n-Hexane	0.00E+00	86.17	0.00	4,756.10	0.00
Cyclohexane	0.00E+00	84.16	0.00	4,481.60	0.00
Other hexanes	0.00E+00	86.18	0.00	4,756.10	0.00
Heptanes	0.00E+00	100.20	0.00	5,502.80	0.00
Methylcyclohexane	0.00E+00	98.19	0.00	5,215.90	0.00
2,2,4-Trimethylpentane	0.00E+00	100.21	0.00	5,500.00	0.00
Benzene	0.00E+00	78.11	0.00	3,741.90	0.00
Toluene	0.00E+00	92.14	0.00	4,474.80	0.00
Ethylbenzene	0.00E+00	106.17	0.00	5,222.10	0.00
Xylenes	0.00E+00	106.17	0.00	5,208.00	0.00
C8+ heavies	0.00E+00	110.00	0.00	5,500.00	0.00
Total	0.0000		0.00		0.00

Flare Emissions Data and Calculations

Unit Number: 22 - 25

Description: Dehydrator Flare

Condenser Vent Stream Composition					
Component	Mole Percent, %	Molecular Weight, lb/lb-mole	Component Weight, lb/lb-mole	Heat Content, Btu/scf	Component Heat Content, Btu/scf
Water	6.57E+01	18.02	11.84	0.00	0.00
Carbon dioxide	2.58E+00	44.01	1.14	0.00	0.00
Hydrogen sulfide	0.00E+00	34.07	0.00	637.02	0.00
Nitrogen	6.93E-02	28.01	0.02	0.00	0.00
Methane	1.16E+01	16.04	1.86	1,009.70	117.13
Ethane	4.41E+00	30.07	1.33	1,768.70	78.00
Propane	4.17E+00	44.09	1.84	2,517.20	104.97
IsoButane	1.15E+00	58.12	0.67	3,252.60	37.40
n-Butane	2.21E+00	58.12	1.28	3,262.00	72.09
IsoPentane	8.33E-01	72.15	0.60	3,999.70	33.32
n-Pentane	7.32E-01	72.15	0.53	4,008.70	29.34
Cyclopentane	0.00E+00	70.14	0.00	3,763.70	0.00
n-Hexane	3.34E-01	86.17	0.29	4,756.10	15.89
Cyclohexane	6.70E-01	84.16	0.56	4,481.60	30.03
Other hexanes	5.37E-01	86.18	0.46	4,756.10	25.54
Heptanes	3.05E-01	100.20	0.31	5,502.80	16.78
Methylcyclohexane	4.50E-01	98.19	0.44	5,215.90	23.47
2,2,4-Trimethylpentane	1.08E-02	100.21	0.01	5,500.00	0.59
Benzene	2.60E+00	78.11	2.03	3,741.90	97.29
Toluene	1.42E+00	92.14	1.31	4,474.80	63.54
Ethylbenzene	0.00E+00	106.17	0.00	5,222.10	0.00
Xylenes	1.17E-01	106.17	0.12	5,208.00	6.09
C8+ heavies	1.33E-01	110.00	0.15	5,500.00	7.32
Total	100.0311		26.78		758.79

Dry Gas Stream Composition					
Component	Mole Percent, %	Molecular Weight, lb/lb-mole	Component Weight, lb/lb-mole	Heat Content, Btu/scf	Component Heat Content, Btu/scf
Water	1.47E-02	18.02	0.00	0.00	0.00
Carbon dioxide	1.01E+00	44.01	0.44	0.00	0.00
Hydrogen sulfide	0.00E+00	34.07	0.00	637.02	0.00
Nitrogen	5.18E-01	28.01	0.15	0.00	0.00
Methane	8.45E+01	16.04	13.55	1,009.70	853.20
Ethane	8.56E+00	30.07	2.57	1,768.70	151.40
Propane	3.40E+00	44.09	1.50	2,517.20	85.58
IsoButane	5.90E-01	58.12	0.34	3,252.60	19.19
n-Butane	8.02E-01	58.12	0.47	3,262.00	26.16
IsoPentane	2.73E-01	72.15	0.20	3,999.70	10.92
n-Pentane	1.77E-01	72.15	0.13	4,008.70	7.10
Cyclopentane	0.00E+00	70.14	0.00	3,763.70	0.00
n-Hexane	3.92E-02	86.17	0.03	4,756.10	1.86
Cyclohexane	1.30E-02	84.16	0.01	4,481.60	0.58
Other hexanes	9.03E-02	86.18	0.08	4,756.10	4.29
Heptanes	1.50E-02	100.20	0.02	5,502.80	0.83
Methylcyclohexane	6.99E-03	98.19	0.01	5,215.90	0.36
2,2,4-Trimethylpentane	1.39E-03	100.21	0.00	5,500.00	0.08
Benzene	4.80E-03	78.11	0.00	3,741.90	0.18
Toluene	1.61E-03	92.14	0.00	4,474.80	0.07
Ethylbenzene	0.00E+00	106.17	0.00	5,222.10	0.00
Xylenes	5.18E-05	106.17	0.00	5,208.00	0.00
C8+ heavies	7.40E-04	110.00	0.00	5,500.00	0.04
Total	100.0178		19.50		1,161.85

Gas stream compositions are obtained from GRI-GLYCalc 4.0

Component Weight (lb/lb-mole) = [Mole Percent (scf/scf) / 100] * Molecular Weight (lb/lb-mole)

Component Heat Content (Btu/scf) = [Mole Percent (scf/scf) / 100] * Heat Content (Btu/scf)

Flare Pilot Only Emissions Data and Calculations

Unit Number: 22 - 25

Description: Dehydrator Flare - Pilot emissions only

Note: Where more than one emissions unit is identified above, this worksheet provides the emission rates and operating parameters for each individual emissions unit.

Pilot Gas Stream

100 scf/hr	Hourly Flowrate	Mfg. data
0.09 MMBtu/hr	Hourly Flowrate	scf/hr x Btu/scf / 1,000,000
0.88 MMscf/yr	Annual Flowrate	scf/hr x 8,760 hr/yr / 1,000,000
788.40 MMBtu/yr	Annual Flowrate	MMBtu/hr x 8,760 hr/yr
900 Btu/scf	Field gas heating value	Typical

Steady-State Emission Rates

Pollutant	Uncontrolled,		
	lb/MMBtu	pph	tpy
NOX	0.0641	5.77E-03	2.53E-02
CO	0.5496	4.95E-02	0.22

Emission factors (lb/MMBtu) from the Texas Commission on Environmental Quality (TCEQ) January 2010 document "Technical Supplement 4: Flares" for air-assisted units combusting low-Btu waste streams (192-1000 Btu/scf)

Emissions are calculated using the pilot gas stream

Steady-State Emission Rates Continued

Pollutant	Uncontrolled,		
	lb/MMscf	pph	tpy
VOC	5.5	5.50E-04	2.41E-03
SO2	0.6	6.00E-05	2.63E-04
Lead	5.00E-04	5.00E-08	2.19E-07

Emission factors (lb/MMscf) taken from AP-42, Table 1.4-2

VOC emissions are calculated using only the pilot

SO2 and lead emissions are calculated using the pilot gas stream

Compressor Blowdown Emissions Calculations

Unit Number: **SSM**

Description: Compressor & Piping Associated With Station

Throughput

42.1 events/yr per compressor**14** compressors**9,228** scf/event

5,438,983 scf/yr

events/yr per unit

compressor units

Gas loss per blowdown

Total annual gas loss

Harvest Four Corners, LLC

Harvest Four Corners, LLC

Harvest Four Corners, LLC

events/yr per unit x # of units x scf/event

Emission Rates

Pollutants	Emission Factors, lb/scf	Uncontrolled, Emission Rates, tpy per unit	Uncontrolled, Emission Rates, tpy facility-wide
VOC	1.094E-02	2.13	29.76
2,2,4-Trimethylpentane	3.011E-05	5.85E-03	8.19E-02
Benzene	4.118E-05	8.00E-03	1.12E-01
Ethylbenzene	0.000E+00	0.00E+00	0.00E+00
n-Hexane	3.407E-04	6.62E-02	9.26E-01
Toluene	1.214E-04	2.36E-02	3.30E-01
Xylene	5.597E-05	1.09E-02	1.52E-01

Emission factors calculated from gas composition (see table below)

Uncontrolled Emission Rates (tpy) per unit = (lb/scf x events/yr per compressor x scf/event) / 2,000 lb/ton

Uncontrolled Emission Rates (tpy) facility-wide = (lb/scf x scf/yr) / 2,000 lb/ton

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Emission Factors, lb/scf
Carbon dioxide	1.0800	44.01	1.253E-03
Hydrogen sulfide	0.0000	34.07	0.000E+00
Nitrogen	0.3200	28.01	2.362E-04
Methane	82.5500	16.04	3.490E-02
Ethane	8.7400	30.07	6.927E-03
Propane	3.6700	44.09	4.265E-03
Isobutane	0.7200	58.12	1.103E-03
n-Butane	1.3200	58.12	2.022E-03
Isopentane	0.4000	72.15	7.607E-04
n-Pentane	0.3000	72.15	5.705E-04
Cyclopentane	0.0200	70.14	3.697E-05
n-Hexane	0.1500	86.17	3.407E-04
Cyclohexane	0.0500	84.16	1.109E-04
Other hexanes	0.3000	86.18	6.814E-04
Heptanes	0.1200	100.20	3.169E-04
Methylcyclohexane	0.1100	98.19	2.847E-04
2,2,4-Trimethylpentane	0.0100	114.23	3.011E-05
Benzene	0.0200	78.11	4.118E-05
Toluene	0.0500	92.14	1.214E-04
Ethylbenzene	0.0000	106.17	0.000E+00
Xylenes	0.0200	106.17	5.597E-05
C8+ Heavies	0.0700	110.00	2.030E-04
Total	100.0200		
Total VOC			1.094E-02

Gas stream composition obtained from the Trunk L Station Inlet extended gas analysis dated October 26, 2022.

Emission Factors (lb/scf) = (% / 100) x lb/lb-mole / 379.4 scf/lb-mole

Equipment Leaks Emissions Data and Calculations

Unit Number: **F1**

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

Equipment	Number of Components, #	Emission Factor, kg/hr/source	Emission Factor, lb/hr/source	TOC Emission Rate,	
				pph	tpy
Valves	1197	0.0045	0.0099	11.85	51.90
Connectors	1315	0.0002	0.0004	0.58	2.53
Pump Seals	14	0.0024	0.0053	0.07	0.32
Compressor Seals	80	0.0088	0.0194	1.55	6.78
Pressure Relief Valves	112	0.0088	0.0194	2.17	9.50
Open-Ended Lines	331	0.0020	0.0044	1.46	6.38
TOTAL				17.68	77.42

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

Annual emissions are calculated assuming 8,760 hours per year of operation

Component	Mole Percent, %	Molecular Weight, lb/lb-mole	Component Weight, lb/lb-mole	Weight Percent TOC, %	VOC Emission Rate,	
					pph	tpy
Carbon dioxide	1.0800	44.010	--	--	--	--
Hydrogen sulfide	0.0000	34.070	--	--	--	--
Nitrogen	0.3200	28.013	--	--	--	--
Methane	82.5500	16.043	1324.350	66.128	--	--
Ethane	8.7400	30.070	262.812	13.123	--	--
Propane	3.6700	44.097	161.836	8.081	1.43E+00	6.26E+00
Isobutane	0.7200	58.123	41.849	2.090	3.69E-01	1.62E+00
n-Butane	1.3200	58.123	76.722	3.831	6.77E-01	2.97E+00
Isopentane	0.4000	72.150	28.860	1.441	2.55E-01	1.12E+00
n-Pentane	0.3000	72.150	21.645	1.081	1.91E-01	8.37E-01
Cyclopentane	0.0200	70.134	1.403	0.070	1.24E-02	5.42E-02
n-Hexane	0.1500	86.177	12.927	0.645	1.14E-01	5.00E-01
Cyclohexane	0.0500	84.161	4.208	0.210	3.71E-02	1.63E-01
Other hexanes	0.3000	86.177	25.853	1.291	2.28E-01	9.99E-01
Heptanes	0.1200	100.204	12.024	0.600	1.06E-01	4.65E-01
Methylcyclohexane	0.1100	98.188	10.801	0.539	9.53E-02	4.18E-01
2,2,4-Trimethylpentane	0.0100	114.231	1.142	0.057	1.01E-02	4.42E-02
Benzene	0.0200	78.114	1.562	0.078	1.38E-02	6.04E-02
Toluene	0.0500	92.141	4.607	0.230	4.07E-02	1.78E-01
Ethylbenzene	0.0000	106.167	0.000	0.000	0.00E+00	0.00E+00
Xylenes	0.0200	106.167	2.123	0.106	1.87E-02	8.21E-02
C8+ Heavies	0.0700	114.231	7.996	0.399	7.06E-02	3.09E-01
TOTAL	100.0200		2002.720	100.000	3.67	16.06

Gas stream composition obtained from the Trunk L Station Inlet extended gas analysis dated October 26, 2022.

The VOC emissions are calculated as weight percentages of the TOC emissions

Equipment Leaks Emissions Data and Calculations

Unit Number: **F1**

Description: Valves, Connectors, Seals & Lines

Number of Compression Units at the Facility: **14**Number of Dehydrators at the Facility: **7**

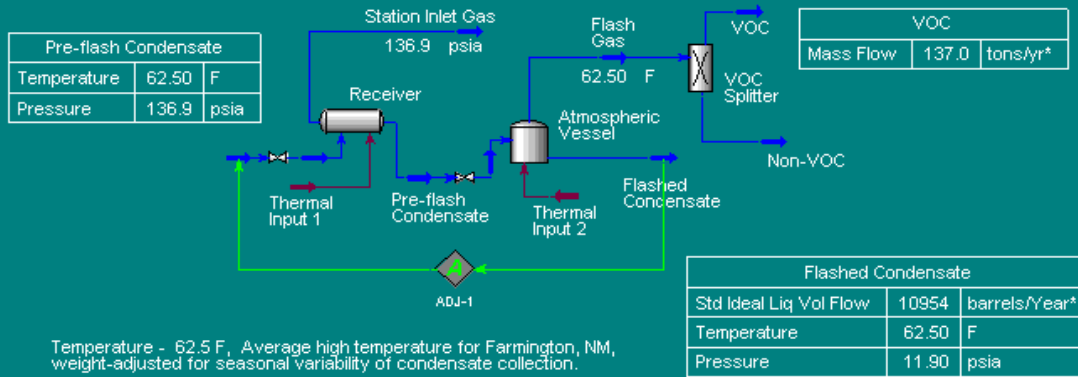
PROCESS EQUIPMENT DESCRIPTION	EQUIPMENT COUNT						INSTRUMENT COUNT		
	Valves	Connectors	Pump Seals	Compressor Seals	Pressure Relief Valves	Open-end	Flow	Level	Pressure
Station inlet, meter run to pulsation dampener	17	14	0	0	1	13	3	0	3
Pulsation dampener	12	8	0	0	0	2	0	4	1
Compressor suction header	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	42	70	14	0	21	42	0	21	28
TOTAL	779	969	14	80	112	244	3	87	166
ADJUSTED TOTAL	1197	1315	14	80	112	331	--	--	--

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)

LOCATION - Trunk L Receiver



HYSYS Model Results

Location: **Trunk L Receiver**

2002 Condensate Volume (post-flash): 10,954 bbls
 2002 VOC Emissions: 137.0 Tons

460,068 gal

Name	Pre-flash Condensate	Flashed Condensate	Flash Gas	VOC Emissions
Vapour Fraction	0.00	0.00	1.00	1.00
Temperature [F]	62.50	62.50	62.50	62.50
Pressure [psia]	136.90	11.90	11.90	11.90
Molar Flow [MMSCFD]	3.77E-02	2.99E-02	7.76E-03	4.92E-03
Mass Flow [tons/yr*]	1497.9	1329.0	168.9	136.985
Liquid Volume Flow [barrels/Year*]	12,850.13	10,954.00	1,896.13	1,358.17
Molecular Weight	82.56	92.25	45.20	57.79

Name	Pre-flash Condensate	Flashed Condensate	Flash Gas	Tons of VOC (calculated)
Comp Mass Frac (CO2)	0.00046	0.00002	0.00389	na
Comp Mass Frac (Nitrogen)	0.00000	0.00000	0.00000	na
Comp Mass Frac (Methane)	0.00727	0.00014	0.06339	na
Comp Mass Frac (Ethane)	0.01520	0.00166	0.12173	na
Comp Mass Frac (Propane)	0.04087	0.01365	0.25506	43.082
Comp Mass Frac (i-Butane)	0.02265	0.01369	0.09313	15.731
Comp Mass Frac (n-Butane)	0.05397	0.03817	0.17826	30.110
Comp Mass Frac (i-Pentane)	0.05569	0.05133	0.09002	15.206
Comp Mass Frac (n-Pentane)	0.05624	0.05453	0.06975	11.782
Comp Mass Frac (Cyclohexane)	0.04015	0.04371	0.01208	2.041
Comp Mass Frac (n-Heptane)	0.05302	0.05894	0.00648	1.094
Comp Mass Frac (Benzene)	0.00994	0.01074	0.00364	0.616
Comp Mass Frac (Cumene)	0.03942	0.04437	0.00053	0.090
Comp Mass Frac (E-Benzene)	0.00300	0.00336	0.00010	0.016
Comp Mass Frac (n-Hexane)	0.05636	0.06071	0.02215	3.741
Comp Mass Frac (Toluene)	0.03942	0.04392	0.00403	0.680
Comp Mass Frac (m-Xylene)	0.02532	0.02845	0.00067	0.113
Comp Mass Frac (o-Xylene)	0.00000	0.00000	0.00000	0.000
Comp Mass Frac (124-MBenzene)	0.00000	0.00000	0.00000	0.000
Comp Mass Frac (2-Mpentane)	0.07217	0.07628	0.03985	6.731
Comp Mass Frac (2-Mhexane)	0.14144	0.15640	0.02369	4.001
Comp Mass Frac (2-Mheptane)	0.17906	0.20059	0.00967	1.633
Comp Mass Frac (Mycyclohexane)	0.00000	0.00000	0.00000	0.000
Comp Mass Frac (Mycyclopentan)	0.00000	0.00000	0.00000	0.000
Comp Mass Frac (n-PBenzene)	0.00000	0.00000	0.00000	0.000
Comp Mass Frac (n-Octane)	0.03288	0.03690	0.00123	0.208
Comp Mass Frac (n-Nonane)	0.05547	0.06243	0.00066	0.112
Comp Mass Frac (n-Decane)	0.00000	0.00000	0.00000	0.000
Comp Mass Frac (n-C11)	0.00000	0.00000	0.00000	0.000
TOTAL	1.00000	1.00000	1.00000	136.985

Storage Tank Emissions Data and Calculations

Unit Number: **T7820, T7821, T7822 & T7856**

Description: Condensate Storage Tanks (with the potential for flash emissions)

Note: Where more than one emissions unit is identified above, this worksheet provides the emission rates and operating parameters for each individual emissions unit.

Source	Uncontrolled Working/Breathing Losses (lb/yr) (ton/yr)		Uncontrolled Flash Losses (ton/yr)	Total Uncontrolled Emissions (ton/yr)
T7820, T7821, T7822 & T7856				
VOC	9,912.21	4.956	25.444	30.400
Benzene	18.73	0.01	0.10	0.11
Cumene	3.37	0.002	0.02	0.02
Ethylbenzene	0.57	0.0003	0.003	0.003
n-Hexane	171.48	0.09	0.62	0.70
Toluene	21.96	0.01	0.12	0.13
Xylene	4.00	0.002	0.02	0.02

Working/breathing losses calculated using AP-42.

Flash emissions calculated using HYSYS 2.4.1

It is assumed the condensate is evenly distributed among the four tanks in the battery

Flashed Condensate Composition

Pollutant	Flashed Condensate Composition (fraction)	Flashed Condensate Composition (%)
i-Butane	0.02562	2.562
n-Butane	0.05274	5.274
i-pentane	0.05372	5.372
n-pentane	0.05606	5.606
Cyclohexane	0.04315	4.315
n-Heptane	0.05777	5.777
Benzene	0.01063	1.063
Isopropyl benzene (Cumene)	0.04332	4.332
Ethylbenzene	0.00329	0.329
n-Hexane	0.06014	6.014
Toluene	0.04302	4.302
m-Xylene	0.02779	2.779
2-Methylpentane	0.07609	7.609
2-Methylhexane	0.15355	15.355
2-Methylheptane	0.19611	19.611
n-Octane	0.03605	3.605
n-Nonane	0.06096	6.096
Total	1.00000	100.000

Flashed condensate composition taken from HYSYS 2.4.1 output

Flashed condensate used to calculate working/breathing losses

CONDENSATE STORAGE TANKS POTENTIAL EMISSIONS SUMMARY
AP-42 SECTION 7 FIXED-ROOF TANK EMISSIONS

Tank Identification	T7820, T7821, T7822, T7822
Actual Location	New Mexico
Location for Calculation Purposes	Albuquerque, New Mexico
Contents of Tank	Condensate RVP 10
Tank/Roof Type	Cone
Underground?	Aboveground
Will flashing occur at the tank?	Yes
Are the tanks vapor balanced?	No
Diameter, ft	12.0
Shell Height or Length, ft	15.0
Nominal Capacity, gal	12,600
Throughput, gallons/yr	115,017
Tank Paint Color	Gray/Medium
Tank Paint Condition	Average
Effective Diameter, ft	12.0
Geometric Capacity, gal	11,844
Maximum Liquid Height, ft	14.0
Average Liquid Height, ft	10.5
Minimum Liquid Height, ft	1.0
Cone Tank Roof Slope, ft/ft	0.0625
Dome Tank Roof Radius, ft	N/A
Dome Tank Roof Height, ft	N/A
Roof Outage, ft	0.125
Vapor Space Outage, ft	4.63
Vapor Space Volume, ft ³	523
Average Daily Minimum Ambient Temperature, F	46.30
Average Daily Maximum Ambient Temperature, F	95.00
Daily Maximum Ambient Temperature, F	95.00
Daily Total Solar Insolation Factor, Btu/ft ² /day	1722
Daily Average Ambient Temperature, F	70.7
Tank Paint Solar Absorbance, dimensionless	0.710
Daily Vapor Temperature Range, R	59.9
Daily Average Liquid Surf. Temperature, F	77.7
Daily Minimum Liquid Surf. Temperature, F	62.7
Daily Maximum Liquid Surf. Temperature, F	92.7
Liquid Bulk Temperature	74.32
Vapor Molecular Weight, lb/lbmol	43.7
Antoine's Coefficient A	N/A
Antoine's Coefficient B	N/A
Antoine's Coefficient C	N/A
Type of Substance (for use in calculations)	Crude
Vapor Pressure at Daily Av. Liquid Surf. Temp., psia	9.860
Vapor Pressure at Daily Min. Liquid Surf. Temp., psia	7.770
Vapor Pressure at Daily Max. Liquid Surf. Temp., psia	12.350
Vapor Pressure Calculation Method	AP-42 Figure 7.1-13b: RVP=10
Vapor Density, lb/ft ³	0.074720
Daily Vapor Pressure range, psi	4.580
Breather Vent Pressure Setting, psig	0.0300
Breather Vent Vacuum Setting, psig	-0.0300
Breather Vent Pressure Setting Range, psi	0.0600
Ambient Pressure, psia	12.1
Vapor Space Expansion Factor	2.1024
Vented Vapor Saturation Factor	0.293
Annual Turnovers	10.46
Turnover Factor	1.00
Working Loss K _B Factor	0.99
Working Loss Product Factor	1.00
Standing Storage Loss, lb/yr	8,777.53
Working Loss, lb/yr	1,134.67
Total Losses, lb/yr	9,912.21
Standing Storage Loss, TPY	4.38877
Working Loss, TPY	0.56734
Total Losses, TPY	4.95610

Based on AP-42, June 2020, Section 7.1.3.1.

Truck Loading (Condensate) Emissions Calculations

Unit Number: **F2 (Insignificant Source Demonstration)**

Description: Truck Loading - Condensate

Emission Factor

0.6	Saturation factor, S	AP-42, Table 5.2-1 (submerged loading & dedicated service)
9.86 psia	True vapor pressure of liquid, P	AP 42, Table 5.2-1
44 lb/lb-mole	Molecular weight of vapors, M	AP 42, Table 5.2-1
74.32 °F	Temperature of liquid	AP 42, Table 5.2-1
533.99 °R	Temperature of liquid, T	°F + 459.67
6.07 lb/10 ³ gal	Emission factor, L	AP-42, Section 5.2, Equation 1

$$L = 12.46 \frac{SPM}{T}$$

Production Rate

8.40 10 ³ gal/hr	Maximum hourly production rate	Harvest Four Corners, LLC
460 10 ³ gal/yr	Maximum annual production rate	Harvest Four Corners, LLC

Steady-State Emission Rates

Pollutant	Uncontrolled,	
	pph	tpy
VOC	58.16	1.39

Uncontrolled Emission Rate (pph) = lb/10³ gal x 10³ gal/hrUncontrolled Emission Rate (tpy) = lb/10³ gal x 10³ gal/yr / 2,000 lb/ton

Pollutant	Uncontrolled,		
	%	pph	tpy
Benzene	0.335	0.195	4.66E-03
Cumene	0.060	3.50E-02	8.38E-04
Ethylbenzene	0.010	5.93E-03	1.42E-04
n-Hexane	3.066	1.78E+00	4.26E-02
Toluene	0.393	2.28E-01	5.46E-03
m-Xylene	0.072	4.16E-02	9.94E-04

Percent of VOC calculated from the TANKS 4.0 results

Percent of VOC (%) = 100 x Pollutant Emission Rate (lb/yr) / Total VOC Emission Rate (lb/yr)

METHANOL STORAGE TANK
AP-42 SECTION 7 FIXED-ROOF TANK EMISSIONS

Tank Identification	T9000 (Methanol)
Actual Location	Bloomfield, New Mexico
Location for Calculation Purposes	Albuquerque, New Mexico
Contents of Tank	Methyl alcohol
Tank/Roof Type	Cone
Underground?	Aboveground
Will flashing occur at the tank?	No
Is the tank vapor balanced?	No
Diameter, ft	8.0
Shell Height or Length, ft	12.0
Nominal Capacity, gal	4,200
Throughput PER TANK, gallons/yr	49,634
Tank Paint Color	Gray/Medium
Tank Paint Condition	Average
Effective Diameter, ft	8.0
Geometric Capacity, gal	4,136
Maximum Liquid Height, ft	11.00
Average Liquid Height, ft	11.00
Minimum Liquid Height, ft	1.00
Cone Tank Roof Slope, ft/ft	0.0625
Dome Tank Roof Radius, ft	N/A
Dome Tank Roof Height, ft	N/A
Roof Outage, ft	0.083
Vapor Space Outage, ft	1.08
Vapor Space Volume, ft ³	54
Average Daily Minimum Ambient Temperature, F	46.30
Average Daily Maximum Ambient Temperature, F	69.50
Daily Maximum Ambient Temperature, F	90.50
Daily Total Solar Insolation Factor, Btu/ft ² /day	1722
Daily Average Ambient Temperature, F	57.9
Tank Paint Solar Absorbance, dimensionless	0.710
Daily Vapor Temperature Range, R	38.7
Daily Average Liquid Surf. Temperature, F	64.8
Daily Minimum Liquid Surf. Temperature, F	55.1
Daily Maximum Liquid Surf. Temperature, F	74.4
Liquid Bulk Temperature	61.57
Vapor Molecular Weight, lb/lbmol	32.0
Antoine's Coefficient A	7.90
Antoine's Coefficient B	1474.08
Antoine's Coefficient C	229.13
Type of Substance (for use in calculations)	Org
Vapor Pressure at Daily Av. Liquid Surf. Temp., psia	1.674
Vapor Pressure at Daily Min. Liquid Surf. Temp., psia	1.234
Vapor Pressure at Daily Max. Liquid Surf. Temp., psia	2.240
Vapor Pressure Calculation Method	Antoine's Equation
Vapor Density, lb/ft ³	0.009528
Daily Vapor Pressure range, psi	1.006
Breather Vent Pressure Setting, psig	0.0300
Breather Vent Vacuum Setting, psig	-0.0300
Breather Vent Pressure Setting Range, psi	0.0600
Ambient Pressure, psia	12.1
Vapor Space Expansion Factor	0.1642
Vented Vapor Saturation Factor	0.912
Annual Turnovers	13.20
Turnover Factor	1.00
Working Loss KB Factor	1.00
Working Loss Product Factor	1.00
Breathing Storage Loss, lb/yr	28.38
Working Loss, lb/yr	62.92
Total Losses, lb/yr	91.30
Breathing Storage Loss, TPY	0.014
Working Loss, TPY	0.031
Total Losses, TPY	0.046

Based on AP-42, June 2020, Section 7.1.3.1.

Storage Tank Emissions Calculations

Unit Number: T90, T8900 (Insignificant source demonstration)
Description: Produced Water Storage Tanks (in aggregate)

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

Throughput

265,000

gallons per year (gpy)

Annual liquid throughput

Harvest Four Corners, LLC

6,310

barrels (bbl) per year

Annual liquid throughput

gpy / 42 bbl/gal

Emission Rates

Pollutant	Emission Factor, lb/bbl	Uncontrolled Emission Rate, tpy
VOC	0.262	0.827
Benzene	0.007	2.21E-02
Ethylbenzene	0.0007	2.21E-03
n-Hexane	0.022	6.94E-02
Toluene	0.009	2.84E-02
Xylene	0.006	1.89E-02

VOC, Benzene, and n-Hexane emission factors are from the CDPHE PS Memo 09-02 (Oil & Gas Produced Water Tank Batteries - Regulatory Definitions & Permitting Guidance)
Ethylbenzene, toluene, and xylene emissions factors (Non-Texas) are from the TCEQ Project 2010-29 (Emission Factor Determination for Produced Water Storage Tanks) report
Emission Rate (tpy) = lb/bbl x bbl/yr / 2,000 lb/ton

Truck Loading Emissions Calculations

Unit Number: L2 (Insignificant source demonstration)

Description: Truck Loading - Produced Water

Emission Factor

0.6	Saturation factor, S	AP-42, Table 5.2-1 (submerged loading & dedicated service)
0.3619 psia	True vapor pressure of liquid, P	Estimated using Antoine's Equation
18.02 lb/lb-mole	Molecular weight of vapors, M	TANKS 4.0 Database
70 °F	Temperature of liquid	Estimated
529.67 °R	Temperature of liquid, T	°F + 459.67
0.33 lb/10 ³ gal	Emission factor, L	AP-42, Section 5.2, Equation 1
$L = 12.46 \frac{SPM}{T}$		

Production Rate

8.40 10 ³ gal/hr	Maximum hourly production rate	Harvest Four Corners LLC
265.000 10 ³ gal/yr	Maximum annual production rate	Harvest Four Corners LLC

Steady-State Emission Rates

Pollutant	Controlled Emission Rates,	
	pph	tpy
VOC	2.75	4.33E-02

Uncontrolled Emission Rate (pph) = lb/10³ gal x 10³ gal/hrUncontrolled Emission Rate (tpy) = lb/10³ gal x 10³ gal/yr / 2,000 lb/ton

Controlled Emission Rate (pph) = Uncontrolled Emission Rate (pph) x (1 - (% / 100))

Controlled Emission Rate (tpy) = Uncontrolled Emission Rate (tpy) x (1 - (% / 100))

Pollutants	Wt Fraction of HAP	Emission Rates,	
		pph	tpy
Benzene	0.0267	7.34E-02	1.16E-03
Toluene	0.0344	9.43E-02	1.49E-03
m-Xylene	0.0229	6.29E-02	9.92E-04

Wt. Fraction of HAP = CDPHE/TCEQ Produced Water HAP emission factor (lb/bbl) / VOC emission factor (lb/bbl).

Emission rate, pph = Wt. Fraction of HAP x VOC Emission rate (pph)

Emission rate, tpy = Wt. Fraction of VOC x VOC Emission rate (tpy)

Malfunction Emissions Data and Calculations

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

Emission Rates

Pollutant	Emission Rate, tpy
VOC	10.00
2,2,4-Trimethylpentane	2.41E-02
Benzene	3.76E-02
Ethylbenzene	0.00E+00
n-Hexane	3.11E-01
Toluene	1.11E-01
Xylene	5.12E-02

HAP Emission Rate (tpy) = VOC Emission Rate (tpy) * [HAP Weight Percent of VOC (%) / 100]

Component	Mole Percent, %	Molecular Weight, lb/lb-mole	Component Weight, lb/lb-mole	Weight Percent of VOC, %
Carbon dioxide	1.0800	44.01	--	--
Hydrogen sulfide	0.0000	34.07	--	--
Nitrogen	0.3200	28.01	--	--
Methane	82.5500	16.04	--	--
Ethane	8.7400	30.07	--	--
Propane	3.6700	44.09	1.6181	38.9820
Isobutane	0.7200	58.12	0.4185	10.0813
n-Butane	1.3200	58.12	0.7672	18.4824
Isopentane	0.4000	72.15	0.2886	6.9527
n-Pentane	0.3000	72.15	0.2165	5.2145
Cyclopentane	0.0200	70.14	0.0140	0.3380
n-Hexane	0.1500	86.17	0.1293	3.1139
Cyclohexane	0.0500	84.16	0.0421	1.0138
Other hexanes	0.3000	86.18	0.2585	6.2285
Heptanes	0.1200	100.20	0.1202	2.8967
Methylcyclohexane	0.1100	98.19	0.1080	2.6021
2,2,4-Trimethylpentane	0.0100	100.21	0.0100	0.2414
Benzene	0.0200	78.11	0.0156	0.3764
Toluene	0.0500	92.14	0.0461	1.1099
Ethylbenzene	0.0000	106.17	0.0000	0.0000
Xylenes	0.0200	106.17	0.0212	0.5116
C8+ Heavies	0.0700	110.00	0.0770	1.8550
Total	100.0	--	--	--
Total VOC	--	--	4.1509	100.0000

Gas stream composition obtained from the Trunk L Station Inlet extended gas analysis dated October 26, 2022.

Component Weight (lb/lb-mole) = [Mole Percent (scf/scf) / 100] * Molecular Weight (lb/lb-mole)

Weight Percent of VOC (%) = 100 * Component Weight (lb/lb-mole) / Total VOC (lb/lb-mole)

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO₂e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO₂e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO₂e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO₂e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO₂e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at <http://www.epa.gov/ttn/chief/ap42/index.html>
- EPA's Internet emission factor database WebFIRE at <http://cfpub.epa.gov/webfire/>
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at <http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases>:

Global Warming Potentials (GWP):

Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO₂ over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC)**. You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:

Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.

1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

Greenhouse Gas (GHG) Emissions

Greenhouse gas (GHG) emissions are provided. Carbon dioxide (CO₂), methane (CH₄) emissions, nitrous oxide (N₂O) (combustion sources only), and total GHG are reported in tons per year (tpy). Carbon dioxide equivalent (CO₂e) emissions (including CO₂, N₂O and CH₄) are reported in metric tonnes per year. The CO₂e is calculated by summing the estimated CO₂ emissions with the CH₄ emissions (adjusted for the Global Warming Potential (GWP) of the CH₄) and the N₂O emissions (adjusted for the GWP of the N₂O). The GWPs are from Title 40, Part 98 (40 CFR 98), *Mandatory Greenhouse Gas Reporting*, Table A-1.

The portion of 40 CFR 98, Table A-1 that includes the GWPs for CH₄ and N₂O is included in Section 7. 40 CFR 98, Subpart A (including Table A-1) is available for download in its entirety through the U.S. Government Publications Office (GPO) website at <http://ecfr.gpoaccess.gov/> under the “Code of Federal Regulations” link.

Combustion Equipment GHG. GHG emissions, including carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) exhaust emissions from the combustion equipment (reciprocating internal combustion engines, dehydrator reboilers and process flares) are calculated from emission factors from 40 CFR 98, Part C, Tables C-1 & C-2, and the engine higher heating value (HHV) design heat rate.

Emission factors and methodologies from 40 CFR 98, Table C-1 and C-2 are included in Section 7. 40 CFR 98, Subpart C (including Tables C-1 and C-2) is available for download in its entirety through the U.S. Government Publications Office (GPO) website at <http://ecfr.gpoaccess.gov/> under the “Code of Federal Regulations” link.

Non-Combustion Equipment GHG (General). The non-combustion GHG emissions from the facility are based on 40 CFR 98, Subpart W, *Petroleum and Natural Gas Systems*, or an appropriate method published in the American Petroleum Institute’s 2009 *Compendium of Greenhouse Gas Emission Estimates Methodologies for the Oil and Gas Industry* (API Compendium). The emission calculation methods are noted in the GHG calculations spreadsheets.

40 CFR 98, Subpart W is published and available for download in its entirety through the U.S. Government Publications Office (GPO) website at <http://ecfr.gpoaccess.gov/> under the “Code of Federal Regulations” link. The API Compendium in its entirety is available at

<http://www.api.org/environment-health-and-safety/climate-change/whats-new/compendium-ghg-methodologies-oil-and-gas-industry>

Excerpts of the cited 40 CFR 98 and API Compendium materials are provided in Section 7.

Dehydrator Still Vent GHG. Emissions of GHG from the dehydrator still vents are calculated in accordance with the methods of 40 CFR 98, subpart W, *Petroleum and Natural Gas Systems*, §98.233(e), including GRI-GLYCalc 4.0 emissions estimation software, the natural gas stream composition, and dehydrator operating parameters corresponding to the Potential To Emit emission calculations.

SSM Compressor Blowdown GHG. Compressor blowdown emissions (unit SSM), including emissions from SSM and compressor venting and associated piping, are calculated from the estimated total annual gas losses (scf/yr) and the molar fraction of CO₂ and CH₄ in the natural gas extended analysis. The SSM emissions are estimated from the annual blowdown volume of gas. The emission calculations are provided in this section. The extended gas analysis used in the emission estimates is in Section 7.

Reciprocating Compressor Venting Emissions. Annual GHG emissions from reciprocating compressor vented emissions, including compressor blowdown valve leaks, rod packing leaks and isolation valve leaks, are estimated from the number of compressors; the estimated compressor operating times; the CO₂ and CH₄ molar composition of the gas stream; and the density of the GHG gases according to 40 CFR 98, Subpart W, equation W-36.

Isolation valve leakage occurs when the compressors are not in operation, i.e., when the compressors operate for zero hours. The GHG emissions from isolation valve leakage are less than the combined blowdown valve leakage and rod packing emissions that occur when compressor(s) are in operation. Therefore, the PTE is calculated assuming 8,760 hours per year of compressor operation (corresponding with isolation valve leakage occurring zero hours per year).

Equipment Leaks Emissions. GHG emissions from facility-wide equipment leaks (unit F1) are based on the estimated total annual gas losses (scf/yr) associated with the estimated number of components, the corresponding emission factors from the EPA's 1995 *Protocol for Equipment Leak Emission Estimates*, and the molar fraction of CO₂ and CH₄ contained in the natural gas extended analysis.

Natural Gas Driven Pneumatic Device Venting Emissions and Natural Gas Driven Pneumatic Pump Venting Emissions. Gas-driven pneumatic device and pneumatic pump emissions are calculated from the facility gas stream composition for CO₂ and CH₄, the estimated number of devices, and the appropriate emission factors from 40 CFR 98, Subpart W, Table W-1A (Western U.S. - Gas Service).

Storage Tank and Truck Loading GHG. CO₂ and CH₄ emissions associated with facility-wide flashed gases are from the flashed gas in the HYSYS simulation output stream in tpy. The post-flashed condensate liquid that is transferred during truck loading does not contain appreciable amounts of any gases, including GHG.

GHG emissions from working and breathing losses from the produced water, wastewater, lube oil, used lube oil, TEG, solvent and methanol storage tanks are considered zero based on the stored contents are either non-flashing liquids or post-flashed liquid. Similarly, any liquids transferred during truck loading do not contain appreciable amounts of any gases, including GHG.

Malfunction Emissions GHG. GHG emissions from the malfunction VOC emissions (unit M1) are calculated based on the estimated total volume of annual gas (scf/yr) associated with the specified tpy of VOC emissions and the molar fractions of CO₂ and CH₄ in the natural gas extended analysis.

Green House Gas Emissions Data and Calculations

Sources	Facility Total Emissions				
	CO ₂ , tpy	CH ₄ , tpy	N ₂ O, tpy	GHG, tpy	CO ₂ e, tpy
Engine & Turbine Exhaust Emissions	84,082.91	1.59	1.59E-01	84,084.65	84169.81
SSM Emissions	3.41	94.93	--	98.34	2376.78
Compressor Venting Emissions	43.43	1,209.92	--	1,253.35	30291.32
Dehydrator Still Vent Emissions	34.03	1.02	--	35.06	59.62
Reboiler Exhaust Emissions	5,893.75	1.11E-01	1.11E-02	5,893.87	5899.84
Dehydrator Flare Emissions	1,415.92	--	3.71E-03	1,415.93	1417.03
Equipment Leaks Emissions	1.79	49.80	--	51.59	1246.81
Gas Driven Pneumatic Devices & Pumps Emissions	11.78	328.29	--	340.07	8218.99
Malfunction Emissions	1.15E+00	31.90	--	33.04	798.62
Storage Tank Emissions	6.62E-01	10.70	--	11.37	268.25
Total	91,488.83	1,728.26	1.73E-01	93,217.27	134,747.08

Engine & Turbine Exhaust Emissions

Unit Number	Description	Emission Factors			Emission Rates		
		CO ₂ , kg/MMBtu	CH ₄ , kg/MMBtu	N ₂ O, kg/MMBtu	CO ₂ , tpy	CH ₄ , tpy	N ₂ O, tpy
1	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
2	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
3	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
4	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
5	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
6	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
7	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
8	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
9	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
10	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
11	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
12	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
13	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
14	Waukesha L7042GL	53.02	0.001	0.0001	6005.92	0.11	0.01
Total		53.02	0.001	0.0001	84082.91	1.59	0.16

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

Emission Rate (tpy) = Emission Factor (kg/MMBtu) * 2.2 lb/kg * Fuel Usage (MMBtu/yr) / 2,000 lb/ton

Unit Number	Description	Fuel Type	Operating Time, hr/yr	LHV Design Heat Rate, MMBtu/hr	HHV	
					Design Heat Rate, MMBtu/hr	Fuel Usage, MMBtu/yr
1	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
2	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
3	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
4	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
5	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
6	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
7	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
8	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
9	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
10	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
11	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
12	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
13	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979
14	Waukesha L7042GL	Nat. Gas	8,760	10.58	11.76	102,979

The fuel types and operating times are provided by Harvest Four Corners, LLC.

The LHV design heat rates are taken from manufacturers data

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

HHV Fuel Usage (MMBtu/yr) = HHV Design Heat Rate (MMBtu/hr) * Operating Time (hr/yr)

Green House Gas Emissions Data and Calculations

SSM Emissions

Unit Number	Description	Total Gas Loss, scf/yr	CO2 Emission Factor, lb/scf	CH4 Emission Factor, lb/scf	Emission Rates	
					CO2, tpy	CH4, tpy
1a-14a	Compressor	5,438,983	0.0013	0.0349	3.41	94.93
	Total				3.41	94.93

The annual blowdown volumes are calculated from data provided by Harvest Four Corners, LLC

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

Emission Rate (tpy) = Total Gas Loss (scf/yr) * Emission Factor (lb/scf) / 2,000 lb/ton

Compressor Venting Emissions

Unit Number	Description	Emission Factors	Emission Rates	
		CH4, tonne/device-hr	CO2, tpy	CH4, tpy
NA	Reciprocating Compressors	0.01	43.43	1209.92

The CH4 emission factors are taken from the API Compendium, Section 6.1.2, Table 6-5

CO2 Emission Rate (tpy) = Number of Devices (#) * CH4 Emission Factor (tonne/device-hr) * Operating Time (hr/yr)
 * [Facility CH4 Content (mole %) / Baseline CH4 Content (mole %)] * 2,204.6 lb/tonne / 2,000 lb/ton
 * [(Facility CO2 Content (mole %) / 100) * CO2 Molecular Weight (ton/ton-mole)]
 / [(Facility CH4 Content (mole %) / 100) * CH4 Molecular Weight (ton/ton-mole)]

CH4 Emission Rate (tpy) = Number of Devices (#) * CH4 Emission Factor (tonne/device-hr) * Operating Time (hr/yr)
 * [Facility CH4 Content (mole %) / Baseline CH4 Content (mole %)] * 2,204.6 lb/tonne / 2,000 lb/ton

Unit Number	Description	Number of Devices, #	Operating Time, hr/yr	Baseline CH4 Content, mole %	Facility CH4 Content, mole %	Facility CO2 Content, mole %	CH4 Molecular Weight, ton/ton-mole	CO2 Molecular Weight, ton/ton-mole
NA	Reciprocating Compressors	14	8,760	82.6	82.6	1.1	16.04	44.01

The number of devices are provided by Harvest Four Corners, LLC

The baseline CH4 content are taken from the API Compendium, Section 6.1.2, Table 6-5

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

The CH4 and CO2 molecular weights are calculated from the periodic table

Dehydrator Still Vent Emissions

Unit Number	Description	Emission Rates	
		CO2, tpy	CH4, tpy
15a	Dehydrator (20 MMSCFD)	4.86	0.15
16a	Dehydrator (20 MMSCFD)	4.86	0.15
17a	Dehydrator (20 MMSCFD)	4.86	0.15
18a	Dehydrator (20 MMSCFD)	4.86	0.15
19a	Dehydrator (20 MMSCFD)	4.86	0.15
20a	Dehydrator (20 MMSCFD)	4.86	0.15
21a	Dehydrator (20 MMSCFD)	4.86	0.15
	Total	34.03	1.02

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

Green House Gas Emissions Data and Calculations

Reboiler Exhaust Emissions

Unit Number	Description	Emission Factors			Emission Rates		
		CO ₂ , kg/MMBtu	CH ₄ , kg/MMBtu	N ₂ O, kg/MMBtu	CO ₂ , tpy	CH ₄ , tpy	N ₂ O, tpy
15b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
16b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
17b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
18b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
19b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
20b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
21b	Reboiler (20 MMSCFD)	53.02	0.001	0.0001	841.96	0.02	0.002
Total					5,893.75	0.11	0.01

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

Emission Rate (tpy) = Emission Factor (kg/MMBtu) * 2.2 lb/kg * Fuel Usage (MMBtu/yr) / 2,000 lb/ton

Unit Number	Description	Description	Fuel Type	Operating Time, hr/yr	LHV		HHV	
					Fuel Usage, scf/hr	Fuel Heat Content, Btu/scf	Fuel Usage, MMBtu/hr	Fuel Usage, MMBtu/yr
15b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436
16b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436
17b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436
18b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436
19b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436
20b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436
21b	Reboiler (20 MMSCFD)		Nat. Gas	8,760	1,648	900	1.48	14,436

The fuel types and operating times are provided by Harvest Four Corners, LLC

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 Usage (MMBtu/hr) = LHV Fuel Usage (scf/hr) * LHV Fuel Heat Content (Btu/scf) / 1,000,000 Btu/MMBtu

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

HHV Fuel Usage (MMBtu/yr) = HHV Fuel Usage (MMBtu/hr) * Operating Time (hr/yr)

Dehydrator Flare Emissions

Unit Number	Description	Emission Factors	Emission Rates	
		N ₂ O, kg/MMBtu	CO ₂ , tpy	N ₂ O, tpy
22	Dehydrator Flare	0.0001	353.98	0.001
23	Dehydrator Flare	0.0001	353.98	0.001
24	Dehydrator Flare	0.0001	353.98	0.001
25	Dehydrator Flare	0.0001	353.98	0.001
Total			1,415.92	0.004

The N₂O emission factor is obtained from Subpart W (Paragraph 98.233(z)(2)(vi))

CO₂ Emission Rate (tpy) = Combustion CO₂ Emissions (MMscf/yr) * 1,000,000 scf/MMscf
* 0.0526 kg/cu ft * 2.2 lb/kg / 2,000 lb/ton

N₂O Emission Rate (tpy) = Emission Factor (kg/MMBtu) * 2.2 lb/kg * Fuel Usage (MMBtu/yr) / 2,000 lb/ton

Noncombustion CO₂ and CH₄ emissions are accounted for in the dehydrator emissions

Green House Gas Emissions Data and Calculations

Unit Number	Description	Flare Throughput, MMscf/yr	HHV Heat Content, Btu/scf	Flare Throughput, MMBtu/yr	Control Efficiency, %	Combustion CO2 Emissions, MMscf/yr
22	Dehydrator Flare	6.83	1,235	8,439	98	6.12
23	Dehydrator Flare	6.83	1,235	8,439	98	6.12
24	Dehydrator Flare	6.83	1,235	8,439	98	6.12
25	Dehydrator Flare	6.83	1,235	8,439	98	6.12

The dehydrator flare throughputs are calculated from the GRI-GLYCalc output file

The HHV heat content are obtained from Subpart W (Paragraph 98.233(z)(2)(vi))

Flare Throughput (MMBtu/yr) = Flare Throughput (MMscf/yr) * 1,000,000 scf/MMscf * HHV Heat Content (Btu/scf) / 1,000,000 Btu/MMBtu

The control efficiency is the default value identified by Subpart W (Paragraph 98.233(n)(4))

Combustion CO2 Emissions (MMscf/yr) = [(Control Efficiency (%) / 100) * Throughput (MMscf/yr) * (CH4 Content (mole %) / 100) * 1]
+ [(Control Efficiency (%) / 100) * Throughput (MMscf/yr) * (Ethane Content (mole %) / 100) * 2]
+ [(Control Efficiency (%) / 100) * Throughput (MMscf/yr) * (Propane Content (mole %) / 100) * 3]
+ [(Control Efficiency (%) / 100) * Throughput (MMscf/yr) * (Butane Content (mole %) / 100) * 4]
+ [(Control Efficiency (%) / 100) * Throughput (MMscf/yr) * (Pentane+ Content (mole %) / 100) * 5]

The numbers 1-5 in the above equation represent the number of carbon atoms found in methane through pentane, respectively.

Unit Number	Description	CO2 Content, mole %	CH4 Content, mole %	Ethane Content, mole %	Propane Content, mole %	Butane Content, mole %	Pentane+ Content, mole %
22	Dehydrator Flare	2.38	20.95	4.94	4.07	3.11	7.18
23	Dehydrator Flare	2.38	20.95	4.94	4.07	3.11	7.18
24	Dehydrator Flare	2.38	20.95	4.94	4.07	3.11	7.18
25	Dehydrator Flare	2.38	20.95	4.94	4.07	3.11	7.18

The dehydrator flare mole % (volume %) are calculated from GRI-GLYCalc output files (see table below)

	Flash Tank	Condenser Vent	Dry Gas	Total
Gas Throughput (scf/hr)	0	680	100	780
Component	Mole Percent, %	Mole Percent, %	Mole Percent, %	Mole Percent, %
Water	0.00	65.70	0.01	57.28
Carbon dioxide	0.00	2.58	1.01	2.38
Hydrogen sulfide	0.00	0.00	0.00	0.00
Nitrogen	0.00	0.07	0.52	0.13
Methane	0.00	11.60	84.50	20.95
Ethane	0.00	4.41	8.56	4.94
Propane	0.00	4.17	3.40	4.07
IsoButane	0.00	1.15	0.59	1.08
n-Butane	0.00	2.21	0.80	2.03
IsoPentane	0.00	0.83	0.27	0.76
n-Pentane	0.00	0.73	0.18	0.66
Cyclopentane	0.00	0.00	0.00	0.00
n-Hexane	0.00	0.33	0.04	0.30
Cyclohexane	0.00	0.67	0.01	0.59
Other hexanes	0.00	0.54	0.09	0.48
Heptanes	0.00	0.31	0.02	0.27
Methylcyclohexane	0.00	0.45	0.01	0.39
2,2,4-Trimethylpentane	0.00	0.01	0.001	0.01
Benzene	0.00	2.60	0.00	2.27
Toluene	0.00	1.42	0.00	1.24
Ethylbenzene	0.00	0.00	0.00	0.00
Xylenes	0.00	0.12	0.0001	0.10
C8+ heavies	0.00	0.13	0.0007	0.12
Total	0.0000	100.0311	100.0178	100.0294

The dehydrator flare gas throughputs and component mole % (volume %) are taken from the GRI-GLYCalc output file

Green House Gas Emissions Data and Calculations

Equipment Leaks Emissions

Unit Number	Description	Emission Rates	
		CO2, tpy	CH4, tpy
F1	Equipment Leaks	1.8	49.8

CO2 Emission Rate (tpy) = Total TOC Emission Rate (tpy) * (Weight Percent CH4 (%) / 100)
 * [(CO2 Content (mole %) / 100) * CO2 Molecular Weight (ton/ton-mole)]
 / [(CH4 Content (mole %) / 100) * CH4 Molecular Weight (ton/ton-mole)]

CH4 Emission Rate (tpy) = Total TOC Emission Rate (tpy) * (Weight Percent CH4 (%) / 100)

Unit Number	Description	CH4 Content, Weight %	CH4 Content, mole %	CO2 Content, mole %	CH4 Molecular Weight, ton/ton-mole	CO2 Molecular Weight, ton/ton-mole
F1	Equipment Leaks	64.3237	82.6	1.1	16.04	44.01

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

The CH4 and CO2 molecular weights are calculated from the periodic table

Equipment	Number of Components, #	Emission Factor, kg/hr/source	Emission Factor, pph/source	TOC Emission Rate,	
				pph	tpy
Valves	1197	0.005	0.01	11.850	51.904
Connectors	1315	0.0002	0.0004	0.579	2.534
Pump Seals	14	0.002	0.01	0.074	0.324
Compressor Seals	80	0.01	0.02	1.549	6.784
Pressure Relief Valves	112	0.01	0.02	2.168	9.497
Open-Ended Lines	331	0.002	0.0044	1.456	6.379
Total				17.676	77.422

The number of components are calculated from the number of compressors and dehydrators (see calculations workbook)

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

TOC Emission Rate (pph) = Number of Components (#) * Emission Factor (pph/source)

TOC Emission Rate (tpy) = Emission Rate (pph) * 8,760 hr/yr / 2,000 lb/ton

Gas Driven Pneumatic Devices & Pumps Emissions (Compressor Station)

Unit Number	Description	Emission Factors	Emission Rates	
		CH4, tonne/device-yr	CO2, tpy	CH4, tpy
NA	Gas Driven Pneumatic Devices	2.415	11.71	326.28
NA	Gas Driven Chemical Injection Pumps	1.737	7.20E-02	2.01
	Total		11.78	328.29

The gas driven pneumatic devices CH4 emission factor is taken from the API Compendium, Section 5.6.1, Table 5-15

The gas-driven chemical injection pumps CH4 emission factor is taken from the API Compendium, Section 5.6.2, Table 5-16

CO2 Emission Rate (tpy) = Number of Devices (#) * CH4 Emission Factor (tonne/device-yr)

* [Facility CH4 Content (mole %) / Baseline CH4 Content (mole %)] * 2,204.6 lb/tonne / 2,000 lb/ton

* [(Facility CO2 Content (mole %) / 100) * CO2 Molecular Weight (ton/ton-mole)]

/ [(Facility CH4 Content (mole %) / 100) * CH4 Molecular Weight (ton/ton-mole)]

CH4 Emission Rate (tpy) = Number of Devices (#) * CH4 Emission Factor (tonne/device-yr)

* [Facility CH4 Content (mole %) / Baseline CH4 Content (mole %)] * 2,204.6 lb/tonne / 2,000 lb/ton

Unit Number	Description	Number of Devices, #	Baseline CH4 Content, mole %	Facility CH4 Content, mole %	Facility CO2 Content, mole %	CH4 Molecular Weight, ton/ton-mole	CO2 Molecular Weight, ton/ton-mole
NA	Gas Driven Pneumatic Devices	117	78.8	82.6	1.1	16.04	44.01
NA	Gas Driven Chemical Injection Pumps	1	78.8	82.6	1.1	16.04	44.01

The number of devices are provided by Harvest Four Corners, LLC

The gas driven pneumatic devices baseline CH4 content is taken from the API Compendium, Section 5.6.1, Table 5-15

The gas-driven chemical injection pumps baseline CH4 content is taken from the API Compendium, Section 5.6.2, Table 5-16

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

The CH4 and CO2 molecular weights are calculated from the periodic table

Green House Gas Emissions Data and Calculations

Malfunction Emissions

Unit Number	Description	Emission Rates		
		VOC, tpy	CO2, tpy	CH4, tpy
M1	Malfunctions	10.00	1.15	31.90

The VOC emission rate is estimated (see calculations workbook)

GHG Emission Rate (tpy) = VOC Emission Rate (tpy) * (Total Component Weight (lb/lb-mole) / VOC Component Weight (lb-lb-mole)) * (GHG Weight Percent 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	20.58	4.15	2.31	64.32

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

Storage Tank Emissions

Unit Number	Description	Emission Rates	
		CO2, tpy	CH4, tpy
T1	Storage Tank	1.66E-01	2.68
T2	Storage Tank	1.66E-01	2.68
T3	Storage Tank	1.66E-01	2.68
T4	Storage Tank	1.66E-01	2.68
Total		0.66	10.70

The emission rates are taken from HYSYS output files, as applicable

Gas Stream Composition

Component	Mole Percent, %	Molecular Weight, lb/lb-mole	Component Weight, lb/lb-mole	Weight Percent of Total, %	Emission Factor, lb/scf
Carbon Dioxide	1.0800	44.01	0.48	2.3090	0.0013
Hydrogen Sulfide	0.0000	34.07	0.00	0.0000	0.0000
Nitrogen	0.3200	28.01	0.09	0.4354	0.0002
Methane	82.5500	16.04	13.24	64.3237	0.0349
Ethane	8.7400	30.07	2.63	12.7672	0.0069
Propane	3.6700	44.09	1.62	7.8606	0.0043
IsoButane	0.7200	58.12	0.42	2.0329	0.0011
Normal Butane	1.3200	58.12	0.77	3.7269	0.0020
IsoPentane	0.4000	72.15	0.29	1.4020	0.0008
Normal Pentane	0.3000	72.15	0.22	1.0515	0.0006
Cyclopentane	0.0200	70.14	0.01	0.0681	0.0000
n-Hexane	0.1500	86.17	0.13	0.6279	0.0003
Cyclohexane	0.0500	84.16	0.04	0.2044	0.0001
Other Hexanes	0.3000	86.18	0.26	1.2560	0.0007
Heptanes	0.1200	100.20	0.12	0.5841	0.0003
Methylcyclohexane	0.1100	98.19	0.11	0.5247	0.0003
2,2,4-Trimethylpentane	0.0100	100.21	0.01	0.0487	0.0000
Benzene	0.0200	78.11	0.02	0.0759	0.0000
Toluene	0.0500	92.14	0.05	0.2238	0.0001
Ethylbenzene	0.0000	106.17	0.00	0.0000	0.0000
Xylenes	0.0200	106.17	0.02	0.1032	0.0001
C8+ heavies	0.0700	110.00	0.08	0.3741	0.0002
Total	100.0200		20.58	100.0000	0.0543
VOC			4.15	--	0.0109

Gas stream composition obtained from the Trunk L Station Inlet extended gas analysis dated October 26, 2022.

Component Weight (lb/lb-mole) = [Mole Percent (scf/scf) / 100] * Molecular Weight (lb/lb-mole)

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

Emission Factor (lb/scf) = [Mole Percent (mole/mole) / 100] * Molecular Weight (lb/lb-mole) / 379.3 scf/lb-mole

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.
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Please see the following page(s).

ENVIRONMENTAL 9

AT-GL EMISSION LEVELS[‡]

MODEL	CARBURETOR SETTING	GRAMS/BHP-HR				% OBSERVED DRY		MASS AFR ⁽²⁾	VOLUME AFR ⁽²⁾	EXCESS AIR RATIO
		NO _x ⁽¹⁾	CO	NMHC ⁽⁴⁾	THC	CO	O ₂			
AT25GL	Standard	1.0	2.25	1.0	8.0	0.06	9.8	28.0:1	16.8:1	1.74
AT27GL	Standard	1.5	1.7	0.5	5.0	0.06	9.8	28.0:1	16.8:1	1.74
	Ultra Lean	1.25	1.5	0.4	3.5	0.05	11.2	32.0:1	19.2:1	2.00

[‡] The AT-GL emission levels are based on 900 – 1000 rpm operation. For information at all other speeds contact Waukesha's Sales Engineering Department.

VHP EMISSION LEVELS

MODEL	CARBURETOR SETTING	GRAMS/BHP-HR				% OBSERVED DRY		MASS AFR ⁽²⁾	VOLUME AFR ⁽²⁾	EXCESS AIR RATIO
		NO _x ⁽¹⁾	CO	NMHC ⁽⁴⁾	THC	CO	O ₂			
G, GSI	Lowest Manifold (Best Power)	8.5	32.0	0.35	2.3	1.15	0.30	15.5:1	9.3:1	0.97
	Equal NO _x & CO	12.0	12.0	0.35	2.3	0.45	0.30	15.9:1	9.6:1	0.99
	Catalytic Conv. Input (3-way ⁽³⁾)	13.0	9.0	0.30	2.0	0.38	0.30	15.95:1	9.6:1	0.99
	Standard (Best Economy)	22.0	1.5	0.25	1.5	0.02	1.35	17.0:1	10.2:1	1.06
F3524GSI, L7044GSI	Equal NO _x & CO	14.0	14.0	0.25	1.1	0.45	0.30	15.85:1	9.5:1	0.99
	Catalytic Conv. Input (3-way ⁽³⁾)	15.0	13.0	0.20	1.0	0.38	0.30	15.95:1	9.6:1	0.99
	Standard (Best Economy)	23.0	2.0	0.20	0.8	0.02	1.35	17.0:1	10.2:1	1.06
L5794GSI	Equal NO _x & CO	13.5	13.5	0.45	3.0	0.45	0.30	15.85:1	9.5:1	0.99
	Catalytic Conv. Input (3-way ⁽³⁾)	14.5	11.0	0.45	2.9	0.38	0.30	15.95:1	9.6:1	0.99
	Standard (Best Economy)	22.0	3.0	0.35	2.4	0.02	1.35	17.0:1	10.2:1	1.06
GL	Standard	1.5	2.65	1.0	5.5	0.06	9.8	28.0:1	16.8:1	1.74
L5774LT [#]	Standard	2.6	2.0	0.60	4.0	0.04	8.0	24.7:1	14.8:1	1.54
L5794LT [#]	Standard	2.6	2.0	0.60	4.0	0.04	7.8	24.5:1	14.7:1	1.52

[#] L5774LT and L5794LT emission levels are based on 1000 – 1200 rpm operation. For information at all other speeds contact Waukesha's Sales Engineering Department.

NOTE: The above tables indicate emission levels that are valid for new engines for the duration of the standard warranty period and are attainable by an engine in good operating condition running on commercial quality natural gas of 900 BTU/ft³ (35.38 MJ/m³ [25, V(0; 101.325)]) SLHV, Waukesha Knock IndexTM of 91 or higher, 93% methane content by volume, and at ISO standard conditions. Emissions are based on standard engine timing at 91 WKITM with an absolute humidity of 42 grains/lb. Refer to engine specific WKITM Power & Timing curves for standard timing. Unless otherwise noted these emission levels can be achieved across the continuous duty speed range and from 75% to 110% of the ISO Standard Power (continuous duty) rating. **Contact your local Waukesha representative or Waukesha's Sales Engineering Department for emission values which can be obtained on a case-by-case basis for specific ratings, fuels, and site conditions.**

HEAT REJECTION 3

HEAT REJECTION AND OPERATING DATA MODEL L7042GL 130° F INTERCOOLER WATER TEMPERATURE 180° F JACKET WATER TEMPERATURE

	BMEP (PSI)	ENGINE SPEED — RPM				
		LOW SPEED TURBOCHARGER			HIGH SPEED TURBOCHARGER	
		700	900	1000	1000	1200
HORSEPOWER (BHP)	152	—	—	1355	1355	1626
	138	—	1108	1232	1232	1478
	125	—	1000	1111	1111	1333
	100	622	800	889	889	1067
	75	467	600	667	667	800
	50	311	400	444	444	533
BRAKE SPEC FUEL CONSUMPTION (BTU/BHP-HR)	152	—	—	7061	6891	7168
	138	—	6889	7151	6984	7274
	125	—	6991	7259	7095	7401
	100	7051	7252	7535	7379	7726
	75	7492	7687	7995	7852	8267
	50	8374	8558	8914	8798	9349
FUEL CONSUMPTION (BTU/HR X 1000)	152	—	—	9565	9335	11650
	138	—	7635	8805	8600	10750
	125	—	6990	8065	7885	9870
	100	4385	5800	6700	6560	8240
	75	3495	4610	5330	5235	6615
	50	2605	3425	3960	3910	4985
HEAT TO JACKET WATER (BTU/HR X 1000)	152	—	—	2510	2400	3010
	138	—	1995	2335	2235	2815
	125	—	1850	2165	2070	2630
	100	1202	1585	1850	1775	2280
	75	1015	1323	1535	1475	1930
	50	829	1059	1219	1177	1585
HEAT TO LUBE OIL (BTU/HR X 1000)	152	—	—	372	358	449
	138	—	277	353	340	430
	125	—	263	334	323	412
	100	177	238	29	291	379
	75	155	213	264	258	346
	50	133	188	229	226	313
HEAT TO INTERCOOLER (BTU/HR X 1000)	152	—	—	532	452	616
	138	—	355	447	368	543
	125	—	291	370	295	472
	100	85	187	244	180	340
	75	25.5	98.5	139	91.5	207
	50	2	26.5	56.5	29.5	73
HEAT TO RADIATION (BTU/HR X 1000)	152	—	—	303	308	332
	138	—	294	302	305	328
	125	—	294	301	304	323
	100	282	292	300	304	314
	75	281	292	303	309	311
	50	280	292	317	318	320



HEAT REJECTION AND OPERATING DATA MODEL L7042GL 130° F INTERCOOLER WATER TEMPERATURE 180° F JACKET WATER TEMPERATURE	EN: 120301	Ref. S
	DATE: 1/03	6124-63

HEAT REJECTION 3

HEAT REJECTION AND OPERATING DATA MODEL L7042GL 130° F INTERCOOLER WATER TEMPERATURE 180° F JACKET WATER TEMPERATURE

	BMEP (PSI)	ENGINE SPEED — RPM				
		LOW SPEED TURBOCHARGER			HIGH SPEED TURBOCHARGER	
		700	900	1000	1000	1200
TOTAL ENERGY IN EXHAUST (BTU/HR X 1000)	152	—	—	2595	2580	3370
	138	—	2060	2390	2380	3085
	125	—	1890	2190	2180	2805
	100	1179	1575	1830	1830	2310
	75	942	1272	1494	1498	1865
	50	722	985	1188	1198	1485
EXHAUST TEMP AFTER TURBINE (± 50° F)	152	—	—	673	683	719
	138	—	661	669	679	709
	125	—	659	666	676	699
	100	645	656	664	675	684
	75	638	655	671	683	679
	50	620	653	690	704	691
INDUCTION AIR FLOW (SCFM)	152	—	—	3120	3045	3800
	138	—	2485	2865	2800	3500
	125	—	2275	2620	2565	3210
	100	1430	1885	2180	2135	2685
	75	1140	1500	1740	1705	2155
	50	845	1110	1285	1270	1620
EXHAUST GAS FLOW (LBS/HR)	152	—	—	14165	13825	17200
	138	—	11290	13020	12715	15890
	125	—	10330	11920	11645	14580
	100	6485	8585	9910	9710	12195
	75	5170	6830	7890	7750	9795
	50	3855	5050	5840	5765	7350

NOTES:

1. All data are based on ISO standard conditions of 29.54 inches Hg. barometric pressure, 77°F ambient and induction air temperature, 30% relative humidity (0.3 inches of water vapor pressure), 180°F engine jacket water outlet temperature, and standard 10°BTDC ignition timing.
2. Data are average values at the standard conditions and will vary for individual engines and with operating and ambient conditions and with changes to ignition timing or air/fuel ratio. An adequate reserve should be used for cooling system or heat recovery calculations. See also Cooling System Guidelines S-6699-7, latest version.
3. ISO Standard (continuous) power ratings conform to ISO 3046/1, latest version, with a mechanical efficiency of 90% and auxiliary water temperature, T_{cra}, of 130°F limited to ± 10°F.
4. Fuel rating standard; dry natural gas, 900 Btu/scf saturated lower heating value (SLHV), with a minimum 90 WKI™. Refer to S-7884-7, latest version, for the full fuel specification.
5. For heat rejection changes due to engine jacket water outlet temperature higher than standard (Note 1), refer to S-7613-3, latest version.
6. Total Exhaust Energy includes both recoverable and non-recoverable heat. For a procedure to calculate recoverable heat refer to S-8117-2, latest version.
7. Exhaust oxygen concentration set to 9.8% at rated speed and load at standard timing to provide 1.5 g/bhp-hr NO_x, or less. This level is to be measured at the port located in the exhaust manifold, upstream of the turbocharger, for GL engines.
8. Reference curve C-968-19.
9. Exhaust flow at nominal 29.54 inches Hg. barometric pressure:

$$\text{Flow rate: ACFM} = \frac{(\text{Exh. Flow, lb/hr}) \times (\text{Exh. Temp. } ^\circ\text{F} + 460)}{2275}$$



HEAT REJECTION AND OPERATING DATA MODEL L7042GL 130° F INTERCOOLER WATER TEMPERATURE 180° F JACKET WATER TEMPERATURE		EN: 120301 DATE: 1/03	Ref. S 6124-63
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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

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES
(Continued)

Pollutant	Emission Factor (lb/MMBtu) ^b (fuel input)	Emission Factor Rating
Acenaphthylene ^k	5.53 E-06	C
Acetaldehyde ^{k,l}	8.36 E-03	A
Acrolein ^{k,l}	5.14 E-03	A
Benzene ^k	4.40 E-04	A
Benzo(b)fluoranthene ^k	1.66 E-07	D
Benzo(e)pyrene ^k	4.15 E-07	D
Benzo(g,h,i)perylene ^k	4.14 E-07	D
Biphenyl ^k	2.12 E-04	D
Butane	5.41 E-04	D
Butyr/Isobutyraldehyde	1.01 E-04	C
Carbon Tetrachloride ^k	<3.67 E-05	E
Chlorobenzene ^k	<3.04 E-05	E
Chloroethane	1.87 E-06	D
Chloroform ^k	<2.85 E-05	E
Chrysene ^k	6.93 E-07	C
Cyclopentane	2.27 E-04	C
Ethane	1.05 E-01	C
Ethylbenzene ^k	3.97 E-05	B
Ethylene Dibromide ^k	<4.43 E-05	E
Fluoranthene ^k	1.11 E-06	C
Fluorene ^k	5.67 E-06	C
Formaldehyde ^{k,l}	5.28 E-02	A
Methanol ^k	2.50 E-03	B
Methylcyclohexane	1.23 E-03	C
Methylene Chloride ^k	2.00 E-05	C
n-Hexane ^k	1.11 E-03	C
n-Nonane	1.10 E-04	C

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN
ENGINES
(Continued)

Pollutant	Emission Factor (lb/MMBtu) ^b (fuel input)	Emission Factor Rating
n-Octane	3.51 E-04	C
n-Pentane	2.60 E-03	C
Naphthalene ^k	7.44 E-05	C
PAH ^k	2.69 E-05	D
Phenanthrene ^k	1.04 E-05	D
Phenol ^k	2.40 E-05	D
Propane	4.19 E-02	C
Pyrene ^k	1.36 E-06	C
Styrene ^k	<2.36 E-05	E
Tetrachloroethane ^k	2.48 E-06	D
Toluene ^k	4.08 E-04	B
Vinyl Chloride ^k	1.49 E-05	C
Xylene ^k	1.84 E-04	B

^a Reference 7. Factors represent uncontrolled levels. For NO_x, CO, and PM₁₀, “uncontrolled” means no combustion or add-on controls; however, the factor may include turbocharged units. For all other pollutants, “uncontrolled” means no oxidation control; the data set may include units with control techniques used for NO_x control, such as PCC and SCR for lean burn engines, and PSC for rich burn engines. Factors are based on large population of engines. Factors are for engines at all loads, except as indicated. SCC = Source Classification Code. TOC = Total Organic Compounds. PM-10 = Particulate Matter ≤ 10 microns (μm) aerodynamic diameter. A “<” sign in front of a factor means that the corresponding emission factor is based on one-half of the method detection limit.

^b Emission factors were calculated in units of (lb/MMBtu) based on procedures in EPA Method 19. To convert from (lb/MMBtu) to (lb/10⁶ scf), multiply by the heat content of the fuel. If the heat content is not available, use 1020 Btu/scf. To convert from (lb/MMBtu) to (lb/hp-hr) use the following equation:

$$\text{lb/hp-hr} = (\text{lb/MMBtu}) (\text{heat input, MMBtu/hr}) (1/\text{operating HP, 1/hp})$$

^c Emission tests with unreported load conditions were not included in the data set.

^d Based on 99.5% conversion of the fuel carbon to CO₂. CO₂ [lb/MMBtu] = (3.67)(%CON)(C)(D)(1/h), where %CON = percent conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.75), D = density of fuel, 4.1 E+04 lb/10⁶ scf, and

h = heating value of natural gas (assume 1020 Btu/scf at 60°F).

^e Based on 100% conversion of fuel sulfur to SO₂. Assumes sulfur content in natural gas of 2,000 gr/10⁶ scf.

^f Emission factor for TOC is based on measured emission levels from 22 source tests.

^g Emission factor for methane is determined by subtracting the VOC and ethane emission factors from the TOC emission factor. Measured emission factor for methane compares well with the calculated emission factor, 1.31 lb/MMBtu vs. 1.25 lb/MMBtu, respectively.

^h VOC emission factor is based on the sum of the emission factors for all speciated organic compounds less ethane and methane.

ⁱ Considered $\leq 1 \mu\text{m}$ in aerodynamic diameter. Therefore, for filterable PM emissions, PM₁₀(filterable) = PM_{2.5}(filterable).

^j PM Condensable = PM Condensable Inorganic + PM-Condensable Organic

^k Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

^l For lean burn engines, aldehyde emissions quantification using CARB 430 may reflect interference with the sampling compounds due to the nitrogen concentration in the stack. The presented emission factor is based on FTIR measurements. Emissions data based on CARB 430 are available in the background report.

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.

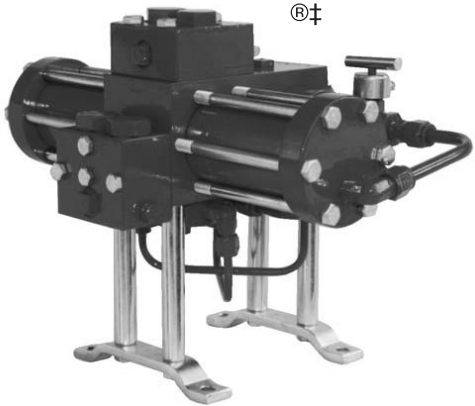
^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate 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.

Description:	TRUNK L SUCTION INLET	Company:	WILLIAMS
Field:		WorkOrder:	
Meter Number:		GPA Method:	GPA 2286
Analysis Date/Time:	10/18/2017 14:00:00	Sampled By:	DAN W.
Date Sampled:	10/17/2017	Analyst Initials:	SC
Sample Temperature:	68	Instrument:	SRI 8610
Sample Pressure:	90		

GRI GlyCalc Information

Component	Mol%	
Carbon Dioxide		0.8608
Hydrogen Sulfide	N/R	
Nitrogen		1.4553
Methane		80.7579
Ethane		9.3076
Propane		4.4356
Iso-Butane		0.7668
n-Butane		1.1616
Iso-Pentane		0.4229
n-Pentane		0.313
Cyclopentane		0.0129
n-Hexane		0.093
Cyclohexane		0.0308
Other Hexanes		0.2183
Heptanes		0.0567
Methylcyclohexane		0.045
2 2 4 Trimethylpentane		0.0029
Benzene		0.0138
Toluene		0.018
Ethylbenzene		0.0004
Xylenes		0.0041
C8+ Heavies		0.0226
Subtotal		100
Oxygen	N/R	
Subtotal		100



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

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

“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

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.

Oil and Gas
Production Equipment
J. Enverek, Inc.
4401 East Main Street
Farmington, NM 87401
505/326-1151
MAX 505/325-0317



VIA FACSIMILE
Fax No. (801) 584-7760
Pages: 1

August 19, 1994

Mr. Lee Baerle
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 Gases, ACFH	Stack Ht., Ft.	Stack Dia Inches	Stack Temp, F	Stack Velocity, FPM
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,

F. 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

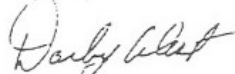
Mr. Bobby Myers
Williams Field Services
Environmental Affairs
295 Chipeta Way
P O Box 58900
Salt Lake City, UT 84158-0900

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	.23	10'	8	600	5.1
12 MM HP	.02	.49	.78	1208	.23	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

For flares subject to Chapter 115, Subchapter H, relating to highly reactive volatile organic compounds, flow rate and composition data required by 30 TAC 115.725–26 should be used to determine emissions for any portions of 2009 that HRVOC monitors were installed and operational.

In the absence of monitoring data, selection of the most accurate method may sometimes require exercising scientific judgment. For example, when using the results of a one-time performance test, the test conditions should be compared to the flare's actual operating conditions during the inventory year to determine whether the test accurately represents the flare's performance. If test conditions do not accurately model flare operation, then engineering determinations based on detailed process evaluation may provide the best data.

NO_x and CO Emissions

To calculate NO_x and CO emissions, the net heating value of the flared gas must be known. Using the actual short-term flared gas composition and flow rate data for the inventory year, calculate the net heating value of the flared gas and the total heat release for each short time period. Use these total heat release data, in conjunction with the appropriate emission factors from TCEQ Air Permits guidance, to determine NO_x and CO emissions for each time segment. Since the calculated net heating value of the gas and the assist gas type will determine the appropriate emission factors, carefully select the correct factors for each flare from Table A-6.

Calculate emissions using the most accurate data for the gas flow rate and composition available. (See “Flared Gas Flow Rate and Composition” earlier in this supplement for more information on preferred data.)

Table A-6. TCEQ Air Permits Flare Emission Factors

Contaminant	Assist Type	Waste Gas Stream Net Heating Value^{a,b}	Emission Factor
NO _x	Steam	High Btu	0.0485 lb/MMBtu
		Low Btu	0.068 lb/MMBtu
	Air or Unassisted	High Btu	0.138 lb/MMBtu
		Low Btu	0.0641 lb/MMBtu
CO	Steam	High Btu	0.3503 lb/MMBtu
		Low Btu	0.3465 lb/MMBtu
	Air or Unassisted	High Btu	0.2755 lb/MMBtu
		Low Btu	0.5496 lb/MMBtu

^a High Btu: > 1000 Btu/scf

^b Low Btu: 192–1000 Btu/scf

Regardless of the data's source, the determination methodology for NO_x and CO emissions should be reported as "A" for 'TCEQ-approved factor.'

For flares subject to the HRVOC regulations in Chapter 115, Subchapter H, use the net heating value data required by 30 TAC 115.725 and 115.726 to determine NO_x and CO emissions for any portions of 2009 during which HRVOC monitors were installed and operational.

Uncombusted Flared Gas Emissions

Uncombusted flared gas emissions usually include VOCs, H₂S, or both. Emissions calculations for these contaminants are based on the flared gas flow rate and composition, and the appropriate destruction efficiency, which depends upon the actual flare operation.

Destruction Efficiencies

Flare destruction efficiency varies with flame stability, operating conditions, flare tip size and design, the specific compounds being combusted, and gas composition. The EPA has determined operating limits (see 40 CFR 60.18), that result in stable operation of flare flames. Therefore, emission determinations may vary depending on whether the criteria of 40 CFR 60.18 are satisfied. Chapter 115 HRVOC regulations address flare operational requirements in regard to 40 CFR 60.18. For flares subject to HRVOC regulations, use the appropriate destruction efficiencies specified in 30 TAC 115.725.

Otherwise, if the flare's operation is consistent with 40 CFR 60.18, then use the appropriate destruction efficiencies from TCEQ Air Permits guidance shown in Table A-7.

Table A-7. TCEQ Air Permits Flare Destruction or Removal Efficiencies for 40 CFR 60.18–Compliant Flares

Waste Stream Composition	Destruction or Removal Efficiency
VOC, C ₁ –C ₃ ^a	99%
VOC, > C ₃	98%
H ₂ S	98%

^a 99% reduction should only be applied for compounds containing no more than three carbons that contain no elements other than carbon and hydrogen in addition to the following compounds: methanol, ethanol, propanol, ethylene oxide, and propylene oxide.

Note that, for flare operation to be considered consistent with 40 CFR 60.18, it must:

- meet the flared gas heating value and flare exit tip velocity limitations;
- be equipped with proper liquid knockout and ignition systems; and
- operate smokelessly.

loading operation, resulting in high levels of vapor generation and loss. If the turbulence is great enough, liquid droplets will be entrained in the vented vapors.

A second method of loading is submerged loading. Two types are the submerged fill pipe method and the bottom loading method. In the submerged fill pipe method, the fill pipe extends almost to the bottom of the cargo tank. In the bottom loading method, a permanent fill pipe is attached to the cargo tank bottom. During most of submerged loading by both methods, the fill pipe opening is below the liquid surface level. Liquid turbulence is controlled significantly during submerged loading, resulting in much lower vapor generation than encountered during splash loading.

The recent loading history of a cargo carrier is just as important a factor in loading losses as the method of loading. If the carrier has carried a nonvolatile liquid such as fuel oil, or has just been cleaned, it will contain vapor-free air. If it has just carried gasoline and has not been vented, the air in the carrier tank will contain volatile organic vapors, which will be expelled during the loading operation along with newly generated vapors.

Cargo carriers are sometimes designated to transport only one product, and in such cases are practicing "dedicated service". Dedicated gasoline cargo tanks return to a loading terminal containing air fully or partially saturated with vapor from the previous load. Cargo tanks may also be "switch loaded" with various products, so that a nonvolatile product being loaded may expel the vapors remaining from a previous load of a volatile product such as gasoline. These circumstances vary with the type of cargo tank and with the ownership of the carrier, the petroleum liquids being transported, geographic location, and season of the year.

One control measure for vapors displaced during liquid loading is called "vapor balance service", in which the cargo tank retrieves the vapors displaced during product unloading at bulk plants or service stations and transports the vapors back to the loading terminal. Figure 5.2-5 shows a tank truck in vapor balance service filling a service station underground tank and taking on displaced gasoline vapors for return to the terminal. A cargo tank returning to a bulk terminal in vapor balance service normally is saturated with organic vapors, and the presence of these vapors at the start of submerged loading of the tanker truck results in greater loading losses than encountered during nonvapor balance, or "normal", service. Vapor balance service is usually not practiced with marine vessels, although some vessels practice emission control by means of vapor transfer within their own cargo tanks during ballasting operations, discussed below.

Emissions from loading petroleum liquid can be estimated (with a probable error of ± 30 percent)⁴ using the following expression:

$$L_L = 12.46 \frac{SPM}{T} \quad (1)$$

where:

L_L = loading loss, pounds per 1000 gallons (lb/10³ gal) of liquid loaded

S = a saturation factor (see Table 5.2-1)

P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia)
(see Figure 7.1-5, Figure 7.1-6, and Table 7.1-2)

M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Table 7.1-2)

T = temperature of bulk liquid loaded, °R (°F + 460)

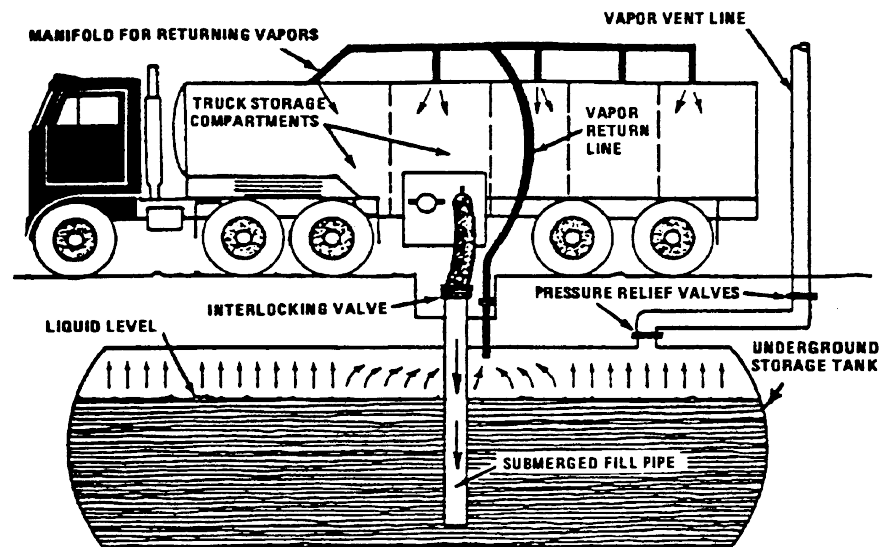


Figure 5.2-5. Tank truck unloading into a service station underground storage tank and practicing "vapor balance" form of emission control.

Table 5.2-1. SATURATION (S) FACTORS FOR CALCULATING PETROLEUM LIQUID LOADING LOSSES

Cargo Carrier	Mode Of Operation	S Factor
Tank trucks and rail tank cars	Submerged loading of a clean cargo tank	0.50
	Submerged loading: dedicated normal service	0.60
	Submerged loading: dedicated vapor balance service	1.00
	Splash loading of a clean cargo tank	1.45
	Splash loading: dedicated normal service	1.45
	Splash loading: dedicated vapor balance service	1.00
Marine vessels ^a	Submerged loading: ships	0.2
	Submerged loading: barges	0.5

^a For products other than gasoline and crude oil. For marine loading of gasoline, use factors from Table 5.2-2. For marine loading of crude oil, use Equations 2 and 3 and Table 5.2-3.

1995 Protocol for Equipment Leak Emission Estimates

Emission Standards Division

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

November 1995

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.

PS Memo 09-02

To: Stationary Sources Program, Local Agencies, and Regulated Community
From: Chris Laplante and Roland C. Hea, Colorado Air Pollution Control Division
Date: February 8, 2010
Subject: Oil & Gas Produced Water Tank Batteries
Regulatory Definitions and Permitting Guidance

This guidance document is intended to answer frequently asked questions concerning oil and gas industry produced water tank batteries. This document does not address any other equipment types that may be part of a common facility with a tank battery. Nothing in this guidance should be construed regarding Air Pollution Control Division (Division) permitting of evaporation ponds or water treatment facilities. Please consult with the Division for information regarding the permitting of evaporation ponds or water treatment facilities.

Revision History

October 1, 2009	Initial issuance.
February 8, 2010	First revision. This guidance document replaces the October 1, 2009 version. Revised language to clarify APEN fee structure, definition of modification, APEN submittals, and produced water exemption.

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Document source:

https://www.colorado.gov/pacific/sites/default/files/AP_Memo-09-02-Oil-_Gas-Produced-Water-Tank-Batteries-Regulatory-Definitions-and-Permitting-Guidance.pdf

3. EMISSION FACTORS AND SITE SPECIFIC SAMPLING Q&A

3.1. *What are the State approved default emission factors for produced water tanks?*

County	Produced Water Tank Default Emission Factors ¹ (lb/bbl) ²		
	VOC	Benzene	n-Hexane
Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, & Weld	0.262	0.007	0.022
Garfield, Mesa, Rio Blanco, & Moffat	0.178	0.004	0.010
Remainder of Colorado ³	0.262	0.007	0.022

¹ Testing may be performed at any site to determine site-specific emissions factors. These default emission factors may be revised by the Division in the future, pending approved data and testing results.

² Units of lb/bbl means pounds of emissions per barrel of produced water throughput

³ For counties not listed in this table, use the emissions factors listed as a conservative measure or perform testing to determine a site-specific emission factor

3.2. *What type of emissions are included in the produced water tank state default emission factors?*

State default emission factors for produced water tanks include flash, working, and breathing losses.

3.3. *Are there limits as to when produced water tank state default emission factors may be used?*

State default emission factors may be used at all oil and gas industry tank batteries. The Division intends to work with industry to refine emission factors and may develop separate emission factors for E&P and non-E&P sites.

3.4. *When are site-specific emission factors required for tank batteries?*

Site-specific emission factors may be developed and used on a voluntary basis for any tank battery. The Division reserves the authority to require site-specific emission factors at any time. Site-specific emission factors may only be applied at the tank battery for which they were developed, unless otherwise approved by the Division.

3.5. *How is a site-specific emission factor developed?*

A site-specific emission factor for tank batteries is developed by performing a Division approved stack test. A test protocol must be submitted and approved by the Division prior to performing the test. Once a test protocol has been approved by the Division, subsequent testing may be performed following the approved protocol without submittal to the Division.

The Division must be notified of the site specific testing at least 30-days prior to the actual test date.



Emission Factor
Determination for Produced
Water Storage Tanks

TCEQ Project 2010-29

Prepared for:
Texas Commission on Environmental Quality
Austin, Texas

Prepared by:
ENVIRON International Corporation
Novato, California

Date:
August 2010

ENVIRON Project Number:
06-17477T

Document source:

<https://www.tceq.texas.gov/assets/public/implementation/air/am/contracts/reports/ei/5820784005FY1024-20100830-environ-%20EmissionFactorDeterminationForProducedWaterStorageTanks.pdf>

Executive Summary

The overall purpose of this Study is to evaluate volatile organic compounds (VOC), speciated VOC and hazardous air pollutant (HAP) emissions from produced water and/or saltwater storage tanks servicing oil and gas wells and to develop appropriate VOC and HAP emission factors. The emission factors are to be used for emission inventory development purposes.

The primary source of information for this study was testing conducted by the Texas Commission on Environmental Quality (TCEQ) under Work Order 522-7-84005-FY10-25, *Upstream Oil & Gas Tank Measurements*, TCEQ Project 2010-39. As part of this referenced testing project, pressurized produced water samples were taken at seven different tank batteries located in Johnson, Wise and Tarrant Counties, Texas (all part of the Eastern Barnett Shale region) and analyzed for flash gas volume and composition. The sample collection and analysis conducted as part of TCEQ Project 2010-39 was done according to strict sampling and quality assurance procedures. In addition to TCEQ Project 2010-39 data, a thorough review of publically-available information sources identified a limited amount of data on produced water emissions. This was supplemented by data provided by two natural gas producers and one petroleum engineering services company. Other than TCEQ Project 2010-39 data, however, it could not be confirmed that any of the data had undergone a rigorous quality assurance process and therefore is considered secondary data, used to support conclusions drawn using the primary data but not used directly in deriving the produced water emission factors.

Emissions from produced water storage tanks consist of flash emissions, working losses and breathing losses. Flash emissions are determined using flash gas analysis. Working and breathing losses are estimated using EPA TANKS 4.09d software. Using this approach and the assumptions detailed within this report, it is determined that working and breathing losses associated with primary data source sites are very small compared to flash emissions and can be ignored without affecting the overall emission factor determination.

Table ES-1 presents the recommended emission factors for VOC and four HAPs – benzene, toluene, ethylbenzene and xylenes – derived from the primary data source sites. For comparative purposes, average emissions from Texas and non-Texas secondary sites are also presented in Table ES-1.

Table ES-1. Recommended Emission Factors and Comparative Data

Pollutant	Average Produced Water Emission Factor by Data Set (lb/bbl)		
	Recommended Emission Factor	Secondary Data – Texas	Secondary Data – Non-Texas
VOC	0.01	0.012	0.18
Benzene	0.0001	0.0012	0.004
Toluene	0.0003	0.0012	0.009
Ethylbenzene	0.000006	0.0001	0.0007
Xylenes	0.00006	0.0003	0.006

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-356mcc3	382-34-3	CH ₃ OCF ₂ CHFCF 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 CF ₂ OCF 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 CF ₂ OCF ₂ OC ₂ H ₅	
Sevoflurane (HFE-347mmz1)	28523-86-6	CH ₃ 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
PFPMIE (HT-70)		NA CF ₃ OCF(CF ₃)CF ₂ OCF ₂ OCF ₃	10,300

*The 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 FuelDEFAULT CO₂ EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Fuel type	Default high heat value	Default CO ₂ 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.”

Attachment 3

Facility: Trunk L Compressor Station
 Permit Number: P166-R4
 Reporting Period: September 1, 2022 - February 28, 2023
 Condition: A107.C & D - Annual Gas Analysis

Notes:

A copy of the most recent gas analysis is provided in this attachment. See previous SARs for copies of the older analyses.

A gas analysis for the current calendar year had not been prepared as of the close of this monitoring period.

Gas Stream Composition & Emission Factors

Sample Date	10/20/21			10/26/22		
Component	Molecular Weight, lb/lb-mole	Mole Percent, %	Emission Factor, lb/mscf	Mole Percent, %	Emission Factor, lb/mscf	
Carbon dioxide	44.010	1.0823	1.2555	1.0757	1.2478	0.0108
Hydrogen sulfide	34.070	0	0	0	0	0.0000
Nitrogen	28.010	0.295	0.2178	0.3212	0.2371	0.0030
Methane	16.043	82.9927	35.0936	82.5476	34.9054	0.8299
Ethane	30.070	8.7008	6.8960	8.7394	6.9266	0.0870
Propane	44.097	3.6877	4.2861	3.6714	4.2672	0.0369
Isobutane	58.124	0.7162	1.0972	0.7166	1.0978	0.0072
n-Butane	58.124	1.0353	1.5861	1.3192	2.0210	0.0104
Isopentane	72.151	0.3833	0.7289	0.4032	0.7668	0.0038
n-Pentane	72.151	0.2761	0.5251	0.2978	0.5663	0.0028
Cyclopentane	70.135	0.019	0.0351	0.018	0.0333	0.0002
n-Hexane	86.178	0.1384	0.3144	0.1476	0.3353	0.0014
Cyclohexane	84.162	0.0484	0.1074	0.0458	0.1016	0.0005
Other hexanes	86.178	0.3034	0.6892	0.3015	0.6848	0.0030
Heptanes	100.205	0.105	0.2773	0.1171	0.3093	0.0011
Methylcyclohexane	98.189	0.0961	0.2487	0.1124	0.2909	0.0010
2,2,4-Trimethylpentane	100.210	0.0057	0.0151	0.0072	0.0190	0.0001
Benzene	78.114	0.0201	0.0414	0.0185	0.0381	0.0002
Toluene	92.141	0.0382	0.0928	0.0515	0.1251	0.0004
Ethylbenzene	106.168	0.0007	0.0020	0.0012	0.0034	0.0000
Xylenes	106.168	0.0095	0.0266	0.0174	0.0487	0.0001
C8+ Heavies	114.231	0.0462	0.1391	0.0698	0.2102	0.0005
Total		100.0001	53.6752	100.0001	54.2356	
VOC Total		6.929	10.2123	7.316	10.9187	

Emission Factor (lb/mscf) = MW lb/lb-mole x (Mole % /100) x 1,000 scf / 379.4 scf/mole

Attachment 3

Facility: Trunk L Compressor Station
 Permit Number: P166-R4
 Reporting Period: September 1, 2022 - February 28, 2023
 Condition: A107.C & D - Annual Gas Analysis



2030 Afton Place
 Farmington, NM 87401
 (505) 325-6622

Analysis No: HM20220094
 Cust No: 33700-10085

Well/Lease Information

Customer Name: HARVEST MIDSTREAM	Source: CDP INLET PIPE
Well Name: TRUNK L CDP	Well Flowing: Y
County/State:	Pressure: 58 PSIG
Location:	Flow Temp: 48 DEG. F
Lease/PA/CA:	Ambient Temp: DEG. F
Formation:	Flow Rate: MCF/D
Cust. Stn. No.:	Sample Method:
	Sample Date: 10/26/2022
	Sample Time: 2:15 PM
	Sampled By: Stratton Waller
	Sampled by (CO): HARVEST MID

Heat Trace:
 Remarks: Calculated Molecular Weight: 20.6263

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3212	0.3216	0.0350	0.00	0.0031
CO2	1.0757	1.0771	0.1840	0.00	0.0163
Methane	82.5478	82.6558	14.0380	833.73	0.4572
Ethane	8.7394	8.7509	2.3450	154.66	0.0907
Propane	3.6714	3.6762	1.0150	92.38	0.0559
Iso-Butane	0.7166	0.7175	0.2350	23.30	0.0144
N-Butane	1.0285	1.0298	0.3250	33.55	0.0206
Neopentane 2,2 dmc3	0.2907	0.2911	0.1120	11.58	0.0072
I-Pentane	0.4032	0.4037	0.1480	16.13	0.0100
N-Pentane	0.2978	0.2982	0.1080	11.94	0.0074
Neohexane	0.0176	N/R	0.0070	0.83	0.0005
2-3-Dimethylbutane	0.0172	N/R	0.0070	0.82	0.0005
Cyclopentane	0.0180	N/R	0.0050	0.68	0.0004
2-Methylpentane	0.1162	N/R	0.0480	5.52	0.0035
3-Methylpentane	0.0437	N/R	0.0180	2.08	0.0013
C6	0.1476	0.9092	0.0610	7.02	0.0044
Methylcyclopentane	0.1068	N/R	0.0380	4.81	0.0031
Benzene	0.0185	N/R	0.0050	0.69	0.0005
Cyclohexane	0.0458	N/R	0.0160	2.05	0.0013
2-Methylhexane	0.0182	N/R	0.0090	1.05	0.0007
3-Methylhexane	0.0211	N/R	0.0100	1.15	0.0007
2-2-4-Trimethylpentane	0.0072	N/R	0.0040	0.45	0.0003
i-Heptanes	0.0151	N/R	0.0060	0.80	0.0005
Heptane	0.0617	N/R	0.0290	3.40	0.0021

Attachment 3

Facility: Trunk L Compressor Station
 Permit Number: P166-R4
 Reporting Period: September 1, 2022 - February 28, 2023
 Condition: A107.C & D - Annual Gas Analysis

Methylcyclohexane	0.1124	N/R	0.0450	5.88	0.0038
Toluene	0.0515	N/R	0.0170	2.30	0.0016
2-Methylheptane	0.0202	N/R	0.0100	1.25	0.0008
4-Methylheptane	0.0106	N/R	0.0050	0.66	0.0004
i-Octanes	0.0060	N/R	0.0040	0.54	0.0004
Octane	0.0228	N/R	0.0120	1.42	0.0009
Ethylbenzene	0.0012	N/R	0.0000	0.06	0.0000
m, p Xylene	0.0158	N/R	0.0060	0.81	0.0006
o Xylene (& 2,2,4 tmc7)	0.0016	N/R	0.0010	0.08	0.0001
i-C9	0.0014	N/R	0.0010	0.09	0.0001
C9	0.0035	N/R	0.0020	0.24	0.0002
i-C10	0.0013	N/R	0.0010	0.09	0.0001
C10	0.0004	N/R	0.0000	0.03	0.0000
i-C11	0.0003	N/R	0.0000	0.02	0.0000
C11	0.0002	N/R	0.0000	0.02	0.0000
C12P	0.0001	N/R	0.0000	0.01	0.0000
Total	100.00	100.131	18.912	1222.12	0.7118

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/2):	1.0034	CYLINDER #:	111
BTU/CU.FT IDEAL:	1224.9	CYLINDER PRESSURE:	49 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/2):	1229.1	ANALYSIS DATE:	10/27/2022
BTU/CU.FT (WET) CORRECTED FOR (1/2):	1207.7	ANALYSIS TIME:	01:51:36 PM
DRY BTU @ 15.025:	1253.7	ANALYSIS RUN BY:	ELAINE MORRISON
REAL SPECIFIC GRAVITY:	0.714		

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA 2286-14

GC: SRI Instruments 8610 Last Cal/Verify: 11/01/2022

GC Method: C12+BTEX Gas

Section 8

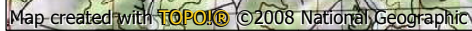
Map(s)

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.

107.50000° W 107.46667° W 107.43333° W 107.40000° W 107.36667° W 107.33333° W 107.30000° W 107.26667° W WGS84 107.21667° W



Trunk L Compressor Station

TN★/MN
9°
11/15/18

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 for Title V Operating Permit applications submitted under 20.2.70 NMAC.

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 Trunk L Compressor Station compresses and dehydrates pipeline natural gas. The reciprocating engines (units 1-14) drive reciprocating compressors. The TEG dehydrators (units 15-21) remove water from the natural gas in the pipeline. The enclosed flares (units 22-25) control the dehydrator regenerator still vent and flash tank condenser emissions. Three of the flares control two dehydrators each, and the remaining flare controls a single dehydrator. The station is also equipped with miscellaneous gas transmission equipment, including, valves, connectors, seals, etc. that produce fugitive emissions. Lubrication oil, used oil, glycol, solvent, methanol, condensate, and produced or waste water are stored in storage tanks. Waste liquids are hauled off-site by tank truck as required. There are no process bottlenecks that limit production.

The facility equipment operates year-round, 24 hours per day, seven days per week, 52 weeks per year.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe):

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☒ **Yes** ☐ **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☒ **Yes** ☐ **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☒ **Yes** ☐ **No**

C. Make a determination:

- ☒ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "YES" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "NO" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.
- ☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

Not applicable, since this is a Title V permit application.

Section 13

Determination of State & Federal Air Quality Regulations

This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

Required Information for Specific Equipment:

For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply. For example**, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

Required Information for Regulations that Apply to the Entire Facility:

See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

Regulatory Citations for Regulations That Do Not, but Could Apply:

If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation. For example** if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not. For example**, if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

Regulatory Citations for Emission Standards:

For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard. Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

Federally Enforceable Conditions:

All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVANT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc: <http://cfpub.epa.gov/adi/>

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

State Regulations:

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
20.2.1 NMAC	General Provisions	Yes	Facility	20.2.1 NMAC, General Provisions, is an administrative rule that establishes procedures for protecting confidential information, procedures for seeking a variance, electronic reporting, NMAQB's authority to require sampling equipment, severability, the effective date for conformance with the NMACs, and prohibits the violation of other requirements in attempting to comply with NMACs. Although this regulation may apply to the facility, it does not impose any specific requirements.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	20.2.3 NMAC, <i>Ambient Air Quality Standards</i> , is a SIP approved regulation that limits the maximum allowable concentration of sulfur compounds, carbon monoxide (CO) and nitrogen dioxide (NO ₂) in the areas of New Mexico under the jurisdiction of the Environmental Improvement Board. Under subsection 20.2.3.9, the requirements of the part are not considered applicable requirements under 20.2.70 NMAC (i.e., federally enforceable requirements), as defined by that part. However, the regulation applies to sources required to obtain a permit under 20.2.72 NMAC, and it does not limit which terms and conditions of permits issued pursuant to 20.2.72 NMAC are applicable requirements for permits issued pursuant to 20.2.70 NMAC. Although this regulation may apply to the facility, it does not impose any specific requirements on the operation of the facility as described in the permit.
20.2.7 NMAC	Excess Emissions	Yes	Facility	20.2.7 NMAC, <i>Excess Emissions</i> , is applicable because it prohibits excess emissions and proscribes notification procedures in the event of excess emissions. The regulation has potential applicability to facility-wide SSM and/or malfunction emissions of VOC.
20.2.23 NMAC	Gas Burning Equipment- Nitrogen Dioxide	No	Facility	20.2.33 NMAC, <i>Gas Burning Equipment - Nitrogen Dioxide</i> , does not apply as the facility does <u>not</u> have any <i>new</i> gas fired boilers and heaters having a heat input of greater than 1,000,000 MMBtu per year per unit, or any <i>existing</i> gas burning equipment with a heat input of greater than 1,000,000 MMBtu per year per unit. Note: "New gas burning equipment" means gas burning equipment, the construction or modification of which is commenced after February 17, 1972.
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No	N/A	20.2.34 NMAC, Oil Burning Equipment: NO ₂ does not apply as the facility does not have any oil burning equipment having a heat input of greater than 1,000,000 MMBtu per year per unit.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	Facility	20.2.35 NMAC, Natural Gas Processing Plant – Sulfur, applies to new natural gas processing plants for which a modification commenced on or after July 1, 1974. The regulation is not applicable because the facility is not a natural gas processing plant.
20.2.38 NMAC	Hydrocarbon Storage Facility	No	N/A	20.2.38 NMAC, <i>Hydrocarbon Storage Facilities</i> , is not applicable because the facility does not store hydrocarbons containing hydrogen sulfide; is not located within a municipality or within five miles of a municipality with population of 20,000 or more; nor is there a new hydrocarbon tank battery with storage capacity of 65,000 gallons or greater.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	This regulation is not applicable because the facility is not equipped with a sulfur recovery plant.
20.2.50 NMAC	Oil and Gas Sector – Ozone Precursor Pollutants			This regulation establishes emission standards for volatile organic compounds (VOC) and oxides of nitrogen (NO _x) for oil and gas production, processing, compression, and transmission sources. 20.2.50 NMAC subparts below: Include the construction status of applicable units as “New”, “Existing”, “Relocation of Existing”, or “Reconstructed” as defined by this Part in your justification: Check the box for the subparts that are applicable:

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				☒ 113 – Engines and Turbines ☐ 114 – Compressor Seals ☐ 115 – Control Devices and Closed Vent Systems ☐ 116 – Equipment Leaks and Fugitive Emissions ☐ 117 – Natural Gas Well Liquid Unloading ☒ 118 – Glycol Dehydrators ☐ 119 – Heaters ☐ 120 – Hydrocarbon Liquid Transfers ☐ 121 – Pig Launching and Receiving ☐ 122 – Pneumatic Controllers and Pumps ☒ 123 – Storage Vessels ☐ 124 – Well Workovers ☐ 125 – Small Business Facilities ☐ 126 – Produced Water Management Unit ☐ 127 – Flowback Vessels and Preproduction Operations
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	Units 1-14, 15b-21b, & 22-25	20.2.61 NMAC, Smoke and Visible Emissions, limits visible emissions from stationary combustion equipment to less than 20 percent opacity. The facility compressor engines, dehydrator reboilers and process flares are subject to the regulation as they are each stationary combustion sources.
20.2.70 NMAC	Operating Permits	Yes	Facility	20.2.70 NMAC, Operating Permits, contains permitting requirements for major sources of criteria and hazardous air pollutants and greenhouse gases (GHG) subject to Part 70 (Title V) permitting requirements. The facility Potential To Emit for criteria pollutants, HAP and GHG exceeds the major source Title V permitting thresholds. The facility is authorized under Title V Operating Permit P166-R3.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	20.2.71 NMAC, Operating Permit Fees, specifies fees for emissions from facilities subject to Part 70 (Title V) permitting requirements under 20.2.70 NMAC. The regulation is applicable, as the facility is subject to permitting requirements under 20.2.70 NMAC.
20.2.72 NMAC	Construction Permits	Yes	Facility	20.2.72 NMAC, Construction Permits, requires a construction [NSR] permit for stationary source with emissions greater than 10 pounds per hour or 25 tons per year of criteria pollutants. The station emissions exceed the permit requirement thresholds; therefore, the station is required to apply for and obtain an NSR permit. The construction (NSR) permit issued under 20.2.72 for this facility is permit No. 1527-M5-R2.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	20.2.73 NMAC, NOI & Emissions Inventory Requirements requires that owners/operators intending to construct a new stationary source that has a potential emission rate (uncontrolled emissions) greater than 10 tons per year of any regulated air contaminant, or 1 ton per year of lead, must file a notice of intent (NOI) with the department. The station emits regulated air pollutants in amounts greater than 10 tons per year. Therefore, the facility is subject to the regulation. The requirement to file an NOI with the Department was fulfilled with the application for a construction permit under 20.2.72 NMAC.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	Yes	Facility	20.2.74 NMAC, Permits, Prevention of Significant Deterioration (PSD), provides requirements for sources subject to permit requirements for PSD facilities. The facility permit identifies the facility as a major PSD source, subject to the PSD permitting program.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	20.2.75 NMAC, Construction Permit Fees, establishes the fee schedule associated with the filing of permits and permit revisions.

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				The regulation is applicable to the facility for its construction permit submitted under 20.2.72 NMAC.
20.2.77 NMAC	New Source Performance	Yes	Units 13 & 14	0.2.77 NMAC, New Source Performance Standards, incorporates by reference specific Standards of Performance for New Stationary Sources (NSPS) codified under 40 CFR 60, as amended through January 15, 2017. The regulation is not applicable to the installed emission units at the facility as none of them are subject to an NSPS under 40 CFR 60. The applicability of the regulation to compressor engine units 13 and 14 will be evaluated upon installation of the unit at the facility.
20.2.78 NMAC	Emission Standards for HAPS	No		20.2.78 NMAC, Emission Standards for Hazardous Air Pollutants, incorporates by reference specific National Emission Standards for Hazardous Air Pollutants (NESHAPs) codified under 40 CFR 61, as amended through September 15, 2015. The regulation is not applicable to SSM or malfunction emissions of VOC.
20.2.79 NMAC	Permits – Nonattainment Areas	No		20.2.79 NMAC, Permits - Nonattainment Areas, is not applicable to the station because the compressor station is not located within a non-attainment area.
20.2.80 NMAC	Stack Heights	No		20.2.80 NMAC, Stack Heights, establishes guidelines for the selection of an appropriate stack height for the purposes of atmospheric dispersion modeling. Atmospheric dispersion modeling was previously provided in support of the facility's construction permit. Based on the NMAQB dispersion modeling guidance document, an air quality dispersion modeling is not required for this Title V Operating Permit application submitted under 20.2.70 NMAC.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	Units 13 & 14 Units 15-21	20.2.82 NMAC, Maximum Achievable Control Technology Standards for Source Categories of Hazardous Air Pollutants, incorporates by reference specified federal Maximum Available Control Technology (MACT) Standards codified in 40 CFR 63, as amended through January 15, 2017. The facility includes equipment that are subject to, or potentially subject to MACT subparts A, HH (units 15-21) and ZZZZ (units 13 & 14, potentially). Therefore, the regulation is applicable. The specific applicability of subpart ZZZZ to the unit 13 and 14 compressor engines of unknown pedigree will be evaluated at the time of their installation.

Federal Regulations:

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	This regulation applies because the facility is subject to 20.2.70, 20.2.72 and 20.2.74 NMAC.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Facility	This regulation applies because 40 CFR 60, Subparts Db and IIII apply (see §60.1(a)).
NSPS 40 CFR 60.40a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	Yes	20 & 31b	This regulation is not applicable because the facility is not equipped with electric utility steam generating units with heat input rates greater than the threshold capacity of 250 MMBtu/hr (see §60.40Da(a)).

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60.40b Subpart Db	Electric Utility Steam Generating Units	No		The subpart applies to each steam generating unit that commences construction, modification, or reconstruction after August 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour). The compressor station is not an affected facility as defined in the regulation; therefore, the subpart does not apply.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No		The subpart applies to each steam generating unit that commences construction, modification, or reconstruction after August 9, 1989, and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). The facility does not have any affected sources under the regulation; therefore, the subpart does not apply.
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	No		The affected facility to which this subpart applies is a storage tank with a capacity greater than 151,416 liters (40,000 gallons) that is used to store petroleum liquids, for which construction commenced after May 18, 1978. The facility does not have any equipment that are an affected facility as defined in the regulation; therefore, the subpart does not apply.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	No		The affected facility to which this subpart applies is any storage vessels with a capacity greater than or equal to 75 cubic meters (m3) used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. Under §60.110b(d)(4), the regulation is not applicable..
NSPS 40 CFR 60.330 Subpart GG	Stationary Gas Turbines	No		Affected facilities under the subpart are stationary gas turbines of 10 MMBtu/hour or greater, installed on or after October 3, 1977. There are no combustion turbine sources at the facility. Therefore, the subpart is not applicable.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No		An affected facility under the subpart is an onshore gas plant that commences construction, reconstruction, or modification after January 20, 1984, and includes the group of all equipment (each pump, pressure relief device, open-ended valve or line, valve, compressor, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this subpart) except compressors (defined in § 60.631) within a process unit. A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				not located at the plant site, then it is exempt from the provisions of this subpart. The facility is not an onshore gas plant and the subpart does not apply.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions	No		This regulation is not applicable because the facility is not a natural gas processing plant as defined by the subpart.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No		This regulation does not apply because the facility is not equipped with “affected” sources that are constructed, modified, or reconstructed after Aug 23, 2011 and on or before September 18, 2015: gas wells, centrifugal or reciprocating compressors, pneumatic controllers, and storage vessels (see §60.5365). Note that the facility is not a natural gas processing plant as defined by the subpart (see §60.5430).
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	No		This regulation does not apply because the facility is not equipped with “affected” sources that are constructed, modified, or reconstructed after September 18, 2015: gas wells, centrifugal or reciprocating compressors, pneumatic controllers, storage vessels, pneumatic pumps, and equipment leaks (see §60.5365a). Note that the facility is not a natural gas processing plant as defined by the subpart (see §60.5430).
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No		This regulation is not applicable because the facility is not equipped with “affected” sources.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	Units 13 & 14	Under § 60.4230, the requirements of the subpart apply to spark-ignition (SI), reciprocating internal combustion engines (RICE) constructed, modified or reconstructed after August 12, 2006. Engine units 1 - 12 were each constructed in or before 1998, prior to the August 12, 2006 regulatory applicability date, and are therefore existing RICE under the regulation. The regulation is not applicable to these RICE. The engines have not undergone either “modification” or “reconstruction” under NSPS. Units 13 and 14 are not installed. The applicability of subpart JJJJ to the units 13 and/or 14 RICE will be evaluated upon installation.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for	No		There will be no electric generating units at the site.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	Electric Generating Units			
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No		There will be no electric generating units at the site.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No		The facility is not a municipal solid waste landfill
NESHAP 40 CFR 61 Subpart A	General Provisions	Yes	Units 15-21; units 13 & 14	Applies if any other Subpart in 40 CFR 63 applies. Subpart HH applies to the dehydrator units 15 – 21. Subpart ZZZZ may potentially to compressor engines 13 and 14, to be determined upon installation.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No		The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No		40 CFR 61, subpart V, NESHAP for Equipment Leaks (Fugitive Emission Sources) provides equipment standards, and monitoring, recordkeeping and reporting standards for specified equipment in VHAP service, including fugitive emissions from pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and required control devices or systems. Subpart V is not applicable because none of the potentially affected sources are in VHAP service,.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	Units 15-21; units 13 & 14	Applies if any other Subpart in 40 CFR 63 applies. Subpart HH applies to the dehydrator units 15 – 21. Subpart ZZZZ may potentially to compressor engines 13 and 14, to be determined upon installation.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	Yes	Units 15-21; Malfunction (unit M1) emissions of VOC associated with units 15a-21a	Under § 63.760, the subpart applies to owners and operators of affected sources located at oil and natural gas production facilities, including facilities that are major and area sources of hazardous air pollutants (HAP). Under the definitions provided in §63.761, the facility is a natural gas production field facility. As such, the definition of “major source” in §63.762 provides that only HAP emissions from glycol dehydration units and storage vessels are aggregated for a major source determination. The facility is permitted for seven TEG dehydrators, and four condensate storage tanks with the potential for flash emissions. As the dehydrator still vent emissions are routed to process flare emission controls under federally enforceable permit conditions, the aggregated HAP emissions from the dehydrators and the facility storage vessels are below the major HAP source thresholds; therefore, the facility is an area source of HAP under Subpart HH. The dehydrators are located in an area that is not within an UA plus offset and UC boundary (as defined in §63.761). Under §63.764(e)(1)(ii), the owner or operator of an affected area source [TEG dehydrator] with actual average benzene emissions from the process vent to the atmosphere of less than 0.90 megagrams per year (~1 tpy) is exempt from the operational, recordkeeping and notification requirements in §63.764(d), provided that documentation of the exemption determination is maintained as required in §63.774(d)(1).

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				The seven TEG dehydrators are identified in the facility permit as subject to the provisions of the subpart. Accordingly, §63.773, Inspection and monitoring requirements is potentially applicable to control device equipment; and § 63.762, Affirmative defense for violations of emission standards during malfunction is potentially applicable if malfunction emissions of VOC are released from equipment regulated under the subpart. Recordkeeping requirements are specified under §63.774.
MACT 40 CFR 63 Subpart HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities	No		Under §63.1270, applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in §63.1271. A production segment natural gas compressor station is not in the natural gas transmission and storage source category covered by the subpart. Therefore, the regulation does not apply.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No		40 CFR 63, Subpart DDDDD establishes emission limits and work practice standards for industrial, commercial, or institutional boiler or process heaters, as defined in § 63.7575, that are located at or are part of a major source of HAP, as defined under § 63.2 or § 63.761 (40 CFR 63, subpart HH), except as specified under § 63.7491. As defined under the regulation, the facility is an area source of HAP. Further, under § 63.7506(c)(3), existing small gaseous fuel boilers and process heaters are not subject to any requirements under the subpart or of subpart A, including notification provisions. Therefore, the regulation does not apply.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No		This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from coal- and oil-fired electric utility steam generating units (EGUs) as defined in §63.10042 of this subpart. This facility does not contain the affected source. This regulation does not apply.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	Unit 13 &14	40 CFR 63, Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from existing, new, modified and reconstructed stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP. The regulation contains provisions for initial and continuous compliance demonstration. As defined at §63.6585(c), the station is an major source of HAP. Under §63.6590(a)(1)(i), a stationary RICE with greater than 500 horsepower (hp) located at an major source of HAP is considered an “existing” unit if construction or reconstruction commenced before December 19, 2002. (“Construction” does not include the reinstallation of an existing engine at another location.) Each of the compressor engine units 1 - 14 are a 4-stroke, lean burn (4SLB) spark ignition (SI) RICE with a site rating of more than 500 hp. Engine units 1 - 12 were constructed before 1999, and are therefore existing RICE under the regulation. Under §63.6590(b)(3)(ii), an existing 4SLB stationary RICE with site rating of more than 500 hp, located at a major source of HAP does not have to meet the requirements of the subpart and of subpart A, including initial notification requirements. Therefore, the subpart is not applicable to each of the compressor engine units 1 - 12. Units 13 and 14 are not installed. The applicability of the subpart to the units 13 and/or 14 RICE will be evaluated upon installation.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 64	Compliance Assurance Monitoring	Yes	Units 15-21	40 CFR 64, Compliance Assurance Monitoring (CAM) monitoring requirements are applicable to sources that are located at a major source, that are required to obtain a part 70 or 71 permit, and with uncontrolled criteria pollutant emission rates equal to or exceeding the major source threshold (100 tons per year), that use a control device to achieve compliance with an emission limit or standard, and which the resulting controlled emissions are less than the major source threshold. Passive control devices such as lean-burn technology are not considered a control device as defined in 40 CFR 64 definitions and as clarified in discussions with EPA. This regulation is applicable to the seven permitted TEG dehydrators (units 15-21) because the dehydrators at the station use control devices (flares) to achieve compliance with emission limits or standards where pre control emissions equal or exceed the major source threshold (100 tons per year). Accordingly, the provisions of §64.7 Operation of approved monitoring is applicable to startups, shutdowns and malfunctions from equipment regulated under the subpart.
40 CFR 68	Chemical Accident Prevention	No		This regulation is not applicable because the facility does not store any of the identified toxic and flammable substances in quantities exceeding the applicability thresholds.
Title IV – Acid Rain 40 CFR 72	Acid Rain	No		This regulation is not applicable because the facility no longer generates commercial electric power and is no longer an acid rain source.
Title IV – Acid Rain 40 CFR 73	Sulfur Dioxide Allowance Emissions	No		This regulation is not applicable because the facility no longer generates commercial electric power and is no longer an acid rain source.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring	No		This regulation is not applicable because the facility no longer generates commercial electric power and is no longer an acid rain source.
Title IV – Acid Rain 40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	No		This regulation is not applicable because the facility no longer generates commercial electric power and is no longer an acid rain source.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No		This regulation is not applicable because the facility 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.
40 CFR 98	Mandatory Greenhouse Gas Reporting	Yes	Facility	40 CFR 98, Mandatory Greenhouse Gas Reporting, is a federal requirement that is applicable to facilities that include source categories listed in Subpart A, Table A-3, or to facilities with annual emissions of 25,000 metric tons of CO₂ equivalent (CO₂e) or more in combined emissions from stationary fuel combustion units, miscellaneous uses of carbonate, and all applicable source categories listed in Table A-3 and Table A-4 of Subpart A. The regulation applies to the facility GHG emissions exceed the reporting thresholds under the subpart. The facility reports its annual CO₂e emissions as defined in Subpart A, General Provision, Subpart C, General Stationary Fuel Combustion Sources, and, as applicable, Subpart W, Petroleum Oil and Natural Gas Systems.

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.
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Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: www.env.nm.gov/air-quality/permitting-section-procedures-and-guidance/. Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title "Construction Scenarios", specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc.

Not applicable, since there are no alternate operating scenarios.

Section 16

Air Dispersion Modeling

- 1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
- 2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
- 3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. Note: Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	X
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

- ☐ See attached, approved modeling **waiver for all** pollutants from the facility.
- ☐ See attached, approved modeling **waiver for some** pollutants from the facility.
- ☐ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
- ☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.
- ☒ No modeling is required.

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.

To save paper and to standardize the application format, delete this sentence and the samples in the Compliance Test History Table, and begin your submittal for this attachment on this page.

Compliance Test History Table

Unit No.	Test Description	Test Date
3,4,6	Tested in accordance with Operating Permit P166-R4, Condition A201.B and B108.	February 22, 2024
7,8,9	Tested in accordance with Operating Permit P166-R4, Condition A201.B and B108.	February 20, 2024
10,11,12	Tested in accordance with Operating Permit P166-R4, Condition A201.B and B108.	February 19, 2024
1, 2,5	Tested in accordance with Operating Permit P166-R4, Condition A201.B and B108.	February 21, 2024

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 www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/. 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 40CFR, Part 64 (Compliance Assurance Monitoring) must submit all the information required by section 64.7 with the operating permit application. The applicant must prepare a separate section of the application package for this purpose; if the information is already listed elsewhere in the application package, make reference to that location. Facilities not subject to Part 64 are invited to submit periodic monitoring protocols with the application to help the AQB to comply with 20.2.70 NMAC. Sources subject to 40 CFR Part 64, must submit a statement indicating your source's compliance status with any enhanced monitoring and compliance certification requirements of the federal Act.

The Milagro Gas Treating Plant is not subject to 40 CFR, Part 64, Compliance Assurance Monitoring (CAM); consequently, a monitoring protocol is not required with this application.

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 Trunk L Compressor Station is in compliance with all applicable requirements affecting the facility.

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 Trunk L Compressor 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.)
N/A
-

The Trunk L Compressor 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.

Harvest 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 www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

The Trunk L Compressor 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 Trunk L Compressor 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.)

Yes, the property on which the station is constructed and operated on is closer than 80 km (50 miles) from other states, local pollution control programs and Indian tribes and pueblos as described below:

Colorado	39.54 km
Southern Ute Tribal Lands	39.54 km
Jicarilla Apache Tribal Lands	13.30 km
Mountain Ute Tribal Lands	80 km
Navajo Tribal Lands	33.53 km

19.9 - Responsible Official

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC: **Nathan Work, Operations Manager**

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.

As discussed in Section 19, "Requirements for Title V Program", subsections 19.1, this section contains a copy of the following documents:

- Compliance Assurance Monitoring (CAM) Plan (Trunk L Compressor Station Dehydrator Flares).

Compliance Assurance Monitoring (CAM) Plan

Trunk L Compressor Station

Dehydrator Flares

I. Introduction

The flares (Units 22-25) are required by permit to control VOC emissions from the dehydrator flash tanks and regenerator still vents. As the flash tank off-gas streams are put back into the pipeline (recycle/recompression), there are no flash tank emissions to control. The regenerator still vent streams are routed through condensers to the flares. Units 22-24 control two dehydrators each. Unit 25 controls the single remaining dehydrator.

II. Emissions

Uncontrolled and controlled VOC emissions from each of the dehydrators are identified in the table below.

Pollutant	Uncontrolled		Controlled	
	pph	tpy	pph	tpy
VOC	27.4	120.2	0.6	2.4

The emission rates are calculated using GRI-GLYCalc 4.0, the design capacities of the dehydrators, the high wet gas input temperature and pressure over the last two years, and the maximum glycol pump circulation rates. The flare control efficiencies are estimated at 98%.

The calculated uncontrolled emission rates are 9.57 pounds per hour and 41.94 tons per year. The calculated controlled emission rates are 0.19 pound per hour and 0.84 tons per year. Safety factors are added to determine the permit limits. The same safety factors used for the controlled permit limits are used to estimate the uncontrolled emissions.

III. Monitoring

Indicator	Presence of pilot flame
Measurement Approach	The flare will be equipped with a thermocouple to monitor the presence of the pilot flame.
Indicator Range	Flame present (sensed) or not
Performance Criteria	
Monitoring Frequency	Continuous
Averaging Period	Not applicable
Data Collection Procedures	The flare will be equipped with a continuous recorder. An alarm will sound in the control room to indicate the absence of the pilot flame. Operators will log the time of the alarm and the time when the flare is brought back into operation.
Data Representativeness	The presence of the pilot flame is necessary for the destruction of VOC in the gas stream. Ensuring the presence of the pilot flame will help ensure compliance with the emission limit.
QA/QC Practices and Criteria	The alarm system will be tested annually (by turning off the thermocouple). Operators will record all maintenance and repair activities on the flares and monitoring systems (including date, time, and nature of the maintenance or repair).

IV. Response to Excursion

In the event the pilot light is extinguished, maintenance personnel will inspect the flare device within 24 hours and make needed repairs or adjustments as soon as practicable.

In the event the flare needs other maintenance or repair, personnel will perform the maintenance or repair as soon as practicable.

V. Monitoring Approach Justification

Rationale for Selection of Performance Indicators

As combustion is necessary for the destruction of VOC within the flare, the first indicator is to monitor for the presence of the pilot flame. The presence of the flame will ensure ignition of the gas stream in the flare.

As emissions are directly proportional to the amount of gas burnt by the flare, a second indicator would be to monitor the gas stream flow rate to the flare. However, as the gas throughputs to each flare are limited by the design capacities of the dehydrators, and as the limits in the permit are based on the design capacities of the dehydrators, it is not necessary to monitor the gas throughputs to the flares.

Rationale for Selection of Indicator Ranges

The pilot flame is present or it is not. A well designed and maintained thermocouple-based alarm system will accurately identify the presence of the pilot flame.

Section 21

Addendum for Landfill Applications

Landfill Applications are not required to complete Sections 1-C Input Capacity and Production Rate, 1-E Operating Schedule, 17 Compliance Test History, and 18 Streamline Applications. Section 12 – PSD Applicability is required only for Landfills with Gas Collection and Control Systems and/or landfills with other non-fugitive stationary sources of air emissions such as engines, turbines, boilers, heaters. All other Sections of the Universal Application Form are required.

EPA Background Information for MSW Landfill Air Quality Regulations: www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-waste-management

NM Solid Waste Bureau Website: www.env.nm.gov/solid-waste/

Not applicable, as this facility is not a landfill.

Section 22: Certification

Company Name: Harvest Four Corners, LLC

I, Nathan Work, 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 30 day of July, 2024, upon my oath or affirmation, before a notary of the State of

New Mexico.

[Signature]

*Signature

7/30/2024

Date

Nathan Work

Printed Name

Operations Manager

Title

Scribed and sworn before me on this 30 day of July, 2024.

My authorization as a notary of the State of New Mexico expires on the

23 day of November, 2025.

[Signature]

Notary's Signature

Jennifer Deal

Notary's Printed Name

7/30/2024

Date

STATE OF NEW MEXICO
NOTARY PUBLIC
JENNIFER DEAL
COMMISSION # 1136075
COMMISSION EXPIRES 11/23/2025

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