22777 Springwoods Village Parkway
Spring, Texas 77389
(832) 625-0104

June 18, 2021 UPS Tracking No. 1Z5V32103597968800

Attn: Ms. Kirby Olson
Major Source Permit Manager
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505

RE: Application for Title V Permit
Maverick Compressor StationTitle V Permit No. 7565-M1
XTO Energy Inc.

Dear Ms. Olson:

XTO Energy Inc. is submitting the attached Title V permit application for the referenced facility. The electronic files will be provided via email or secure transfer. Please contact me at 832-624-4426 or Raymond.Tole@ExxonMobil.com should you have any questions.

Sincerely,

Raymond P Tole Jr., P.E.
Environmental Engineer

MAVERICK COMPRESSOR STATION EDDY COUNTY, NEW MEXICO TITLE V PERMIT APPLICATION

PREPARED BY:

RAYMOND P TOLE JR

ENVIRONMENTAL ENGINEER

XTO ENERGY INC.

6/18/2021

MAVERICK COMPRESSOR STATION

TITLE V PERMIT APPLICATION

Table of Attachments

Section # 1
UA1 Form

Mail Application To:		**For Department use only:**
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		AIRS No.:

Universal Air Quality Permit Application

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

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. See Section 1-I for submittal instructions for other permits.

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

Acknowledgements:

☑ I acknowledge that a pre-application meeting is available to me upon request. ☑ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.

☐ $500 NSR application Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).

☐ Check No.: in the amount of

☑ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.

☑ 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 NMAC**
(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1st 3 to 5 #s of permit IDEA ID No.): 38149	Updating Permit/NOI #: 7565-M1
1	Facility Name: Maverick Compressor Station	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits): 211120	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): See 1-D.4.		
2	Plant Operator Company Name: XTO Energy Inc.	Phone/Fax: (832) 624-4426	
a	Plant Operator Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389		

b	Plant Operator's New Mexico Corporate ID or Tax ID: 1522747	
3	Plant Owner(s) name(s): XTO Energy Inc.	Phone/Fax: (832) 624-4426
a	Plant Owner(s) Mailing Address(s): 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	
4	Bill To (Company): XTO Energy Inc.	Phone/Fax: (832) 624-4426
a	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	E-mail: raymond.tole@exxonmobil.com
5	☑Preparer: TJ Tole ☐ Consultant:	Phone/Fax: (832) 624-4426
a	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	E-mail: raymond.tole@exxonmobil.com
6	Plant Operator Contact: T.J. Tole	Phone/Fax: (832) 624-4426
a	Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	E-mail: raymond.tole@exxonmobil.com
7	Air Permit Contact: T.J. Tole	Title: Environmental Engineer
a	E-mail: raymond.tole@exxonmobil.com	Phone/Fax: (832) 624-2768
b	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	
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: 8153
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: 2.5 barrels; 8.3 MMscf	Daily: 539 barrels; 200 MMscf	Annually: 196,735 barrels; 730 Bscf
b	Proposed			
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: 22.5 barrels; 8.3 MMscf	Daily: 539 barrels; 200 MMscf	Annually: 196.735 barrels; 730 Bscf
b	Proposed			

Section 1-D: Facility Location Information

1	Section: 20	Range: 31E	Township: 25S	County: Eddy	Elevation (ft): 3370
2	UTM Zone: ☐ 12 or ☑ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☑ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 612722			UTM N (in meters, to nearest 10 meters): 3553430	
b	**AND** Latitude (deg., min., sec.): 32º 06' 40"			Longitude (deg., min., sec.): -103º 48' 17"	
3	Name and zip code of nearest New Mexico town: Malaga - 88263				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Hwy 285 and Whitehorn Rd, L Whitehorn 0.4mi, L Longhorn 1.8mi, L on Pipeline#1 4.5mi, R 3.3mi, CR 0.2 R, 0.6 R, R Rock Dove Rd 3.6mi, R Buck Jackson 1.8 mi, L Buckthorn 1.2mi.				
5	The facility is 17 (distance) miles SE (direction) of Malaga (nearest town).				
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☑ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Eddy County, Lea County				
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/aqb/modeling/class1areas.html)? ☐ Yes ☑ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:				
9	Name nearest Class I area: Carlsbad Caverns				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 53.6				
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: >2 miles				
12	Method(s) used to delineate the Restricted Area: None. "**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	($\frac{\text{hours}}{\text{year}}$): 8760		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:		AM PM	End:		☐AM ☐PM
3	Month and year of anticipated start of construction: Already started					
4	Month and year of anticipated construction completion: Train 1 completed July 7, 2020					
5	Month and year of anticipated startup of new or modified facility: Train 1 completed July 7, 2020					
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:		NOV Tracking No:
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:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
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: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

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

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

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC):	Phone:
a	R.O. Title:	R.O. e-mail:
b	R. O. Address:	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): N/A	Phone: N/A
a	A. R.O. Title: N/A	A. R.O. e-mail: N/A
b	A. R. O. Address:N/A	
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):	
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.):	
a	Address of Parent Company: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	
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: T.J. Tole, (832) 624-4426	
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:	

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 T.J. Tole

Email raymond.tole@exxonmobil.com

Phone number (832) 624-4426

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.

Table of Contents

Section # 2
UA2 Form

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. Equipment exemptions under 2.72.202 NMAC do not apply to 20.2.73 NMAC. Identify process equipment that is used to reroute emissions back into the process or sales pipeline in Table 2-A, such as a VRU, VRT, ULPS, Flashing Vessel, or Blowcase.

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
VRT	Vapor Recovery Tower	TBD	N/A	N/A	TBD	TBD	TBD TBD	VRU FL1/FL2/FL3	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ To be Replaced	N/A	N/A
LPS	Low Pressure Separator	TBD	TBD	TBD	TBD	TBD	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	VRT
VRU1	Vapor Recovery Unit (For LP Separator)	TBD	TBD	TBD	Up to 100 HP	Up to 100 HP	TBD TBD	N/A FL1/FL2/FL3	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
GB1a	Gun Barrel Separator (Primary)	Unknown	N/A	TBD	1000 bbl	1000 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
GB1b	Gun Barrel Separator (Backup)	Unknown	N/A	TBD	1000 bbl	1000 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
OT1	Crude Oil Tank	Unknown	N/A	TBD	500 bbl	500 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
OT2	Crude Oil Tank	Unknown	N/A	TBD	500 bbl	500 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
OT3	Crude Oil Tank	Unknown	N/A	TBD	500 bbl	500 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
OT4	Crude Oil Tank	Unknown	N/A	TBD	500 bbl	500 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
WT1	Produced Water Tank	Unknown	N/A	TBD	500 bbl	500 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
WT2	Produced Water Tank	Unknown	N/A	TBD	500 bbl	500 bbl	TBD TBD	FL1/FL2/FL3 FL1/FL2/FL3	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
FL1	Flare 1 (HP and LP Tips)	TBD	TBD	TBD	70 mmscfd	70 mmscfd	TBD TBD	N/A FL1	31000205	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
FL2	Flare 2 (HP and LP Tips)	TBD	TBD	TBD	70 mmscfd	70 mmscfd	TBD TBD	N/A FL2	31000205	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
FL3	Flare 3 (HP and LP Tips)	TBD	TBD	TBD	70 mmscfd	70 mmscfd	TBD / TBD	N/A / FL2	31000205	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
ENG1-9	Natural Gas Engine	Caterpillar	3606 TA	TBD	1775 HP	1775 HP	TBD / TBD	CAT1 / ENG1	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ To be Replaced	4 SLB RICE	N/A
ENG1	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT1 / ENG1	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG1
ENG2	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT2 / ENG2	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG2
ENG3	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT3 / ENG3	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG3
ENG4	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT4 / ENG4	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG4
ENG5	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT5 / ENG5	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG5
ENG6	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT6 / ENG6	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG6
ENG7	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT7 / ENG7	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG7
ENG8	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT8 / ENG8	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG8
ENG9	Natural Gas Engine	Caterpillar	3616 TA	TBD	5000 HP	5000 HP	TBD / TBD	CAT9 / ENG9	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	ENG9
ENG10	Natural Gas Engine	Caterpillar	3606 TA	TBD	1775 HP	1775 HP	TBD / TBD	CAT10 / ENG10	20200202	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	N/A
ENG11	Natural Gas Engine	Caterpillar	3516 TA	TBD	1380 HP	1380 HP	TBD / TBD	CAT11 / ENG11	20200202	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	N/A
ENG12	Natural Gas Engine	Caterpillar	3516 TA	TBD	1380 HP	1380 HP	TBD / TBD	CAT12 / ENG12	20200202	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SLB RICE	N/A

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
ENG13	Natural Gas Engine	Caterpillar	3306 TA	TBD	203 HP	203 HP	TBD TBD	CAT13 ENG13	20200202	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4 SRB RICE	N/A
DEHY1	TEG Dehydrator with Condenser	N/A	N/A	N/A	70 MMscfd	70 MMscfd	TBD TBD	COND1 FL1/FL2/FL3	31000227	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
RB1	Glycol Regenator	N/A	N/A	N/A	3.0 MMBtu/hr	3.0 MMBtu/hr	TBD TBD	N/A RB1	31000228	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
DEHY2	TEG Dehydrator with Condenser	N/A	N/A	N/A	70 MMscfd	70 MMscfd	TBD TBD	COND2 FL1/FL2/FL3	31000227	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
RB2	Glycol Regenator	N/A	N/A	N/A	3.0 MMBtu/hr	3.0 MMBtu/hr	TBD TBD	N/A RB2	31000228	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
DEHY3	TEG Dehydrator with Condenser	N/A	N/A	N/A	70 MMscfd	70 MMscfd	TBD TBD	COND3 FL1/FL2/FL3	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
RB3	Glycol Regenator	N/A	N/A	N/A	3.0 MMBtu/hr	3.0 MMBtu/hr	TBD TBD	N/A RB3	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
LOAD	Truck Loading	N/A	N/A	N/A	535 BOPD 431 BWPD	535 BOPD 431 BWPD	N/A N/A	N/A N/A	40400250	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
FUG	Fugitive Emissions	N/A	N/A	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
ROAD	Haul Road Emissions	N/A	N/A	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
HTR1	Auxiliary Heater	N/A	N/A	N/A	0.75 MMBtu/hr	0.75 MMBtu/hr	TBD TBD	N/A HTR1	31000404	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
HTR2	Auxiliary Heater	N/A	N/A	N/A	0.75 MMBtu/hr	0.75 MMBtu/hr	TBD TBD	N/A HTR2	31000404	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
HTR3	Auxiliary Heater	N/A	N/A	N/A	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	N/A HTR3	31000404	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A

[1] Unit numbers must correspond to unit numbers in the previous NOI unless a complete cross reference table of all units in both NOIs is provided.

[2] Specify dates required to determine regulatory applicability.

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

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

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

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

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction[2]	For Each Piece of Equipment, Check Onc
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction[2]	
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

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

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. 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. Flares, Enclosed Combustion Devices, Catalytic Converters and Air Fuel Ratio (AFR) Controllers shall be reported on Table 2-C. For each AFR, note whether the AFR are aftermarket or integral to the engine.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
FL1	Flare	TBD	VOC, HAP	Facility Inlet, DEHY1-3, OT1-OT4	98	Engineering Est.
FL2	Flare	TBD	VOC, HAP	Facility Inlet, DEHY1-3, OT1-OT4	98	Engineering Est.
FL3	Flare	TBD	VOC, HAP	Facility Inlet, DEHY1-3, OT1-OT4	98	Engineering Est.
COND1-COND3	Condenser	TBD	VOC, HAP	DEHY1-DEHY3	98	Engineering Est.
CAT1-CAT13	Catalysts	TBD	CO, VOC, HAP	ENG1-ENG13	Varies	Manufacturer

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

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

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. 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). List tank flashing emissions separately from tank working and breathing losses.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG1	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG2	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG3	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG4	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG5	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG6	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG7	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG8	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG9	3.31	14.48	33.62	147.26	14.00	61.32	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG10	1.96	8.57	10.80	47.31	3.48	15.25	0.19	0.84	0.14	0.62	0.14	0.62	0.14	0.62	-	-	-	-
ENG11	1.52	6.66	8.91	39.04	4.75	20.79	0.17	0.73	0.12	0.53	0.12	0.53	0.12	0.53	-	-	-	-
ENG12	1.52	6.66	8.91	39.04	4.75	20.79	0.17	0.73	0.12	0.53	0.12	0.53	0.12	0.53	-	-	-	-
ENG13	7.29	31.95	7.29	31.95	0.17	0.73	0.03	0.11	0.02	0.08	0.02	0.08	0.02	0.08	-	-	-	-
FL1/FL2/FL3	Emissions not routed to flare in uncontrolled scenario.																	
FL1 (Pilot)	0.06	0.25	0.11	0.50	0.03	0.01	0.00	0.00	-	-	-	-	-	-	-	-	-	-
FL2 (Pilot)	0.06	0.25	0.11	0.50	0.03	0.11	0.00	0.00	-	-	-	-	-	-	-	-	-	-
FL3 (Pilot)	0.06	0.25	0.11	0.50	0.03	0.01	0.00	0.00	-	-	-	-	-	-	-	-	-	-
GB1a/GB1b	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
OT1	-	-	-	-	3.65	16.00	-	-	-	-	-	-	-	-	-	-	-	-
OT2	-	-	-	-	3.65	16.00	-	-	-	-	-	-	-	-	-	-	-	-
OT3	-	-	-	-	3.65	16.00	-	-	-	-	-	-	-	-	-	-	-	-
OT4	-	-	-	-	3.65	16.00	-	-	-	-	-	-	-	-	-	-	-	-
WT1	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
WT2	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
LPS	Emissions from the LPS are sent to the sales line.																	
DEHY1	-	-	-	-	14.31	62.70	-	-	-	-	-	-	-	-	-	-	-	-
RB1	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
DEHY2	-	-	-	-	14.31	62.70	-	-	-	-	-	-	-	-	-	-	-	-
RB2	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
DEHY3	-	-	-	-	14.31	62.70	-	-	-	-	-	-	-	-	-	-	-	-
RB3	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
LOAD	-	-	-	-	44.26	20.57	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	2.01	8.80	-	-	-	-	-	-	-	-	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	0.60	0.51	0.15	0.13	0.02	0.01	-	-	-	-
SSM	-	-	-	-	---	20.57	-	-	-	-	-	-	-	-	-	-	-	-
HTR1	0.11	0.48	0.09	0.40	0.01	0.03	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
HTR2	0.11	0.48	0.09	0.40	0.01	0.03	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
HTR3	0.22	0.96	0.18	0.80	0.01	0.05	0.02	0.09	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
Totals	43.98	192.61	340.31	1490.58	243.13	911.97	5.45	23.88	4.49	17.52	4.04	17.14	3.90	17.02	-	-	-	-

[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

* The condenser on the dehydrator is not a control device per 40 CFR 63 Subpart HH.

** The VRUs on the VRT are not control devices; therefore, uncontrolled emissions here represent post-VRU emissions prior to the flare in the closed vent system.

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 $^{-4}$). Note the Department has added a placeholder for SSM emissions on Table 2-E. Enter the total emissions from the "Totals line" in Table 2-F in the SSM row on Table 2-E. List tank flashing emissions separately from tank working and breathing losses.

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG1	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG2	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG3	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG4	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG5	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG6	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG7	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG8	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG9	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.39	1.69	0.39	1.69	-	-	-	-
ENG10	1.96	8.57	1.96	8.57	1.57	6.86	0.19	0.84	0.14	0.62	0.14	0.62	0.14	0.62	-	-	-	-
ENG11	1.52	6.66	1.29	5.66	1.42	6.24	0.17	0.73	0.12	0.53	0.12	0.53	0.12	0.53	-	-	-	-
ENG12	1.52	6.66	1.29	5.66	1.42	6.24	0.17	0.73	0.12	0.53	0.12	0.53	0.12	0.53	-	-	-	-
ENG12	0.90	3.92	1.79	7.84	0.17	0.73	0.03	0.11	0.02	0.08	0.02	0.08	0.02	0.08	-	-	-	-
FL1/FL2/FL3	1.02	4.48	2.04	8.95	4.80	21.04	0.00	0.00	0.03	0.13	0.03	0.13	0.03	0.13	-	-	-	-
GB1a/GB1b	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT1	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT2	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT4	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
WT1	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
WT2	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
LPS	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
DEHY1	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
RB1	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
DEHY2	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
RB2	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
DEHY3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
RB3	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
LOAD	-	-	-	-	44.26	20.57	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	2.01	8.80	-	-	-	-	-	-	-	-	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	0.60	0.51	0.15	0.13	0.02	0.01				
HTR1	0.11	0.48	0.09	0.40	0.01	0.03	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
HTR2	0.11	0.48	0.09	0.40	0.01	0.03	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
HTR3	0.22	0.96	0.18	0.80	0.01	0.05	0.02	0.09	0.00	0.01	0.00	0.01	0.00	0.01	-	-	-	-
SSM	-	-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	38.43	168.31	55.48	242.99	93.55	246.45	5.45	23.88	4.52	17.64	4.07	17.27	3.93	17.15	-	-	-	-

[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

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

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

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

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG1-13	-	-	-	-	-	10.00												
(Blowdowns)																		
Totals					-	10.00												

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

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

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

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

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

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

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions.

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)			
RB1	RB1	V	N	15	800	8.84	Unknown	Unknown	45.03	1.00
RB2	RB2	V	N	15	800	8.84	Unknown	Unknown	45.03	1.00
RB3	RB3	V	N	15	800	8.84	Unknown	Unknown	45.03	1.00
FL1	FL1 (Pilot + Vapors)	V	N	140	1832	0.64	Unknown	Unknown	65.60	0.83
FL2	FL2 (Pilot Only)	V	N	140	1832	0.22	Unknown	Unknown	65.60	0.83
FL3	FL3 (Pilot Only)	V	N	140	1832	0.22	Unknown	Unknown	65.60	0.83
ENG1	ENG1	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG2	ENG2	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG3	ENG3	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG4	ENG4	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG5	ENG5	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG6	ENG6	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG7	ENG7	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG8	ENG8	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG9	ENG9	V	N	25	809	522.93	Unknown	Unknown	295.92	1.50
ENG10	ENG10	V	N	20	848	203.77	Unknown	Unknown	259.44	1.00
ENG11	ENG11	V	N	20	997	152.75	Unknown	Unknown	194.49	1.00
ENG12	ENG12	V	N	20	997	152.75	Unknown	Unknown	194.49	1.00
ENG13	ENG13	V	N	15	1091	16.63	Unknown	Unknown	194.49	0.75
HTR1	HTR1	V	N	15	800	2.21	Unknown	Unknown	5.00	0.75
HTR2	HTR2	V	N	15	800	2.21	Unknown	Unknown	5.00	0.75
HTR3	HTR3	V	N	15	800	4.42	Unknown	Unknown	10.01	1.00

* LPS, tank, and dehy vapors can be routed to either flare; however, they are illustrated in FL1 for conservative purposes. FL2/FL3 are backups for controlling VOC emissions.

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		Formaldehyde 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		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
ENG1	ENG1	0.33	1.45	0.33	1.45														
ENG2	ENG2	0.33	1.45	0.33	1.45														
ENG3	ENG3	0.33	1.45	0.33	1.45														
ENG4	ENG4	0.33	1.45	0.33	1.45														
ENG5	ENG5	0.33	1.45	0.33	1.45														
ENG6	ENG6	0.33	1.45	0.33	1.45														
ENG7	ENG7	0.33	1.45	0.33	1.45														
ENG8	ENG8	0.33	1.45	0.33	1.45														
ENG9	ENG9	0.33	1.45	0.33	1.45														
ENG10	ENG10	0.33	1.45	0.20	0.89														
ENG11	ENG11	0.33	1.45	0.24	1.07														
ENG12	ENG12	0.33	1.45	0.24	1.07														
ENG13	ENG13	0.11	0.49	0.11	0.49														
FL1/FL2/FL3	FL1/FL2	0.72	3.16																
GB1a/GB1b	GB1a/GB1b	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT1	OT1	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT2	OT2	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT3	OT3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
OT4	OT4	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
WT1	WT1	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
WT2	WT2	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
LPS	LPS	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
DEHY1	DEHY1	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
RB1	RB1	0.01	0.02																
DEHY2	DEHY2	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
RB2	RB2	0.01	0.02																
LOAD	LOAD	2.19	1.02																
RB3	RB3	0.01	0.02																
DEHY3	DEHY3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Flare.																	
FUG	FUG	0.10	0.42																
SSM	SSM	---	---																
Totals:		6.81	21.25	3.78	16.55														

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 (scf)	Annual Usage (mmscf)	% Sulfur	% Ash
FL1, FL2, FL3	Natural Gas	Field Gas	1040	400.0	3.50	Negligible	0
RB1, RB2, RB3	Natural Gas	Field Gas	1040	2884.3	25.27	Negligible	0
ENG1-ENG9	Natural Gas	Field Gas	1040	36841.6	322.73	Negligible	0
ENG10	Natural Gas	Field Gas	1040	13442.3	117.75	Negligible	0
ENG11-ENG12	Natural Gas	Field Gas	1040	11625.1	6.32	Negligible	0
HTR1-2	Natural Gas	Field Gas	1040	721.1	6.32	Negligible	0
HTR3	Natural Gas	Field Gas	1040	1442.1	12.63	Negligible	0
ENG13	Natural Gas	Field Gas	1040	1834.0	16.07	Negligible	0

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)
GB1a/GB1b	40400311	Produced Water	99% Produced Water / 1% Oil	6.6	19.88	100.08	0.12	100.08	0.12
OT1	40400311	Oil	Oil	6.6	51.97	96.69	12.27	96.69	12.27
OT2	40400311	Oil	Oil	6.6	51.97	96.69	12.27	96.69	12.27
OT3	40400311	Oil	Oil	6.6	51.97	96.69	12.27	96.69	12.27
OT4	40400315	Oil	Oil	6.6	51.97	96.69	12.27	96.69	12.27
WT1	40400315	Produced Water	99% Produced Water / 1% Oil	8.2	19.39	96.93	11.78	96.93	11.78
WT2	40400315	Produced Water	99% Produced Water / 1% Oil	8.2	19.39	96.93	0.12	96.93	0.12
The gun barrels (GB1/GB2) are not storage tanks. They are shown here for illustrative purposes only.									

Table 2-L: Tank Data

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
GB1a/GB1b	TBD	Produced Water	N/A	FX	1,000	159	4.6	9.1	MG	MG	Good	6,693,587	159
OT1	TBD	Oil	N/A	FX	500	79.5	4.6	4.9	MG	MG	Good	2,065,873	98
OT2	TBD	Oil	N/A	FX	500	79.5	4.6	4.9	MG	MG	Good	2,065,873	98
OT3	TBD	Oil	N/A	FX	500	79.5	4.6	4.9	MG	MG	Good	2,065,873	98
OT4	TBD	Oil	N/A	FX	500	79.5	4.6	4.9	MG	MG	Good	2,065,873	98
WT1	TBD	Produced Water	N/A	FX	500	79.5	4.6	4.9	MG	MG	Good	3,305,309	157
WT2	TBD	Produced Water	N/A	FX	500	79.5	4.6	4.9	MG	MG	Good	3,305,309	157
The gun barrels (GB1A/GB1B) are not storage tanks. They are shown here for illustrative purposes only.													

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

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

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

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

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
Mixed Hydrocarbons	Oil	Liquid	539 BOPD	Mixed Hydrocarbons	Oil	Liquid	539 BOPD
	Produced Water	Liquid	437 BWPD		Produced Water	Liquid	437 BWPD
	Natural Gas	Gas	212 MMSCFD		Natural Gas	Gas	212 MMSCFD

Table 2-N: CEM Equipment

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

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

Table 2-O: Parametric Emissions Measurement Equipment

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

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

Table 2-P: Greenhouse Gas Emissions

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

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
FL1-FL3	**mass GHG**	3294.24	0.00	1.37											3295.6	
	CO_2e	3294.24	0.00	34.31												3328.5
ENG1-9	**mass GHG**	199446.43	0.33	3.33											199450.1	
	CO_2e	199446.43	99.26	83.27												199629.0
ENG10	**mass GHG**	7867.05	0.01	0.14											7867.2	
	CO_2e	7867.05	4.02	3.38												7874.5
RB1	**mass GHG**	1537.34	0.00	0.03											1537.4	
	CO_2e	1537.34	0.86	0.72												1538.9
RB2	**mass GHG**	1537.34	0.00	0.03											1537.4	
	CO_2e	1537.34	0.86	0.72												1538.9
HTR1-2	**mass GHG**	384.34	0.00	0.01											384.3	
	CO_2e	384.34	0.22	0.18												384.7
HTR-3	**mass GHG**	768.67	0.00	0.01											768.7	
	CO2e	768.67	0.43	0.36												769.5
ENG11-12	**mass GHG**	13432.00	0.02	0.23											13432.3	
	CO_2e	13432.00	6.96	5.84												13444.8
RB3	**mass GHG**	1537.34	0.00	0.03											1537.4	
	CO2e	1537.34	0.86	0.72												1538.9
ENG13	**mass GHG**	1099.66	0.00	0.02											1099.7	
	CO_2e	1099.66	0.55	0.46												1100.7
	mass GHG															
	CO2e															
	mass GHG															
	CO_2e															
Total	**mass GHG**														230910	
	CO_2e															231148

[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 valu

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

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

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

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

Section # 3
UA3 Form

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.

This application is for a Title V operating permit for the XTO Energy Inc. Maverick Compressor Station in accordance with 20.2.70.300.B.1 NMAC. The facility is currently permitted under NSR Permit 7565-M1. In January, 2021, a 20.2.72 NMAC application was submitted by XTO Energy, Inc. to propose the following modifications to the facility:

1) Remove HTR2 and HTR3;
2) Remove ENG10 and ENG13;
3) Increase glycol circulation rate for DEHY1-3;
4) Decrease glycol regenerator reboiler (RB1-RB3) unit heat input from 3 MMBtu/hr to 2.0 MMBtu/hr;
5) Increase Dehy SSM from 200 hrs to 300 hrs
6) Add SSM for dehy flash tank vapors to be combusted in FL1 – FL3
7) Increase flare purge gas rates;
8) Update FL1-FL3 heights to 145';
9) Update tank throughputs;
10) Decrease condensate truck loading;
11) Add inlet gas flaring;
12) Increasing steady state flaring associated with increased tank throughput and glycol circulation rate; update sources that vent to flare.
13) Change sources that vent to VC1, only combusts vapors from DEHY1-3 still vent and pilot gas.
14) Update ENG1-9 and ENG11-12 VOC/formaldehyde/CO control efficiencies and update emissions factors from Caterpillar Gas Engine Rating Pro (GERP) analysis.
15) Update nomenclature of Gb1a and GB2a to SKT1 and SKT2.
16) Update facility location coordinates
17) Update low pressure separator pressure from 2 psig to 15 psig.
18) Added VOC malfunction emissions.

No new equipment or emissions modifications are requested for the facility under this Title V application. The facility is a typical compressor station with natural gas engines, dehydration, storage tanks, and flares.

Routine SSM combustion emissions are included with the regular emissions of the facility. SSM emissions from equipment maintenance are routed to either the low pressure or high pressure flare header (FL1 – FL3). SSM-related VOC emissions (tank landings/cleanings) are included at a rate of 10 tons per year per NMAQB guidance. Detailed calculations are included in the application.

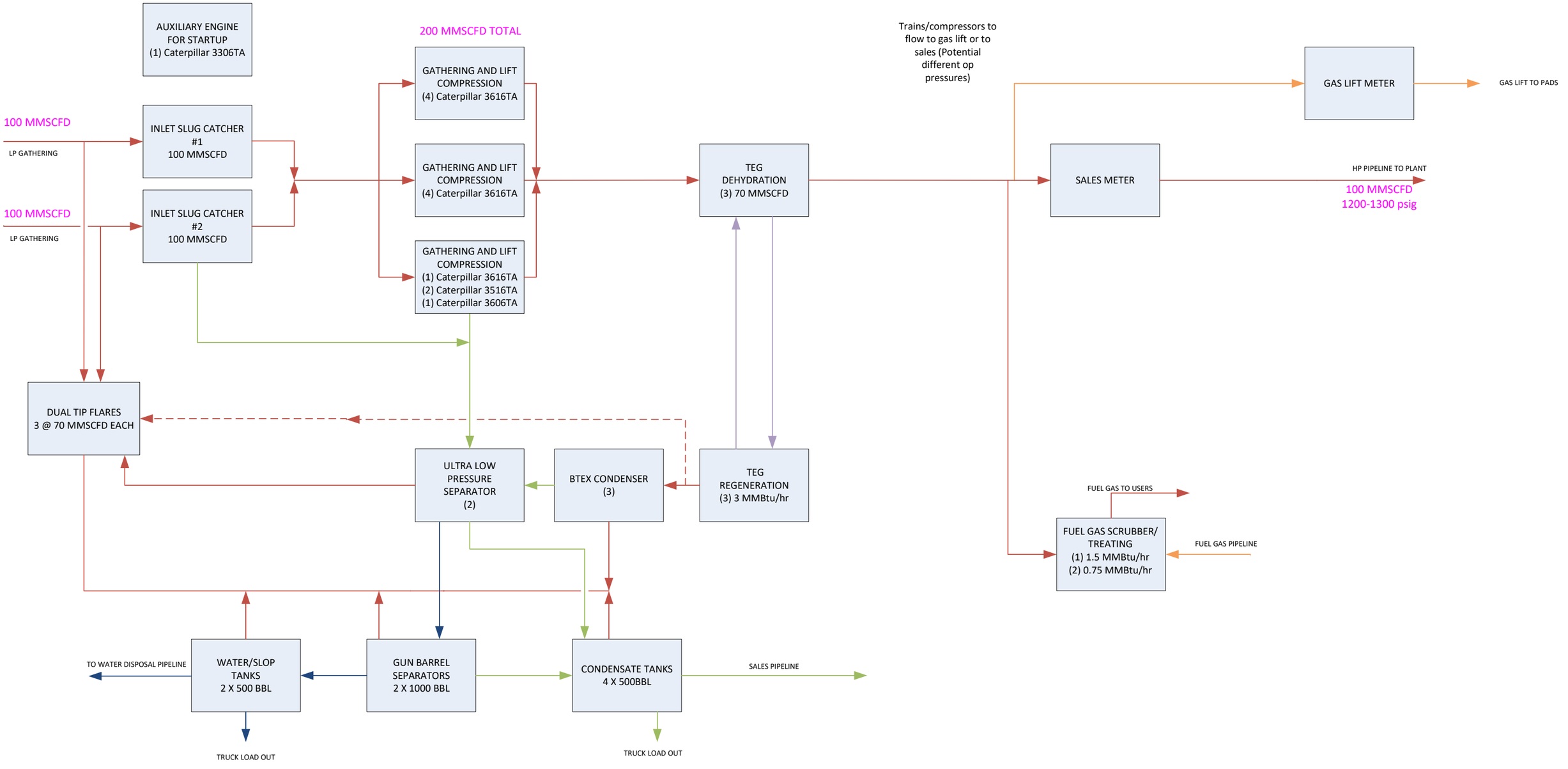
Section 4

Process Flow Sheet

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

A process flow diagram is presented on the following page.

XTO TIGER, WILDCAT, MAVERICK, EAGLE, AND SPARTAN COMPRESSOR STATIONS

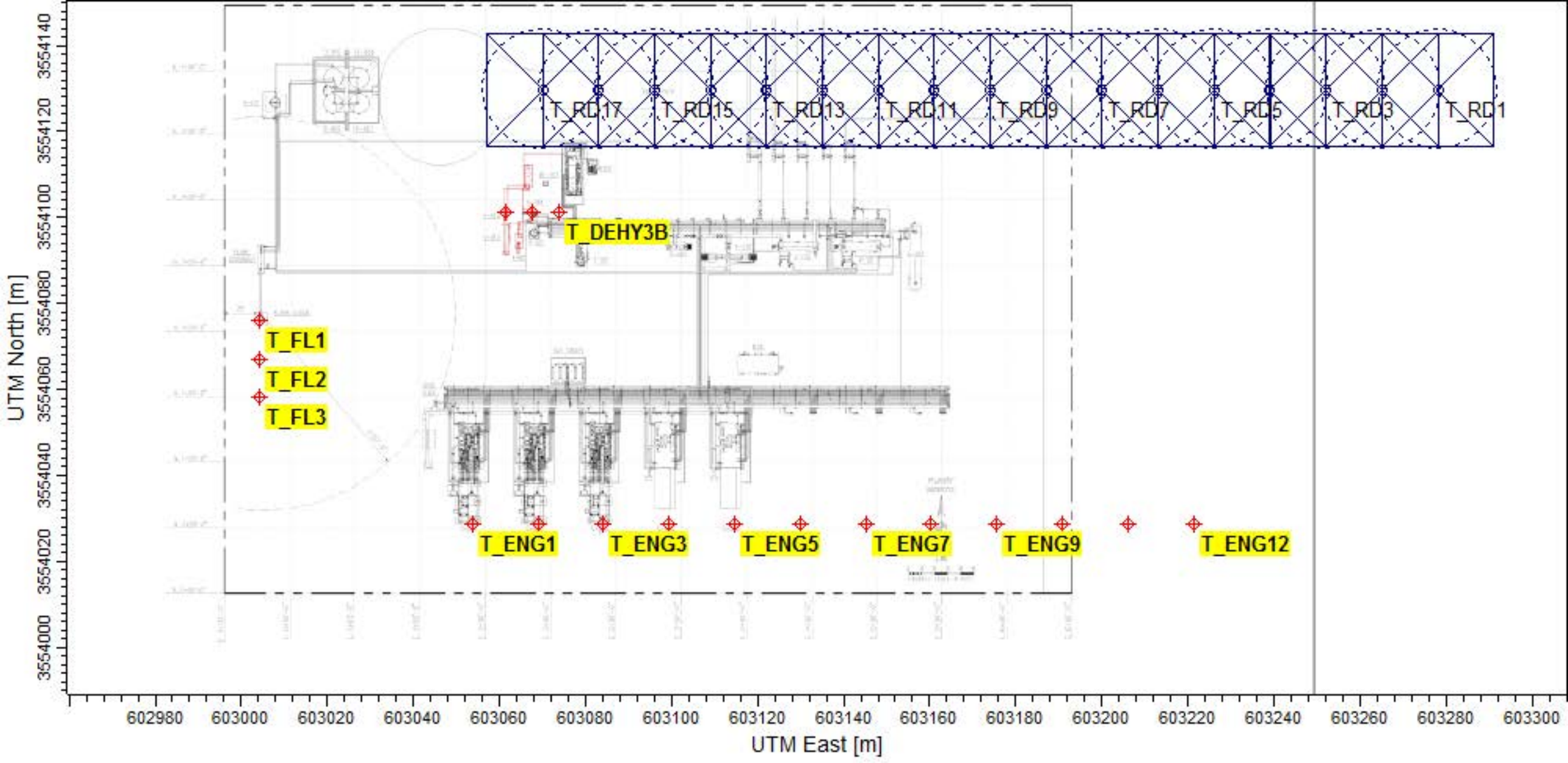


Section 5

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 proposed plot plan is presented on the following page.


T_RD17
T_RD15
T_RD13
T_RD11
T_RD9
T_RD7
T_RD5
T_RD3
T_RD1
T_DEHY3B
T_FL1
T_FL2
T_FL3
T_ENG1
T_ENG3
T_ENG5
T_ENG7
T_ENG9
T_ENG12
UTM North [m]
3554140
3554120
3554100
3554080
3554060
3554040
3554020
3554000
UTM East [m]
602980
603000
603020
603040
603060
603080
603100
603120
603140
603160
603180
603200
603220
603240
603260
603280
603300

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.

Caterpillar 3616TA (ENG-1 to ENG-9) and 3516TA (ENG-11 to ENG-12)
Emission factors for nitrogen oxides (NOx), carbon monoxide (CO), formaldehyde, and volatile organic compounds (VOC) are based on manufacturer's data. Emissions of particulate matter (PM/PM_{10} and $PM_{2.5}$) were calculated using AP-42 Table 3.2-3 factors. PM_{10} and $PM_{2.5}$ emissions are set equal to PM emissions. SO_2 emissions are based on the units' fuel consumption and a sulfur content of 5 grains per 100 standard cubic feet (5 gr/100 scf). Hazardous Air Pollutants (HAPs) except for formaldehyde were calculated using AP-42 factors.

Line Heater (HTR1) and Glycol Regenerator Heaters (RB1 to RB3)
Emission of NOx, CO, VOC, HAP, and PM/PM_{10}/$PM_{2.5}$ are based on AP-42 Table 3.2-3 emission factors. PM_{10} and $PM_{2.5}$ emissions are set equal to PM emissions. SO_2 emissions were based on the unit's fuel consumption and a maximum sulfur content of 5 grains per 100 standard cubic feet (5 gr/100 scf).

SSM/Emergency Flares (FL1 – FL3)
The facility will use two (2) dual-tip flares. NOx and CO emissions are based on factors from the Texas Commission on Environmental Quality (TCEQ) publication RG-360A/09. VOC emissions were calculated using a material balance and the manufacturer's guaranteed destruction efficiency (98%). Since gas can be routed to any or all of the flares, they are illustrated as one combine emission point. The flares have a control efficiency of 98%, with manufacturer documentation provided in Section 7 of the application. SSM activities routed to the flares could include process vessel purging and maintenance blowdowns for process equipment, high pressure gas flaring, and low pressure separator gas during VRU downtime. Tank vapors and 2% of the low pressure separator gas not collected by the VRU are continuously routed to the low pressure side of the flare.

Triethylene Glycol Dehydrators (DEHY1-DEHY3)
Emissions from the dehydrators are calculated using BR&E ProMax simulation software. Flash tank vapors are routed back to mixing with the inlet gas. For up to 438 hours, flash vapors are routed to the flares (FL1 - FL3). Each dehydrator is equipped with a condenser. Condensed liquids are routed to the skim tank and any remaining gas is burned at the flares (FL1 - FL3). The emissions being released at FL1-FL3 from the dehydration process are represented as a separate emission point (DEHY1-DEHY3). For up to 300 hours in a year, flash and condenser vapors can be routed to the reboiler (RB1 - RB3) during SSM. Emissions are represented as (DEHY1 SSM - DEHY3 SSM).

Storage Tanks (SKT1-SKT2, OT1-OT4, WT1-WT2)
Flashing, working and breathing emissions from the skim tank, oil tanks, and water tanks were calculated using BR&E ProMax simulation software. Emissions from the tanks are controlled using FL1-FL3. The simulation reports are included in Section 7.

Truck Loading (LOAD)
Uncontrolled emissions from oil loading of trucks were calculated using Equation 1 of AP-42 Section 5.2. Maximum condensate loading rates are calculated using 1836 BOPD and 80,000 BOPY. Relevant portions of AP-42 Section 5.2 are included in Section 7. Oil truck loading will be uncontrolled.

Water Truck Loading (LOAD2)
Uncontrolled emissions from water loading of trucks were calculated using Equation 1 of AP-42 Section 5.2. Maximum loading rates are calculated using 521 BWPD for 365 days of the year. Relevant portions of AP-42 Section 5.2 are included in Section 7. Oil truck loading will be uncontrolled.

Piping Component Fugitive Emissions (FUG)
Facility fugitive emissions were calculated using TCEQ's "Air Permit Technical Guidance for Chemical Sources – Fugitive Guidance" document, and conservatively assumed component counts. Reduction efficiencies were obtained from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017). Relevant portions of the TCEQ document are included in Section 7.

Startup, Shutdown, and Maintenance (SSM)
SSM emissions not routed to the flare system were assumed equal to the flat 10 tpy of VOC per State guidance. Specific SSM emissions include small equipment blowdowns, tank emptying and refilling, tank roof landing, and miscellaneous activities. Other SSM emissions are routed to the flare and calculated in accordance with the flare methodology above.

Haul Road Fugitive Emissions
Fugitive haul road emissions were calculated using Equations 1a and 2 of AP-42 Section 13.2.2. Relevant portions of AP-42 Section 13.2.2 are included in Section 7.

Malfunction Emissions (MALFUCNTION)
Malfunction emissions not routed to the flare system were assumed equal to the flat 10 tpy of VOC per State guidance. Specific malfunction emissions include any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following □ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

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

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

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

Metric to Short Ton Conversion:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

FACILITY EMISSIONS SUMMARY

EMISSIONS SUMMARY TABLE

EMISSION SOURCE DESCRIPTION	FACILITY IDENTIFICATION NUMBER	STACK NUMBER	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10\ \&\ 2.5}$		HAPs		CO2e
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG1	ENG1	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG2	ENG2	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG3	ENG3	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG4	ENG4	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG5	ENG5	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG6	ENG6	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG7	ENG7	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG8	ENG8	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3616 COMPRESSOR ENGINE	ENG9	ENG9	3.31	14.48	5.07	22.21	4.20	18.39	0.53	2.31	0.39	1.69	0.33	1.45	22181.00
CATERPILLAR G3606TA COMPRESSOR ENGINE	ENG10	ENG10	1.96	8.57	1.96	8.57	1.57	6.86	0.19	0.84	0.14	0.62	0.20	0.89	7874.45
CATERPILLAR G3516TA COMPRESSOR ENGINE	ENG11	ENG11	1.52	6.66	1.29	5.66	1.42	6.24	0.17	0.73	0.12	0.53	0.24	1.07	6722.40
CATERPILLAR G3516TA COMPRESSOR ENGINE	ENG12	ENG12	1.52	6.66	1.29	5.66	1.42	6.24	0.17	0.73	0.12	0.53	0.24	1.07	6722.40
CATERPILLAR G3306TA COMPRESSOR ENGINE	ENG13	ENG13	0.90	3.92	1.79	7.84	0.17	0.73	0.03	0.11	0.02	0.08	0.11	0.49	1100.67
FLARES 1 TO 3 (REPRESENTED AT FL1 FOR MODELING)	FL1/FL2/FL3	FL1/FL2/FL3	1.02	4.48	2.04	8.95	4.80	21.04	0.00	0.00	0.03	0.13	0.72	3.16	3328.55
GUN BARREL SEPARATORS: 1000 BBL (REDUNDANT)	GB1a/GB1b	GB1a/GB1b	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
OIL STORAGE TANK: 500 BBL	OT1	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
OIL STORAGE TANK: 500 BBL	OT2	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

FACILITY EMISSIONS SUMMARY

EMISSIONS SUMMARY TABLE

EMISSION SOURCE DESCRIPTION	FACILITY IDENTIFICATION NUMBER	STACK NUMBER	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10\ \&\ 2.5}$		HAPs		CO2e
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
OIL STORAGE TANK: 500 BBL	OT3	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
OIL STORAGE TANK: 500 BBL	OT4	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
PRODUCED WATER TANK: 500 BBL	WT1	WT1	---	---	---	---	0.00	0.00	---	---	---	---			---
PRODUCED WATER TANK: 500 BBL	WT2	WT2	---	---	---	---	0.00	0.00	---	---	---	---	0.00	0.00	---
LOW PRESSURE SEPARATOR	LPS	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
TRIETHYLENE GLYCOL DEHYDRATOR	DEHY1	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
GLYCOL REGENERATOR (3.0 MMBTU/HR)	RB1	RB1	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.01	0.02	1538.93
TRIETHYLENE GLYCOL DEHYDRATOR	DEHY2	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
GLYCOL REGENERATOR (3.0 MMBTU/HR)	RB2	RB2	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.01	0.02	1538.93
TRIETHYLENE GLYCOL DEHYDRATOR	DEHY3	FL1/FL2/FL3	Emissions Represented at FL1/FL2/FL3 Since Emissions are Routed to Low Pressure Side of Flare.												
GLYCOL REGENERATOR (3.0 MMBTU/HR)	RB3	RB3	0.44	1.91	0.37	1.61	0.02	0.11	0.04	0.18	0.00	0.01	0.01	0.02	1538.93
AUXILIARY HEATER (0.75 MMBTU/HR)	HTR1	HTR1	0.11	0.48	0.09	0.40	0.01	0.03	0.01	0.05	0.00	0.00	0.00	0.01	192.37
AUXILIARY HEATER (0.75 MMBTU/HR)	HTR2	HTR2	0.11	0.48	0.09	0.40	0.01	0.03	0.01	0.05	0.00	0.00	0.00	0.01	192.37
AUXILIARY HEATER (1.5 MMBTU/HR)	HTR3	HTR3	0.22	0.96	0.18	0.80	0.01	0.05	0.02	0.09	0.00	0.01	0.00	0.02	769.47
HAUL ROAD EMISSIONS	ROAD	ROAD	---	---	---	---	---	---	---	---	0.15	0.13	---	---	---
TRUCK LOADING	LOAD1	LOAD1	---	---	---	---	44.26	20.57	---	---	---	---	2.19	1.02	---
SSM: ENGINE BLOWDOWNS	SSM	SSM	---	---	---	---	---	10.00	---	---	---	---	---	---	---
FUGITIVE EMISSIONS: EQUIPMENT LEAKS	FUGITIVES	FUGITIVES	---	---	---	---	2.01	8.80	---	---	---	---	0.10	0.42	---

TOTAL FACILITY WIDE EMISSIONS	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10\ \&\ 2.5}$		HAPs		CO2e
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
	38.43	**168.31**	**55.48**	**242.99**	**93.55**	**246.45**	**5.45**	**23.88**	**4.07**	**17.27**	**6.81**	**21.25**	**231148**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

COMPRESSOR ENGINES

Controlled Emissions Calculations

					Manufacturer's Data g/hp-hr				AP-42 Factors lb/MMSCF (MMBtu for SO2)		lb/hr						tpy					
Source ID	Unit Description	Annual Hours	Rated HP	MMbtu/hp-hr[1] (HHV)	NOx	CO	VOC[2]	HCHO	SO_2[3]	$PM_{10\ \&\ 2.5}$[4]	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$
ENG1	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG2	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG3	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG4	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG5	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG6	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG7	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG8	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG9	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	0.46	0.38	0.03	0.0137	0.01006	3.31	5.07	4.20	0.33	0.53	0.39	14.48	22.21	18.39	1.45	2.31	1.69
ENG10	CATERPILLAR G3606TA COMPRESSOR ENGINE	8760	1775	0.007877	0.50	0.50	0.40	0.05	0.0137	0.01006	1.96	1.96	1.57	0.20	0.19	0.14	8.57	8.57	6.86	0.89	0.84	0.62
ENG11	CATERPILLAR G3516TA COMPRESSOR ENGINE	8760	1380	0.008762	0.50	0.42	0.47	0.08	0.0137	0.01006	1.52	1.29	1.42	0.24	0.17	0.12	6.66	5.66	6.24	1.07	0.73	0.53
ENG12	CATERPILLAR G3516TA COMPRESSOR ENGINE	8760	1380	0.008762	0.50	0.42	0.47	0.08	0.0137	0.01006	1.52	1.29	1.42	0.24	0.17	0.12	6.66	5.66	6.24	1.07	0.73	0.53
ENG13	CATERPILLAR G3306TA COMPRESSOR ENGINE	8760	203	0.009397	2	4	0.37	0.25	0.0137	0.01006	0.90	1.79	0.17	0.11	0.03	0.02	3.92	7.84	0.73	0.49	0.11	0.08

[1]HHV is based on the Fuel Consumption Rate @ 75% Load from the Gas Engine Rating Pro Report

[2]Emission Factor Includes HCHO

[3]SO_2 Emissions were calculated using the emission factor from Table 3.2-2

[4]PM Emission Factor = 7.71E-05 lb/MMBTU + 7.71E-05 lb/MMBTU + 9.91E-03 lb/MMBTU = 0.01006 lb/MMBTU

Total Emissions Per Pollutant (TPY)	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$
	156.17	**227.61**	**185.62**	**16.55**	**23.16**	**16.96**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

COMPRESSOR ENGINES

Uncontrolled Emissions Calculations

					Manufacturer's Data g/hp-hr				AP-42 Factors lb/MMSCF (MMBtu for SO2)		lb/hr						tpy					
Source ID	Unit Description	Annual Hours	Rated HP	MMbtu/hp-hr[1] (HHV)	NOx	CO	VOC[2]	HCHO	SO_2[3]	$PM_{10\ \&\ 2.5}$[4]	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$
ENG1	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG2	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG3	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG4	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG5	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG6	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG7	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG8	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG9	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	0.30	3.05	1.27	0.15	0.01373	0.01006	3.31	33.62	14.00	1.65	0.53	0.39	14.48	147.26	61.32	7.24	2.31	1.69
ENG10	CATERPILLAR G3606TA COMPRESSOR ENGINE	8760	1775	0.007877	0.50	2.76	0.89	0.26	0.01373	0.01006	1.96	10.80	3.48	1.02	0.19	0.14	8.57	47.31	15.25	4.46	0.84	0.62
ENG11	CATERPILLAR G3516TA COMPRESSOR ENGINE	8760	1380	0.008762	0.50	2.93	1.56	0.40	0.01373	0.01006	1.52	8.91	4.75	1.22	0.17	0.12	6.66	39.04	20.79	5.33	0.73	0.53
ENG12	CATERPILLAR G3516TA COMPRESSOR ENGINE	8760	1380	0.008762	0.50	2.93	1.56	0.40	0.01373	0.01006	1.52	8.91	4.75	1.22	0.17	0.12	6.66	39.04	20.79	5.33	0.73	0.53
ENG13	CATERPILLAR G3306TA COMPRESSOR ENGINE	8760	203	0.009397	16.3	16.3	0.37	0.25	0.013735	0.01006	7.29	7.29	0.17	0.11	0.03	0.02	31.95	31.95	0.73	0.49	0.11	0.08

[1]HHV is based on the Fuel Consumption Rate @ 75% Load from the Gas Engine Rating Pro Report

[2]Emission Factor Includes HCHO

[3]SO_2 Emissions were calculated using the emission factor from Table 3.2-2

[4]PM Emission Factor = 7.71E-05 lb/MMBTU + 7.71E-05 lb/MMBTU + 9.91E-03 lb/MMBTU = 0.01006 lb/MMBTU

Total Emissions Per Pollutant (TPY)	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$
	184.20	**1482.64**	**609.40**	**80.79**	**23.16**	**16.96**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

COMPRESSOR ENGINES

Greenhouse Gas Emissions Calculations

					Engine Data g/hp-hr	40 CFR 98 Factors[2] lb/MMBtu		lb/hr					tpy					
Source ID	Unit Description	Annual Hours	Rated HP	MMbtu/hp-hr[1] (HHV)	CO2	CH_4	N_2O	CO2	CH_4	CH_4 as CO2e	N_2O	N_2O as CO2e	CO2	CH_4	CH_4 as CO2e	N_2O	N_2O as CO2e	Total CO2e
ENG1	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG2	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG3	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG4	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG5	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG6	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG7	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG8	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG9	CATERPILLAR G3616 COMPRESSOR ENGINE	8760	5000	0.007664	459	0.002205	0.000221	5059.52	0.0845	2.11	0.0084	2.52	22160.71	0.37	9.25	0.04	11.03	22181.00
ENG10	CATERPILLAR G3606TA COMPRESSOR ENGINE	8760	1775	0.007877	459	0.002205	0.000221	1796.13	0.0308	0.77	0.0031	0.92	7867.05	0.14	3.38	0.01	4.02	7874.45
ENG11	CATERPILLAR G3516TA COMPRESSOR ENGINE	8760	1380	0.008762	504	0.002205	0.000221	1533.33	0.0267	0.67	0.0027	0.79	6716.00	0.12	2.92	0.01	3.48	6722.40
ENG12	CATERPILLAR G3516TA COMPRESSOR ENGINE	8760	1380	0.008762	504	0.002205	0.000221	1533.33	0.0267	0.67	0.0027	0.79	6716.00	0.12	2.92	0.01	3.48	6722.40
ENG13	CATERPILLAR G3306TA COMPRESSOR ENGINE	8760	203	0.009397	561	0.002205	0.000221	251.06	0.0042	0.11	0.0004	0.13	1099.66	0.02	0.46	0.00	0.55	1100.67

[1]HHV is based on the Fuel Consumption Rate @ 75% Load from the Gas Engine Rating Pro Report

[2]Warming potential for CH4 is 25. N2O is 298.

Total Emissions (TPY)	Total CO2e
	222048.88

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

BURNER CALCULATIONS

CRITERIA & REGULATED POLLUTANTS

				AP-42 Factors lb/MMSCF (lb/MMBtu for SO2)					lb/hr					tpy				
Source ID	Fuel Gas (BTU/SCF)	Operating Hours	Burner Rating (MMBTU/Hr)	NOx	CO	VOC	SO_2	$PM_{10\ \&\ 2.5}$	NOx	CO	VOC	SO_2	$PM_{10\ \&\ 2.5}$	NOx	CO	VOC	SO_2	$PM_{10\ \&\ 2.5}$
HTR1	1040.1	8760	0.75	102	86	5.6	0.0137	0.6	0.11	0.09	0.01	0.01	0.00	0.48	0.40	0.03	0.05	0.00
HTR2	1040.1	8760	0.75	102	86	5.6	0.0137	0.6	0.11	0.09	0.01	0.01	0.00	0.48	0.40	0.03	0.05	0.00
HTR3	1040.1	8760	1.50	102	86	5.6	0.0137	0.6	0.22	0.18	0.01	0.02	0.00	0.96	0.80	0.05	0.09	0.01
RB1	1040.1	8760	3.00	102	86	5.6	0.0137	0.6	0.44	0.37	0.02	0.04	0.00	1.91	1.61	0.11	0.18	0.01
RB2	1040.1	8760	3.00	102	86	5.6	0.0137	0.6	0.44	0.37	0.02	0.04	0.00	1.91	1.61	0.11	0.18	0.01
RB3	1040.1	8760	3.00	102	86	5.6	0.0137	0.6	0.44	0.37	0.02	0.04	0.00	1.91	1.61	0.11	0.18	0.01

***Source: AP-42 Table 1.4-1, 1.4-2, & 1.4-3. SO2 - 5 gr/100 scf**

****Burners - 70% Efficiency**

Total (tpy)	NOx	CO	VOC	SO_2[1]	$PM_{10\ \&\ 2.5}$
	7.65	**6.43**	**0.42**	**0.72**	**0.05**

HAZARDOUS AIR POLLUTANTS (HAPs)

				AP-42 Factors lb/MMSCF					lb/hr					tpy				
Source ID	Fuel Gas (BTU/SCF)	Operating Hours	Burner Rating (MMBTU/Hr)	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene
HTR1	1040.1	8760	0.75	0.0021	0.0034	1.8	0.0750	0.0012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
HTR2	1040.1	8760	0.75	0.0021	0.0034	1.8	0.0750	0.0012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
HTR3	1040.1	8760	1.50	0.0021	0.0034	1.8	0.0750	0.0012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
RB1	1040.1	8760	3.00	0.0021	0.0034	1.8	0.0750	0.0012	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00
RB2	1040.1	8760	3.00	0.0021	0.0034	1.8	0.0750	0.0012	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00
RB3	1040.1	8760	3.00	0.0021	0.0034	1.8	0.0750	0.0012	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00

***Source: AP-42 Table 1.4-1, 1.4-2, & 1.4-3**

****Burners - 70% Efficiency**

Total Individual HAPS (tpy)	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene
	0.00	**0.00**	**0.14**	**0.01**	**0.00**

Total Combined HAPS (tpy)	**0.14**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

FLARED GAS (FL1/FL2/FL3) - TOTAL EMISSIONS SUMMARY

Flare Emissions Summary Table - Normal Operations

Stream Source	NOx		CO		Total VOC (Includes Total HAPs)		SO_2		$PM_{10 \& 2.5}$		Total HAPs	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Flare 1 Pilot	0.06	0.25	0.11	0.50	0.03	0.11	0.00	0.00	0.00	0.01	0.00	0.01
Flare 2 Pilot	0.06	0.25	0.11	0.50	0.03	0.11	0.00	0.00	0.00	0.01	0.00	0.01
Flare 3 Pilot	0.06	0.25	0.11	0.50	0.03	0.11	0.00	0.00	0.00	0.01	0.00	0.01
Low Pressure Gas Flaring												
LPS Vapors - VRU Failure	0.66	2.91	1.33	5.81	3.69	16.16	0.00	0.00	0.02	0.07	0.35	1.53
DEHY1 Vapors - Normal Operations (To Flare)	0.04	0.20	0.09	0.39	0.29	1.25	0.00	0.00	0.00	0.01	0.12	0.50
DEHY2 Vapors - Normal Operations (To Flare)	0.04	0.20	0.09	0.39	0.29	1.25	0.00	0.00	0.00	0.01	0.12	0.50
DEHY3 Vapors - Normal Operations (To Flare)	0.04	0.20	0.09	0.39	0.29	1.25	0.00	0.00	0.00	0.01	0.12	0.50
Water Tank Vapors - Normal Operations (To Flare)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gun Barrel Vapors - Normal Operations (To Flare)					0.00	0.00					0.00	0.00
Oil Storage Tank Vapors - Normal Operations (To Flare)	0.05	0.23	0.10	0.46	0.18	0.77	0.00	0.00	0.00	0.00	0.02	0.10
Total Pilot Emissions	**0.17**	**0.75**	**0.34**	**1.51**	**0.08**	**0.34**	**0.00**	**0.00**	**0.01**	**0.04**	**0.00**	**0.02**
Total Low Pressure Emissions	**0.85**	**3.73**	**1.70**	**7.44**	**4.73**	**20.70**	**0.00**	**0.00**	**0.02**	**0.09**	**0.72**	**3.14**
Total Emissions	**1.02**	**4.48**	**2.04**	**8.95**	**4.80**	**21.04**	**0.00**	**0.00**	**0.03**	**0.13**	**0.72**	**3.16**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

FLARE PILOT & PURGE GAS EMISSIONS (FL1/FL2/FL3)

Pilot Fuel + Purge Gas	9600	SCF/Day (Per Flare)
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heating Value	1040	Btu/SCF (Gas Analysis)

Component	Estimated Quantity Emitted from the Flare (lb/day)	Total Estimated Quantity Emitted (lb/day)	Hourly Emission Rate (lb/hr)	Annualized Emission Rate (TPY)
CO2	1168.272	1168.272	48.68	213.21
CH4	0.020	0.020	0.00	0.00
CH4 as CO2e	-	-	0.02	0.09
N2O	0.002	0.002	0.00	0.00
N2O as CO2e	-	-	0.02	0.11
CO	2.751	2.751	0.11	0.50
NOx	1.378	1.378	0.06	0.25
PM	0.073	0.073	0.00	0.01
VOCs	0.630	0.630	0.03	0.11
HAPs	0.028	0.028	0.00	0.01
SO_2	0.000	0.000	0.00	0.00
H_2S	0.000	0.000	0.00	0.00

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
MAVERICK COMPRESSOR STATION
LOW PRESSURE SEPARATOR GAS TO FLARE

Flaring of Gas from Low Pressure Separator

Uncontrolled Emission Rate[1] (lb/hr)	Gas Volume[1] (SCF/Day)
189.289	48030.0

VOC Emission Components	Uncontrolled Flash Vapors		Controlled Flash Vapors	
	lb/hr	TPY	lb/hr	TPY
Carbon Dioxide	10.7521	47.0941	10.75	47.09
Hydrogen Sulfide	0.0000	0.0000	0.00	0.00
Nitrogen	0.1765	0.7732	0.00	0.02
Methane	16.1188	70.6003	0.32	1.41
Ethane	23.7717	104.1200	0.48	2.08
Propane	45.1782	197.8804	0.90	3.96
Iso-Butane	12.9086	56.5398	0.26	1.13
N-Butane	37.8266	165.6805	0.76	3.31
Iso-Pentane	15.1462	66.3402	0.30	1.33
N-Pentane	19.7043	86.3049	0.39	1.73
Cyclopentane	0.0000	0.0000	0.00	0.00
n-Hexane	9.5939	42.0214	0.19	0.84
Cyclohexane	3.6471	15.9745	0.07	0.32
i-Hexane	12.8322	56.2052	0.26	1.12
i-Heptane	15.1744	66.4637	0.30	1.33
Methylcyclohexane	3.5818	15.6884	0.07	0.31
2,2,4-Trimethylpentane	0.0000	0.0000	0.00	0.00
Benzene	2.0398	8.9345	0.04	0.18
Toluene	1.7456	7.6459	0.03	0.15
Ethylbenzene	0.1245	0.5452	0.00	0.01
Xylene	0.3371	1.4764	0.01	0.03
n-Octane	4.6668	20.4405	0.09	0.41
Triethylene Glycol	0.0000	0.0000	0.00	0.00
Water	4.7816	20.9435	0.10	0.42
VOC Stream Total	184.5072	808.1415	3.69	16.16

TOTAL EMISSIONS SUMMARY - CONTROLLED[2]		
Emission Component	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**3.69**	**16.16**
TOTAL HAPs	**0.35**	**1.53**

[1]Uncontrolled emissions and gas volume are based on Promax Results.

[2]Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)

Flare Reduction = **98%** VRU Collection Efficiency = **0%**

[3]Annual rates (tpy) calculated by multiplying hourly emission rate by 8760 hours.

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

LOW PRESSURE SEPARATOR GAS TO FLARE - PRODUCTS OF COMBUSTION

Flaring of Gas from Low Pressure Separator

Total Gas Production	48030	SCF/Day
Amount Flared After VRU	48030	SCF/Day
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Heating Value	2406.7	BTU/SCF (Promax)

Component	Estimated Quantity Emitted from the Flare (lb/day)	Total Estimated Quantity Emitted (lb/day)	Hourly Emission Rate (lb/hr)	Annualized Emission Rate (TPY)
CO	31.846	31.846	1.33	5.81
NOx	15.952	15.952	0.66	2.91
SO_2	0.008	0.008	0.00	0.00
H2S	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.365	0.365	0.02	0.07

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

TEG DEHYDRATOR: TOTAL EMISSIONS SUMMARY - ONE DEHYDRATOR

Emission Rate Per Dehydration Unit (DEHY1 - DEHY3)

Emission Component	Still Column Emissions (Uncontrolled - Condenser & Regenerator)		Flash Tank Emissions (Closed Loop - Inlet)		Total Combined Dehy Emissions (Controlled)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Methane	0.5442	2.3837	0.0000	0.0000	0.544	2.384
Propane	1.9257	8.4348	0.0000	0.0000	1.926	8.435
Iso-Butane	0.3578	1.5671	0.0000	0.0000	0.358	1.567
N-Butane	1.6428	7.1956	0.0000	0.0000	1.643	7.196
Iso-Pentane	0.8078	3.5382	0.0000	0.0000	0.808	3.538
N-Pentane	1.2288	5.3823	0.0000	0.0000	1.229	5.382
Cyclopentane	0.0000	0.0000	0.0000	0.0000	0.000	0.000
n-Hexane	0.5446	2.3852	0.0000	0.0000	0.545	2.385
Cyclohexane	0.7343	3.2163	0.0000	0.0000	0.734	3.216
Hexane +	0.7653	3.3519	0.0000	0.0000	0.765	3.352
Heptanes	0.6742	2.9529	0.0000	0.0000	0.674	2.953
Methylcyclohexane	0.3613	1.5823	0.0000	0.0000	0.361	1.582
2,2,4-Trimethylpentane	0.0000	0.0000	0.0000	0.0000	0.000	0.000
Benzene	3.6992	16.2023	0.0000	0.0000	3.699	16.202
Toluene	1.3971	6.1195	0.0000	0.0000	1.397	6.120
Ethylbenzene	0.0230	0.1006	0.0000	0.0000	0.023	0.101
Xylenes	0.0875	0.3833	0.0000	0.0000	0.088	0.383
Octanes+	0.0650	0.2848	0.0000	0.0000	0.065	0.285

UNCONTROLLED EMISSIONS SUMMARY		
Emissions Component	**lb/hr**	**TPY**
NMNEVOC (Includes TOTAL HAPs)	**14.31**	**62.70**
TOTAL HAPs	**5.75**	**25.19**

CONTROLLED EMISSIONS SUMMARY		
Emissions Component	**lb/hr**	**TPY**
NMNEVOC (Includes TOTAL HAPs)	**0.29**	**1.25**
TOTAL HAPs	**0.12**	**0.50**

HAP Emissions Components	**lb/hr**	**TPY**
Benzene	**0.07**	**0.32**
Toluene	**0.03**	**0.12**

* Dehydrator vapors are routed to the low pressure side of the flare, which controls VOC/HAP emissions by 98%.

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

UNCONDENSED DEHYDRATOR VAPORS TO FLARE - PRODUCTS OF COMBUSTION

Emission Rate Per Dehydration Unit (DEHY1-DEHY3)

Total Gas Production	4192	SCF/Day
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Heating Value	1854.3	BTU/SCF (Condenser Vapors)

Component	Estimated Quantity Emitted from the Flare (lb/day)	Total Estimated Quantity Emitted (lb/day)	Hourly Emission Rate (lb/hr)	Annualized Emission Rate (TPY)
CO	2.141	2.141	0.09	0.39
NOx	1.073	1.073	0.04	0.20
SO_2	0.001	0.001	0.00	0.00
H2S	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.032	0.032	0.00	0.01

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

STORAGE TANK EMISSIONS SUMMARY

TOTAL EMISSIONS SUMMARY

						Working & Breathing Losses		Flash Losses		Total Emissions	
FIN	**Unit Description**	**Tank Controlled (Yes/No)**	**Control Type**	**Material Throughput (bbls/day)**	**Material Type (Oil/Produced Water)**	**Lb/hr**	**TPY**	**Lb/hr**	**TPY**	**Lb/hr**	**TPY**
GB1a/ GB1b	**Gun Barrel Separator**	Yes	Flare	436.63	WATER	0.00	0.00	-	-	0.00	0.00
OT1	**Oil Storage Tank**	Yes	Flare	134.76	OIL	0.01	0.07	0.03	0.13	0.04	0.19
OT2	**Oil Storage Tank**	Yes	Flare	134.76	OIL	0.01	0.07	0.03	0.13	0.04	0.19
OT3	**Oil Storage Tank**	Yes	Flare	134.76	OIL	0.01	0.07	0.03	0.13	0.04	0.19
OT4	**Oil Storage Tank**	Yes	Flare	134.76	OIL	0.01	0.07	0.03	0.13	0.04	0.19
WT1	**Water Storage Tank**	Yes	Flare	215.61	WATER	0.00	0.00	-	-	0.00	0.00
WT2	**Water Storage Tank**	Yes	Flare	215.61	WATER	0.00	0.00	-	-	0.00	0.00
Storage Tank Emissions						0.06	0.26	0.12	0.51	0.18	0.77

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

OIL TANK FLASH GAS - FLARE OPERATIONAL

Oil Tank Flash Emissions Controlled by Flare

Oil Production	539	Barrels / Day
	22640	Gallons / Day

Uncontrolled Emission Rate[1] (lb/hr)	Gas Volume[1] (SCF/Day)	Production Rate (bbl/Day)	Calculated GOR (SCF/BBL)
0.300	1372.5	539.0	2.55

VOC Emission Components	Uncontrolled Flash Vapors		Controlled Flash Vapors	
	lb/hr	TPY	lb/hr	TPY
Methane	0.3282	1.4374	0.01	0.03
Propane	1.3978	6.1224	0.03	0.12
Iso-Butane	0.4053	1.7751	0.01	0.04
N-Butane	1.1929	5.2248	0.02	0.10
Iso-Pentane	0.4798	2.1016	0.01	0.04
N-Pentane	0.6250	2.7376	0.01	0.05
Cyclopentane	0.0000	0.0000	0.00	0.00
n-Hexane	0.3046	1.3339	0.01	0.03
Cyclohexane	0.1172	0.5132	0.00	0.01
Hexane +	0.4074	1.7844	0.01	0.04
Heptanes	0.4810	2.1067	0.01	0.04
Methylcyclohexane	0.1140	0.4994	0.00	0.01
2,2,4-Trimethylpentane	0.0000	0.0000	0.00	0.00
Benzene	0.0771	0.3379	0.00	0.01
Toluene	0.0602	0.2636	0.00	0.01
Ethylbenzene	0.0040	0.0176	0.00	0.00
Xylenes	0.0109	0.0477	0.00	0.00
Octanes+	0.1473	0.6451	0.00	0.01
VOC Stream Total	5.8244	25.5110	0.12	0.51

TOTAL EMISSIONS SUMMARY - CONTROLLED[2]		
Emission Component (All Tanks)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.12**	**0.51**
TOTAL HAPs	**0.01**	**0.04**
Emission Component (Per Tank)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.03**	**0.13**
TOTAL HAPs	**0.00**	**0.01**

[1]Uncontrolled emissions and gas volume are based on Promax Results.

[2]Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)

Flare Reduction = **98%** VRU Collection Efficiency = **0%**

[3]Annual rates (tpy) calculated by multiplying hourly emission rate by 8760.

XTO ENERGY INC.
MAVERICK COMPRESSOR STATION
OIL TANK WORKING & BREATHING - FLARE OPERATIONAL

Oil Tank Working & Breathing Emissions Controlled by Flare

Oil Production	539	Barrels / Day
	22639.70443	Gallons / Day

Uncontrolled Emission Rate[1] (lb/hr)	Gas Volume[1] (SCF/Day)	Production Rate (bbl/Day)	Calculated GOR (SCF/BBL)
0.370	1848.0	539.0	3.43

VOC Emission Components	Uncontrolled W&B Vapors		Controlled W&B Vapors	
	lb/hr	TPY	lb/hr	TPY
Methane	0.0686	0.3004	0.0014	0.0060
Propane	2.3869	10.4545	0.0477	0.2091
Iso-Butane	0.6604	2.8923	0.0132	0.0578
N-Butane	1.9894	8.7136	0.0398	0.1743
Iso-Pentane	0.7524	3.2953	0.0150	0.0659
N-Pentane	0.9637	4.2212	0.0193	0.0844
Cyclopentane	0.0000	0.0000	0.0000	0.0000
n-Hexane	0.4865	2.1307	0.0097	0.0426
Cyclohexane	0.1545	0.6766	0.0031	0.0135
Hexane +	0.6377	2.7929	0.0128	0.0559
Heptanes	0.2147	0.9403	0.0043	0.0188
Methylcyclohexane	0.1691	0.7408	0.0034	0.0148
2,2,4-Trimethylpentane	0.0000	0.0000	0.0000	0.0000
Benzene	0.0821	0.3596	0.0016	0.0072
Toluene	0.0629	0.2757	0.0013	0.0055
Ethylbenzene	0.0044	0.0192	0.0001	0.0004
Xylenes	0.0096	0.0419	0.0002	0.0008
Octanes+	0.2105	0.9221	0.0042	0.0184
VOC Stream Total	8.7846	38.4767	0.0599	0.2624

TOTAL EMISSIONS SUMMARY - CONTROLLED[2]		
Emission Component (All Tanks)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.06**	**0.26**
TOTAL HAPs	**0.01**	**0.06**
Emission Component (Per Tank)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.01**	**0.07**
TOTAL HAPs	**0.00**	**0.01**

[1]Uncontrolled emissions and gas volume are based on Promax Results.

[2]Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)

Flare Reduction = **98%** VRU Collection Efficiency = **0%**

[3]Annual rates (tpy) calculated by multiplying hourly emission rate by 8760.

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

OIL VAPORS TO FLARE - COMBUSTION EMISSIONS

Oil Storage Tank Vapors Controlled by Flare (OT1-OT4)

Total Gas Production	3221	SCF/Day (Includes flashing/W&B from tanks)
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Heating Value	2828.4	BTU/SCF (Promax - Most conservative of flashing and W&B)

Component	Estimated Quantity Emitted from the Flare (lb/day)	Total Estimated Quantity Emitted (lb/day)	Hourly Emission Rate (lb/hr)	Annualized Emission Rate (TPY)
CO	2.510	2.510	0.10	0.46
NOx	1.257	1.257	0.05	0.23
H_2S	0.000	0.000	0.00	0.00
SO_2	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.024	0.024	0.00	0.00

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
MAVERICK COMPRESSOR STATION
GUN BARREL WORKING & BREATHING - FLARE OPERATIONAL

Gun Barrel Emissions Controlled by Flare

Water Flow	437	Barrels / Day
	18339	Gallons / Day

Uncontrolled Emission Rate[1] (lb/hr)	Gas Volume[1] (SCF/Day)	Production Rate (bbl/Day)	Calculated GOR (SCF/BBL)
0.001	47.6	436.6	0.11

VOC Emission Components	Uncontrolled W&B Vapors		Controlled W&B Vapors	
	lb/hr	TPY	lb/hr	TPY
Methane	0.0004	0.0016	0.0000	0.0000
Propane	0.0008	0.0036	0.0000	0.0001
Iso-Butane	0.0001	0.0005	0.0000	0.0000
N-Butane	0.0005	0.0022	0.0000	0.0000
Iso-Pentane	0.0002	0.0009	0.0000	0.0000
N-Pentane	0.0003	0.0014	0.0000	0.0000
Cyclopentane	0.0000	0.0000	0.0000	0.0000
n-Hexane	0.0001	0.0006	0.0000	0.0000
Cyclohexane	0.0002	0.0008	0.0000	0.0000
Hexane +	0.0002	0.0008	0.0000	0.0000
Heptanes	0.0000	0.0002	0.0000	0.0000
Methylcyclohexane	0.0001	0.0004	0.0000	0.0000
2,2,4-Trimethylpentane	0.0000	0.0000	0.0000	0.0000
Benzene	0.0011	0.0047	0.0000	0.0001
Toluene	0.0004	0.0016	0.0000	0.0000
Ethylbenzene	0.0000	0.0000	0.0000	0.0000
Xylenes	0.0000	0.0001	0.0000	0.0000
Octanes+	0.0000	0.0001	0.0000	0.0000
VOC Stream Total	0.0041	0.0178	0.0000	0.0002

TOTAL EMISSIONS SUMMARY - CONTROLLED[2]		
Emission Component (All Tanks)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.00**	**0.00**
TOTAL HAPs	**0.00**	**0.00**
Emission Component (Per Tank)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.00**	**0.00**
TOTAL HAPs	**0.00**	**0.00**

[1]Uncontrolled emissions and gas volume are based on Promax Results.

[2]Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)

Flare Reduction = **98%** VRU Collection Efficiency = **0%**

[3]Annual rates (tpy) calculated by multiplying hourly emission rate by 8760.

XTO ENERGY INC.
MAVERICK COMPRESSOR STATION
WATER TANK WORKING & BREATHING - FLARE OPERATIONAL

Water Tank Emissions Controlled by Flare - Two Water Tanks

Water Flow	431	Barrels / Day
	18111	Gallons / Day

Uncontrolled Emission Rate[1] (lb/hr)	Gas Volume[1] (SCF/Day)	Production Rate (bbl/Day)	Calculated GOR (SCF/BBL)
0.000	49.0	431.2	0.11

VOC Emission Components	Uncontrolled W&B Vapors		Controlled W&B Vapors	
	lb/hr	TPY	lb/hr	TPY
Methane	0.0003	0.0014	0.0000	0.0000
Propane	0.0001	0.0005	0.0000	0.0000
Iso-Butane	0.0000	0.0000	0.0000	0.0000
N-Butane	0.0000	0.0001	0.0000	0.0000
Iso-Pentane	0.0000	0.0000	0.0000	0.0000
N-Pentane	0.0000	0.0000	0.0000	0.0000
Cyclopentane	0.0000	0.0000	0.0000	0.0000
n-Hexane	0.0000	0.0000	0.0000	0.0000
Cyclohexane	0.0000	0.0000	0.0000	0.0000
Hexane +	0.0000	0.0000	0.0000	0.0000
Heptanes	0.0000	0.0000	0.0000	0.0000
Methylcyclohexane	0.0000	0.0000	0.0000	0.0000
2,2,4-Trimethylpentane	0.0000	0.0000	0.0000	0.0000
Benzene	0.0002	0.0009	0.0000	0.0000
Toluene	0.0000	0.0001	0.0000	0.0000
Ethylbenzene	0.0000	0.0000	0.0000	0.0000
Xylenes	0.0000	0.0000	0.0000	0.0000
Octanes+	0.0000	0.0000	0.0000	0.0000
VOC Stream Total	0.0004	0.0017	0.0000	0.0000

TOTAL EMISSIONS SUMMARY - CONTROLLED[2]		
Emission Component (All Tanks)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.00**	**0.00**
TOTAL HAPs	**0.00**	**0.00**
Emission Component (Per Tank)	**lb/hr**	**TPY[3]**
NMNEVOC (Includes TOTAL HAPs)	**0.00**	**0.00**
TOTAL HAPs	**0.00**	**0.00**

[1]Uncontrolled emissions and gas volume are based on Promax Results.

[2]Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)

Flare Reduction = **98%** VRU Collection Efficiency = **0%**

[3]Annual rates (tpy) calculated by multiplying hourly emission rate by 8760.

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

WATER VAPORS TO FLARE - COMBUSTION EMISSIONS

Gun Barrel and Water Storage Tank Vapors Controlled by Flare

Total Gas Production	97	SCF/Day (Includes gun barrel and flashing/W&B from tanks)
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Heating Value	105.2	BTU/SCF (Promax - Most conservative of flashing and W&B)

Component	Estimated Quantity Emitted from the Flare (lb/day)	Total Estimated Quantity Emitted (lb/day)	Hourly Emission Rate (lb/hr)	Annualized Emission Rate (TPY)
CO	0.003	0.003	0.00	0.00
NOx	0.001	0.001	0.00	0.00
H_2S	0.000	0.000	0.00	0.00
SO_2	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.001	0.001	0.00	0.00

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

LOW PRESSURE SEPARATOR GAS FLARING (FL1/FL2/FL3) - GHG EMISSIONS SUMMARY

Flare Emissions Summary Table - Normal Operations

1) $E_{a,CH4} = V_a * X_{CH4} * [(1- \eta)* Z_L + Z_U$ = **66,801.96** **SCF/Yr**

Va = **#########**

X_{CH4} = **0.190525714**

N = **0.98**

Z_L = **1.00**

Z_U = **0.00**

2) $E_{a,CO2}$ (uncombusted) = $V_a * X_{CO2}$ = **812,163.90** **SCF/Yr**

Va = **#########**

X_{CO2} = **0.0463**

Source	Annual Volume
LPS - Normal	17530956.12
	17530956.12

3) $E_{a,CO2}$ (combusted) = $\Sigma (\eta * Va * Yj * Rj * Z_L)$

N = **0.98**

			Rj =	$E_{a, CO2}$ =	
V_a =	**#########**				
Y_j=	**Methane**	0.1905	1	3,273,295.97	
	Ethane	0.1499	2	5,151,029.85	
	Propane	0.1943	3	#########	
	Butane	0.1655	4	#########	
	Pentane +	0.1621	5	#########	
Z_L =	**1.00**			#########	**SCF/Yr**

3) $E_{s,n} = \frac{E_{a,n} * (459.67 + T_s) * P_a}{(459.67 + T_a) * P_s}$

$E_{a,n}$(CH4) = 66,801.96 = **60,135.59** **SCF/Yr**

$E_{a,n}$(CO2) = ######### = ######### **SCF/Yr**

Ts = 60° F

Ta = 93.7° F Roswell, AP-42

Ps = 13.28

Pa = 12.73 Roswell, AP-42

4) $Mass_{s,i} = E_{s,i} * \rho_i * 10^3$

$E_{s,i}$ (CH4) = 60,135.59

$E_{s,i}$ (CO2) = #########

p_i (CH4) =	0.0192	kg/ft3	=	1.15	metric tons
p_i (CO2) =	0.0526	kg/ft3	=	2109.46	metric tons

5) $CO_2e = CO_2 + (CH_4 X GWP)$

			short tons	CO_2e
CO2 =	2109.46	=	2325.29	2325.29
CH4 =	1.15	=	1.27	31.82
CH4 GWP =	25			**2357.10**

*** V_a is the sum of gas routed to the flare from the low pressure separator.**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

DEHYDRATOR AND TANK GAS FLARING (FL1/FL2/FL3) - GHG EMISSIONS SUMMARY

Flare Emissions Summary Table - Normal Operations

1) $E_{a,CH4} = V_a * X_{CH4} * [(1- \eta)* Z_L + Z_U$ = **5,239.07** **SCF/Yr**

Va = 5,800,890.90

X_{CH4} = 0.045157483 * Conservatively selected as tank vapors

N = 0.98

Z_L = 1.00

Z_U = 0.00

2) $E_{a,CO2}$ (uncombusted) = $V_a * X_{CO2}$ = **1,613,787.33** **SCF/Yr**

Va = 5,800,890.90

X_{CO2} = 0.2782 * Conservatively selected as dehydrator vapors

Source	Annual Volume
DEHY1	1530033.88
DEHY2	1530033.88
DEHY3	1530033.88
Oil Tanks	1175503.60
Water Tanks	35285.67
	-
	-
	5800890.90

3) $E_{a,CO2}$ (combusted) = Σ (η * Va * Yj * Rj * Z_L)

N = 0.98

V_a = 5,800,890.90		**Rj =**	**$E_{a,CO2}$ =**		
Y_J=	**Methane**	0.0452	1	256,714.56	* Conservatively selected as tank vapors
	Ethane	0.0952	2	1,082,188.69	* Conservatively selected as tank vapors
	Propane	0.1923	3	3,280,304.13	* Conservatively selected as tank vapors
	Butane	0.0558	4	1,268,080.90	* Conservatively selected as tank vapors
	Pentane +	0.3892	5	11,062,813.75	* Conservatively selected as tank vapors
Z_L = 1.00				**16,950,102.02**	**SCF/Yr**

3) $E_{s,n} = \frac{E_{a,n} * (459.67 + T_s) * P_a}{(459.67 + T_a) * P_s}$

$E_{a,n}$(CH4) = 5,239.07 = **4,716.25** **SCF/Yr**

$E_{a,n}$(CO2) = 18,563,889.35 = **16,711,342.30** **SCF/Yr**

Ts = 60° F

Ta = 93.7° F Roswell, AP-42

Ps = 13.28

Pa = 12.73 Roswell, AP-42

4) $Mass_{s,i} = E_{s,i} * \rho_i * 10^3$

$E_{s,i}$ (CH4) = 4,716.25

$E_{s,i}$ (CO2) = 16,711,342.30

p_i (CH4) = 0.0192 kg/ft3 = 0.09 metric tons

p_i (CO2) = 0.0526 kg/ft3 = 879.02 metric tons

5) $CO_2e = CO_2 + (CH_4 X GWP)$

			short tons	CO_2e
CO2 =	879.02	=	968.95	968.95
CH4 =	0.09	=	0.10	2.50
CH4 GWP =	25			**971.45**

*** V_a is the sum of vapors from the dehydrators and tanks being routed to the flare.**

XTO ENERGY INC.
MAVERICK COMPRESSOR STATION
OIL TRUCK LOADING LOSSES - UNCONTROLLED

Truck Loading Losses Calculations

Condensate Production	**535**	**bbls / Day**
Operating Schedule	**365**	**Day / Year**
Total Production	**195179**	**bbls / Year**

Promax Report Results

Control Efficiency (0) and Collection Efficiency (0)

Estimated Throughput (bbls/Year) =	195179
Estimated Throughput (Gallons/Year) =	8197514
Truck Loading Rate (bbls/hour) =	210

	lb/hr	TPY
Total VOC Emissions	44.26	20.57

[1]**Data obtained from Promax**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

WATER TRUCK LOADING LOSSES - UNCONTROLLED

Truck Loading Losses Calculations

Water Production	**431**	**bbls / Day**
Operating Schedule	**365**	**Day / Year**
Total Production	**157393**	**bbls / Year**

Promax Report Results

Control Efficiency (0) and Collection Efficiency (0)

Estimated Throughput (bbls/Year) =	157393
Estimated Throughput (Gallons/Year) =	6610504
Truck Loading Rate (bbls/hour) =	210

Total VOC Emissions	lb/hr	TPY
	0.005	0.002

[1]**Data obtained from Promax**

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

ROAD EMISSIONS

Total Suspended Particle Emissions $E = k(s/12)^a(W/3)^b$	
a	0.7
b	0.45
k	4.9
Silt %	4.8
Vehicle Weight (tons)	28
E-Hourly (lbs/VMT)	7.05
Rain Days	70
E-Annual (lbs/VMT)	5.70
Truckloads per year	1679
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	318
Control Efficiency - 15 MPH Limit	0.44
Emissions (lbs/hr)	0.60
Emissions (tpy)	0.51

PM_{10} Emissions $E = k(s/12)^a(W/3)^b$	
a	0.9
b	0.45
k	1.5
Silt %	4.8
Vehicle Weight (tons)	28
E-Hourly (lbs/VMT)	1.80
Rain Days	70
E-Annual (lbs/VMT)	1.45
Truckloads per year	1679
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	318
Control Efficiency - 15 MPH Limit	0.44
Emissions (lbs/hr)	0.15
Emissions (tpy)	0.13

$PM_{2.5}$ Emissions $E = k(s/12)^a(W/3)^b$	
a	0.9
b	0.45
k	0.15
Silt %	4.8
Vehicle Weight (tons)	28
E-Hourly (lbs/VMT)	0.18
Rain Days	70
E-Annual (lbs/VMT)	0.15
Truckloads per year	1679
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	318
Control Efficiency - 15 MPH Limit	0.44
Emissions (lbs/hr)	0.02
Emissions (tpy)	0.01

Emissions (lbs/hr) = Driving Distance (ft)/ 5280 * E (lbs/VMT)
Emissions (tpy) = Annual Distance * E / 2000

References:
EPA. "Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources," Section 13.2.2
AP-42, Ofice of Air Quality Planning and Standards, Research Triangle Park, NC. 5th edition (11/2006).

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

FUGITIVE EMISSIONS - VOCs

Component Type	Service	Estimated Components Count	Hours	Factors	Total VOC Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor	193	8760	0.00992070	24.59%	0.47	4123.58	2.06
	Light Oil	132	8760	0.00550000	99.39%	0.72	6320.77	3.16
	Heavy Oil	0	8760	0.00001900	99.39%	0.00	0.00	0.00
	Water/Light Oil	104	8760	0.00021600	99.39%	0.02	195.58	0.10
Pump Seals	Gas/Vapor	0	8760	0.00529000	24.59%	0.00	0.00	0.00
	Light Oil	10	8760	0.02866000	99.39%	0.28	2495.23	1.25
	Heavy Oil	0	8760	0.00113000	99.39%	0.00	0.00	0.00
	Water/Light Oil	10	8760	0.00005300	99.39%	0.00	4.61	0.00
Connectors	Gas/Vapor	386	8760	0.00044000	24.59%	0.04	365.78	0.18
	Light Oil	264	8760	0.00046300	99.39%	0.12	1064.19	0.53
	Heavy Oil	0	8760	0.00001700	99.39%	0.00	0.00	0.00
	Water/Light Oil	208	8760	0.00024300	99.39%	0.05	440.05	0.22
Flanges	Gas/Vapor	193	8760	0.00086000	24.59%	0.04	357.46	0.18
	Light Oil	132	8760	0.00024300	99.39%	0.03	279.26	0.14
	Heavy Oil	0	8760	0.00000086	99.39%	0.00	0.00	0.00
	Water/Light Oil	104	8760	0.00000620	99.39%	0.00	5.61	0.00
Open-ended Lines	Gas/Vapor	20	8760	0.00441000	24.59%	0.02	189.95	0.09
	Light Oil		8760	0.00309000	99.39%	0.00	0.00	0.00
	Heavy Oil		8760	0.00030900	99.39%	0.00	0.00	0.00
	Water/Light Oil		8760	0.00055000	99.39%	0.00	0.00	0.00
Other:	Gas/Vapor	10	8760	0.01940000	24.59%	0.05	417.81	0.21
	Light Oil	0	8760	0.01650000	99.39%	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	99.39%	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.03090000	99.39%	0.15	1345.12	0.67

Emission Component	lb/hr	lb/year	TPY
Total VOC	2.01	17605.01	8.80

XTO ENERGY INC.

MAVERICK COMPRESSOR STATION

FUGITIVE EMISSIONS - HAPs

Component Type	Service	Estimated Components Count	Hours	Factors	Total HAPs Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor	193	8760	0.00992000	1.08%	0.021	180.965	0.090
	Light Oil	132	8760	0.00550000	4.93%	0.036	313.218	0.157
	Heavy Oil	0	8760	0.00001900	4.93%	0.000	0.000	0.000
	Water/Light Oil	104	8760	0.00021600	4.93%	0.001	9.692	0.005
Pump Seals	Gas/Vapor	0	8760	0.00529000	1.08%	0.000	0.000	0.000
	Light Oil	10	8760	0.02866000	4.93%	0.014	123.648	0.062
	Heavy Oil	0	8760	0.00113000	4.93%	0.000	0.000	0.000
	Water/Light Oil	10	8760	0.00005300	4.93%	0.000	0.229	0.000
Connectors	Gas/Vapor	386	8760	0.00044000	1.08%	0.002	16.053	0.008
	Light Oil	264	8760	0.00046300	4.93%	0.006	52.735	0.026
	Heavy Oil	0	8760	0.00001700	4.93%	0.000	0.000	0.000
	Water/Light Oil	208	8760	0.00024300	4.93%	0.002	21.806	0.011
Flanges	Gas/Vapor	193	8760	0.00086000	1.08%	0.002	15.688	0.008
	Light Oil	132	8760	0.00024300	4.93%	0.002	13.839	0.007
	Heavy Oil	0	8760	0.00000086	4.93%	0.000	0.000	0.000
	Water/Light Oil	104	8760	0.00000620	4.93%	0.000	0.278	0.000
Open-ended Lines	Gas/Vapor	20	8760	0.00441000	1.08%	0.001	8.337	0.004
	Light Oil	0	8760	0.00309000	4.93%	0.000	0.000	0.000
	Heavy Oil	0	8760	0.00030900	4.93%	0.000	0.000	0.000
	Water/Light Oil	0	8760	0.00055000	4.93%	0.000	0.000	0.000
Other:	Gas/Vapor	10	8760	0.01940000	1.08%	0.002	18.337	0.009
	Light Oil	0	8760	0.01650000	4.93%	0.000	0.000	0.000
	Heavy Oil	0	8760	0.00006800	4.93%	0.000	0.000	0.000
	Water/Light Oil	5	8760	0.03090000	4.93%	0.008	66.656	0.033

Emission Component	lb/hr	lb/year	TPY
Total HAPs	0.10	841.48	0.42

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.

Emissions from all sources remain unchanged from the previous permit. Please refer to application for NSR Permit 7565-M1 for information used to determine emissions. The following pages include all supporting documentation for current calculations.

G3616

CATERPILLAR®

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
Exterran
XTO-Delaware Basin

GAS COMPRESSION APPLICATION

ENGINE SPEED (rpm):	1000	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	7.6	RATING LEVEL:	CONTINUOUS
AFTERCOOLER TYPE:	SCAC	FUEL SYSTEM:	GAV
AFTERCOOLER - STAGE 2 INLET (°F):	130		WITH AIR FUEL RATIO CONTROL
AFTERCOOLER - STAGE 1 INLET (°F):	174	**SITE CONDITIONS:**	
JACKET WATER OUTLET (°F):	190	FUEL:	Gas Analysis
ASPIRATION:	TA	FUEL PRESSURE RANGE(psig): (See note 1)	58.0-70.3
COOLING SYSTEM:	JW+1AC, OC+2AC	FUEL METHANE NUMBER:	48.8
CONTROL SYSTEM:	ADEM4	FUEL LHV (Btu/scf):	1183
EXHAUST MANIFOLD:	DRY	ALTITUDE(ft):	3500
COMBUSTION:	LOW EMISSION	MAXIMUM INLET AIR TEMPERATURE(°F):	110
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.3	STANDARD RATED POWER:	5000 bhp@1000rpm
SET POINT TIMING:	16		

			MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING	**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER (WITHOUT FAN)	(2)	bhp	5000	4967	3725	2500
INLET AIR TEMPERATURE		°F	108	110	110	110
ENGINE DATA						
FUEL CONSUMPTION (LHV)	(3)	Btu/bhp-hr	6791	6795	6968	7424
FUEL CONSUMPTION (HHV)	(3)	Btu/bhp-hr	7470	7474	7664	8166
AIR FLOW (@inlet air temp, 14.7 psia) (WET)	(4)(5)	ft3/min	13218	13180	9951	6817
AIR FLOW (WET)	(4)(5)	lb/hr	55413	55057	41567	28476
FUEL FLOW (60ºF, 14.7 psia)		scfm	478	476	366	261
INLET MANIFOLD PRESSURE	(6)	in Hg(abs)	108.3	107.6	80.4	56.5
EXHAUST TEMPERATURE - ENGINE OUTLET	(7)	°F	809	810	856	920
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia) (WET)	(8)(5)	ft3/min	31376	31205	24431	17587
EXHAUST GAS MASS FLOW (WET)	(8)(5)	lb/hr	57157	56790	42900	29429
EMISSIONS DATA - ENGINE OUT						
NOx (as NO2)	(9)(10)	g/bhp-hr	0.30	0.30	0.30	0.30
CO	(9)(10)	g/bhp-hr	3.05	3.05	3.05	3.06
THC (mol. wt. of 15.84)	(9)(10)	g/bhp-hr	3.61	3.61	3.95	4.19
NMHC (mol. wt. of 15.84)	(9)(10)	g/bhp-hr	1.80	1.80	1.97	2.09
NMNEHC (VOCs) (mol. wt. of 15.84)	(9)(10)(11)	g/bhp-hr	1.12	1.12	1.23	1.30
HCHO (Formaldehyde)	(9)(10)	g/bhp-hr	0.15	0.15	0.16	0.20
CO2	(9)(10)	g/bhp-hr	459	459	477	504
EXHAUST OXYGEN	(9)(12)	% DRY	11.1	11.1	10.8	10.5
HEAT REJECTION						
HEAT REJ. TO JACKET WATER (JW)	(13)	Btu/min	53372	53205	43367	36644
HEAT REJ. TO ATMOSPHERE	(13)	Btu/min	18429	18376	17268	15707
HEAT REJ. TO LUBE OIL (OC)	(13)	Btu/min	30530	30483	27359	24105
HEAT REJ. TO A/C - STAGE 1 (1AC)	(13)(14)	Btu/min	66160	66160	34264	10460
HEAT REJ. TO A/C - STAGE 2 (2AC)	(13)(14)	Btu/min	12533	12533	8545	5167

COOLING SYSTEM SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+1AC)	(14)(15)	Btu/min	128177
TOTAL STAGE 2 AFTERCOOLER CIRCUIT (OC+2AC)	(14)(15)	Btu/min	49796
A cooling system safety factor of 0% has been added to the cooling system sizing criteria.			

CONDITIONS AND DEFINITIONS

Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

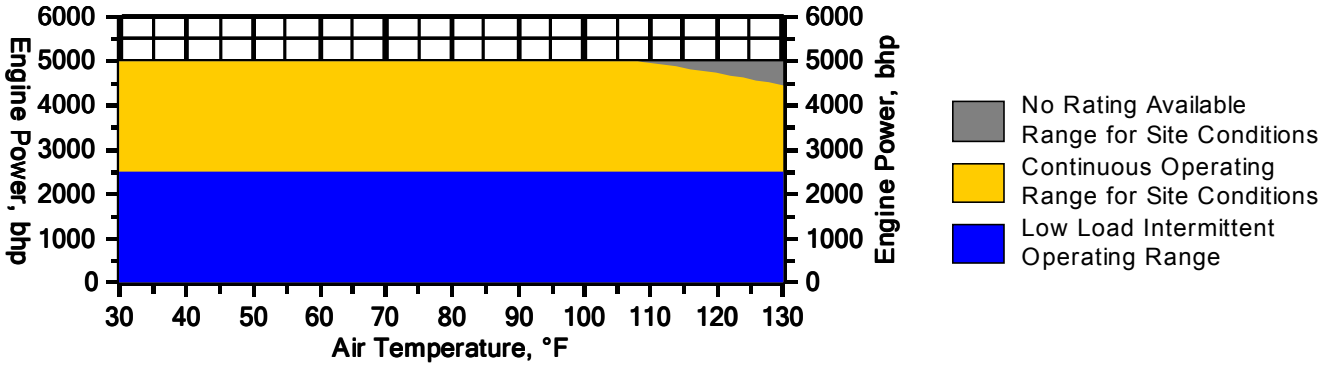
For notes information consult page three.

Available Compressor Capacity is proportional to any reduced HP below 5000 BHP

PREPARED BY: Doug Kern, Exterran
Data generated by Gas Engine Rating Pro Version 6.05.00
Ref. Data Set EM1426-04-001, Printed 31Jul2017

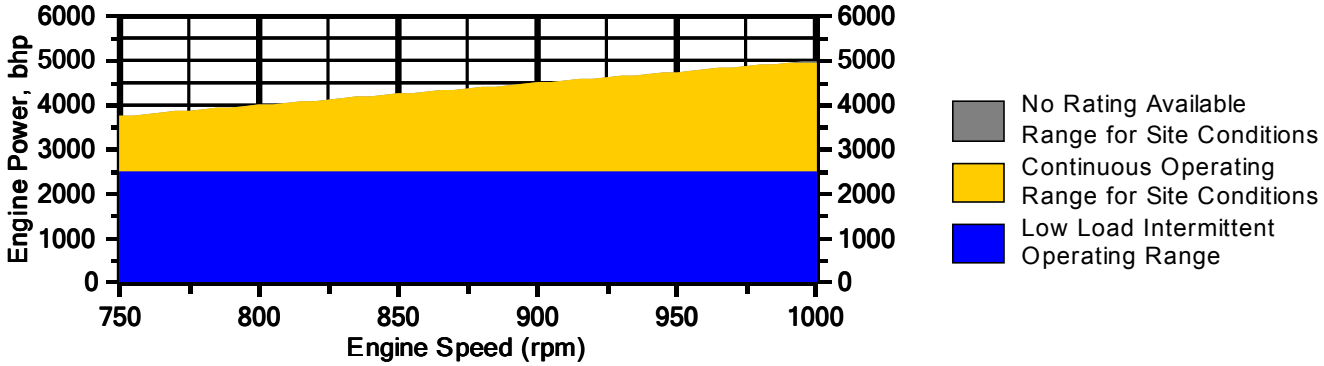
Engine Power vs. Inlet Air Temperature

Data represents temperature sweep at 3500 ft and 1000 rpm



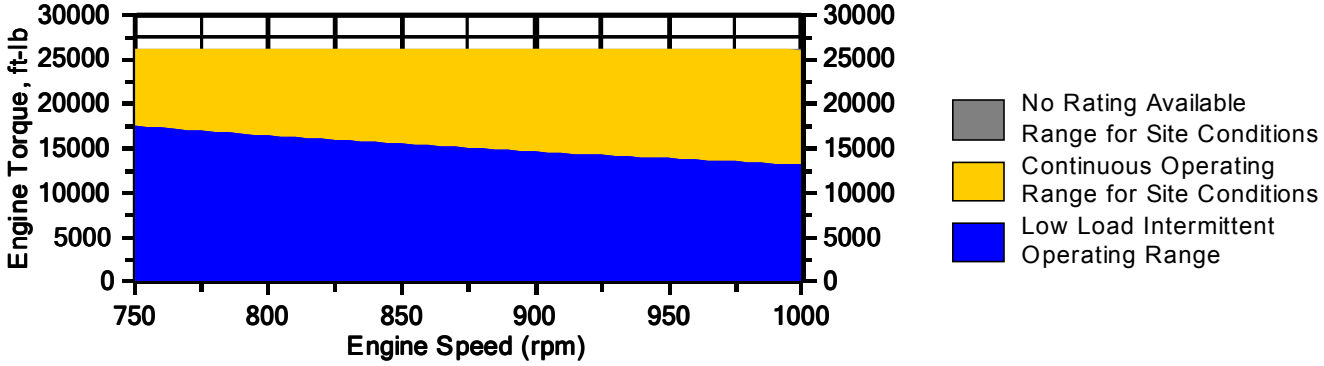
Engine Power vs. Engine Speed

Data represents speed sweep at 3500 ft and 110 ºF



Engine Torque vs. Engine Speed

Data represents speed sweep at 3500 ft and 110 ºF



Note: At site conditions of 3500 ft and 110°F inlet air temp., constant torque can be maintained down to 750 rpm. The minimum speed for loading at these conditions is 750 rpm.

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
Exterran
XTO-Delaware Basin

NOTES

1. Fuel pressure range specified is to the engine gas shutoff valve (GSOV). Additional fuel train components should be considered in pressure and flow calculations.

2. Engine rating is with two engine driven water pumps. Tolerance is ± 3% of full load.

3. Fuel consumption tolerance is ± 2.5% of full load data.

4. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of ± 5 %.

5. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.

6. Inlet manifold pressure is a nominal value with a tolerance of ± 5 %.

7. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.

8. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of ± 6 %.

9. Emissions data is at engine exhaust flange prior to any after treatment.

10. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate the maximum values expected under steady state conditions. Fuel methane number cannot vary more than ± 3. THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.

11. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ

12. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is ± 0.5.

13. Heat rejection values are nominal. Tolerances, based on treated water, are ± 10% for jacket water circuit, ± 50% for radiation, ± 20% for lube oil circuit, and ± 5% for aftercooler circuit.

14. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.

15. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.2500	0.2502
Methane	CH4	69.9600	70.0160
Ethane	C2H6	13.1200	13.1305
Propane	C3H8	7.6900	7.6962
Isobutane	iso-C4H1O	0.8600	0.8607
Norbutane	nor-C4H1O	2.2500	2.2518
Isopentane	iso-C5H12	0.4400	0.4404
Norpentane	nor-C5H12	0.4700	0.4704
Hexane	C6H14	0.3500	0.3503
Heptane	C7H16	0.1100	0.1101
Nitrogen	N2	2.2900	2.2918
Carbon Dioxide	CO2	2.1000	2.1017
Hydrogen Sulfide	H2S	0.0000	0.0000
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0300	0.0300
Nonane	C9H20	0.0000	0.0000
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		99.9200	100.0001

Fuel Makeup:	Gas Analysis
Unit of Measure:	English

Calculated Fuel Properties

Caterpillar Methane Number:	48.8
Lower Heating Value (Btu/scf):	1183
Higher Heating Value (Btu/scf):	1301
WOBBE Index (Btu/scf):	1325
THC: Free Inert Ratio:	21.7
Total % Inerts (% N2, CO2, He):	4.39%
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.996
Stoich A/F Ratio (Vol/Vol):	12.24
Stoich A/F Ratio (Mass/Mass):	15.35
Specific Gravity (Relative to Air):	0.798
Fuel Specific Heat Ratio (K):	1.275

CONDITIONS AND DEFINITIONS

Caterpillar Methane Number represents the knock resistance of a gaseous fuel. It should be used with the Caterpillar Fuel Usage Guide for the engine and rating to determine the rating for the fuel specified. A Fuel Usage Guide for each rating is included on page 2 of its standard technical data sheet.

RPC always applies to naturally aspirated (NA) engines, and turbocharged (TA or LE) engines only when they are derated for altitude and ambient site conditions.

Project specific technical data sheets generated by the Caterpillar Gas Engine Rating Pro program take the Caterpillar Methane Number and RPC into account when generating a site rating.

Fuel properties for Btu/scf calculations are at 60F and 14.696 psia.

Caterpillar shall have no liability in law or equity, for damages, consequently or otherwise, arising from use of program and related material or any part thereof.

FUEL LIQUIDS

Field gases, well head gases, and associated gases typically contain liquid water and heavy hydrocarbons entrained in the gas. To prevent detonation and severe damage to the engine, hydrocarbon liquids must not be allowed to enter the engine fuel system. To remove liquids, a liquid separator and coalescing filter are recommended, with an automatic drain and collection tank to prevent contamination of the ground in accordance with local codes and standards.

To avoid water condensation in the engine or fuel lines, limit the relative humidity of water in the fuel to 80% at the minimum fuel operating temperature.

G3606

NON-CURRENT

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA

NASH COMPRESSOR STATION

ENGINE SPEED (rpm):	1000	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	9.2	RATING LEVEL:	CONTINUOUS
AFTERCOOLER TYPE:	SCAC	FUEL SYSTEM:	GAV
AFTERCOOLER WATER INLET (°F):	130		WITH AIR FUEL RATIO CONTROL
JACKET WATER OUTLET (°F):	190	**SITE CONDITIONS:**	
ASPIRATION:	TA	FUEL:	Nash CS Fuel Gas
COOLING SYSTEM:	JW, OC+AC	FUEL PRESSURE RANGE(psig):	42.8-47.0
CONTROL SYSTEM:	CIS/ADEM3	FUEL METHANE NUMBER:	73.0
EXHAUST MANIFOLD:	DRY	FUEL LHV (Btu/scf):	944
COMBUSTION:	LOW EMISSION	ALTITUDE(ft):	500
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.5	MAXIMUM INLET AIR TEMPERATURE(°F):	90
		STANDARD RATED POWER:	1775 bhp@1000rpm

				MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING		**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(WITHOUT FAN)	(1)	bhp	1775	1775	1331	888
INLET AIR TEMPERATURE			°F	90	90	90	90
ENGINE DATA							
FUEL CONSUMPTION (LHV)		(2)	Btu/bhp-hr	6870	6870	7112	7630
FUEL CONSUMPTION (HHV)		(2)	Btu/bhp-hr	7608	7608	7877	8451
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(3)(4)	ft3/min	4830	4830	3735	2516
AIR FLOW	(WET)	(3)(4)	lb/hr	20910	20910	16170	10893
FUEL FLOW (60ºF, 14.7 psia)			scfm	215	215	167	120
INLET MANIFOLD PRESSURE		(5)	in Hg(abs)	74.2	74.2	57.9	41.2
EXHAUST TEMPERATURE - ENGINE OUTLET		(6)	°F	848	848	871	938
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(7)(4)	ft3/min	12226	12226	9623	6829
EXHAUST GAS MASS FLOW	(WET)	(7)(4)	lb/hr	21549	21549	16667	11248
EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(8)(9)	g/bhp-hr	0.50	0.50	0.50	0.50
CO		(8)(9)	g/bhp-hr	2.76	2.76	2.76	2.76
THC (mol. wt. of 15.84)		(8)(9)	g/bhp-hr	6.33	6.33	6.54	6.80
NMHC (mol. wt. of 15.84)		(8)(9)	g/bhp-hr	1.25	1.25	1.29	1.35
NMNEHC (VOCs) (mol. wt. of 15.84)		(8)(9)(10)	g/bhp-hr	0.63	0.63	0.65	0.68
HCHO (Formaldehyde)		(8)(9)	g/bhp-hr	0.26	0.26	0.28	0.31
CO2		(8)(9)	g/bhp-hr	459	459	475	509
EXHAUST OXYGEN		(8)(11)	% DRY	12.8	12.8	12.1	11.0
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(12)	Btu/min	18768	18768	15596	13006
HEAT REJ. TO ATMOSPHERE		(12)	Btu/min	7113	7113	6628	6208
HEAT REJ. TO LUBE OIL (OC)		(12)	Btu/min	9145	9145	8679	8465
HEAT REJ. TO AFTERCOOLER (AC)		(12)(13)	Btu/min	15550	15550	8465	1643
COOLING SYSTEM SIZING CRITERIA							
TOTAL JACKET WATER CIRCUIT (JW)		(13)	Btu/min	20645			
TOTAL AFTERCOOLER CIRCUIT (OC+AC)		(13)(14)	Btu/min	27302			
A cooling system safety factor of 0% has been added to the cooling system sizing criteria.							

CONDITIONS AND DEFINITIONS

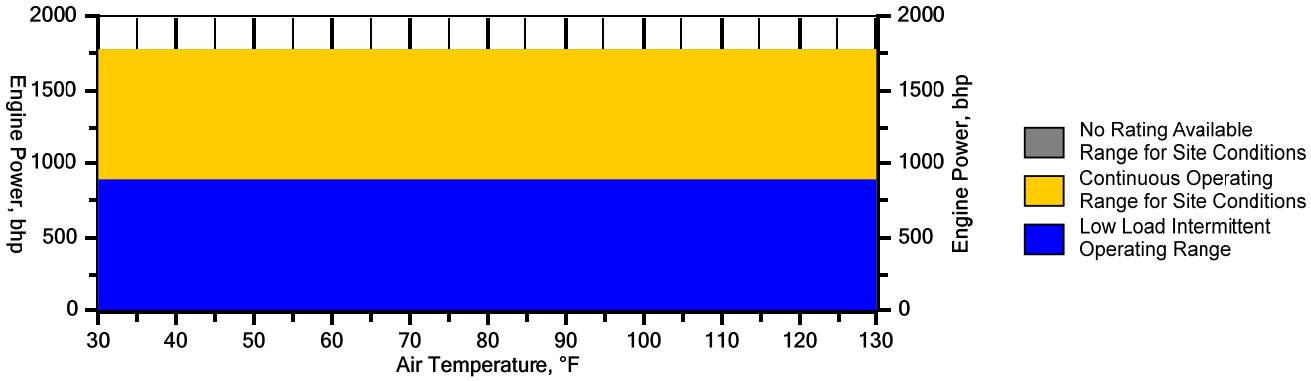
Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

PREPARED BY: John McMichael, XTO ENERGY INC
Data generated by Gas Engine Rating Pro Version 6.06.01
Ref. Data Set DM8605-07-001, 4ZS, Printed 14Feb2018

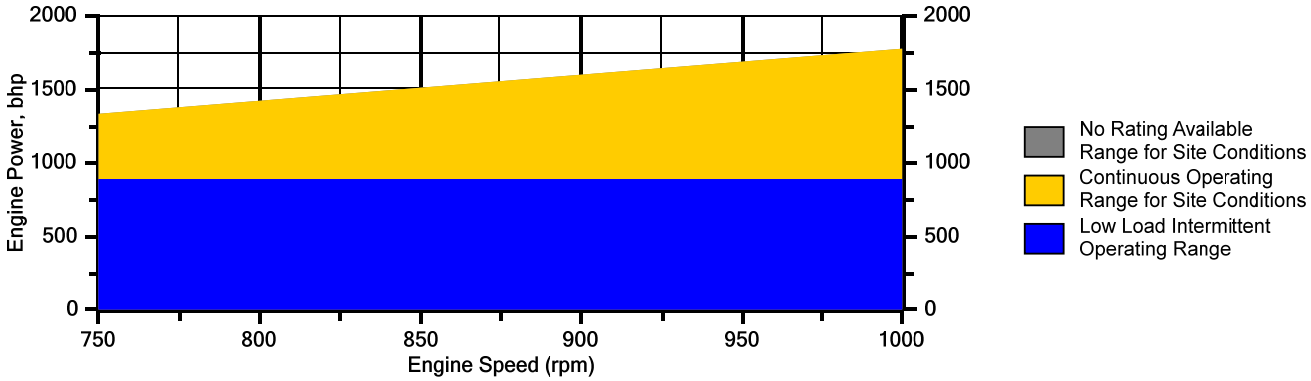
Engine Power vs. Inlet Air Temperature

Data represents temperature sweep at 500 ft and 1000 rpm



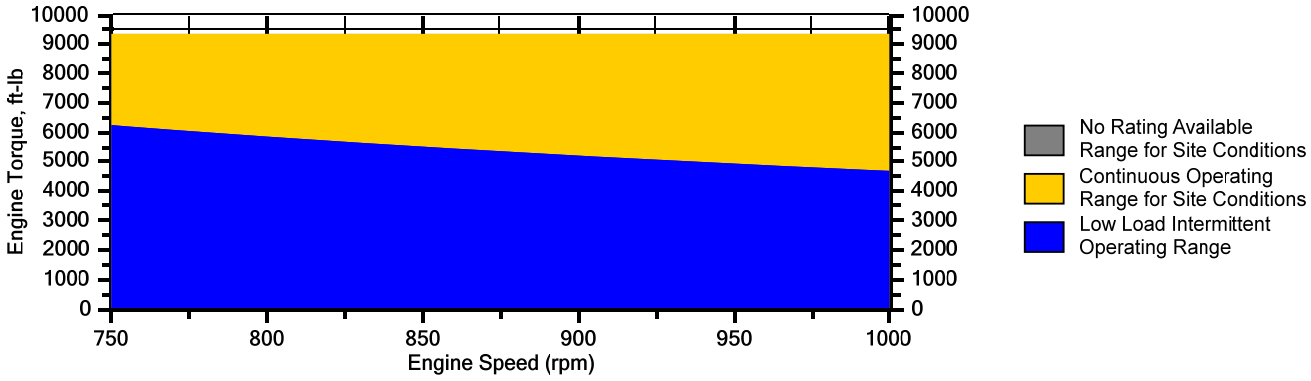
Engine Power vs. Engine Speed

Data represents speed sweep at 500 ft and 90 ºF



Engine Torque vs. Engine Speed

Data represents speed sweep at 500 ft and 90 ºF



Note: At site conditions of 500 ft and 90°F inlet air temp., constant torque can be maintained down to 750 rpm. The minimum speed for loading at these conditions is 750 rpm.

NOTES

1. Engine rating is with two engine driven water pumps. Tolerance is ± 3% of full load.

2. Fuel consumption tolerance is ± 2.5% of full load data.

3. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of ± 5 %.

4. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.

5. Inlet manifold pressure is a nominal value with a tolerance of ± 5 %.

6. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.

7. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of ± 6 %.

8. Emissions data is at engine exhaust flange prior to any after treatment.

9. Emission values are based on engine operating at steady state conditions. Fuel methane number cannot vary more than ± 3. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate "Not to Exceed" values. THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.

10. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ

11. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is ± 0.5.

12. Heat rejection values are nominal. Tolerances, based on treated water, are ± 10% for jacket water circuit, ± 50% for radiation, ± 20% for lube oil circuit, and ± 5% for aftercooler circuit.

13. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.

14. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0220	0.0220
Methane	CH4	85.3560	85.3560
Ethane	C2H6	5.9630	5.9630
Propane	C3H8	2.1540	2.1540
Isobutane	iso-C4H1O	0.1270	0.1270
Norbutane	nor-C4H1O	0.3060	0.3060
Isopentane	iso-C5H12	0.0610	0.0610
Norpentane	nor-C5H12	0.0610	0.0610
Hexane	C6H14	0.0370	0.0370
Heptane	C7H16	0.0120	0.0120
Nitrogen	N2	3.6720	3.6720
Carbon Dioxide	CO2	2.2280	2.2280
Hydrogen Sulfide	H2S	0.0000	0.0000
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0010	0.0010
Nonane	C9H20	0.0000	0.0000
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		100.0000	100.0000

Fuel Makeup:	Nash CS Fuel Gas
Unit of Measure:	English

Calculated Fuel Properties

Caterpillar Methane Number:	73.0
Lower Heating Value (Btu/scf):	944
Higher Heating Value (Btu/scf):	1046
WOBBE Index (Btu/scf):	1171
THC: Free Inert Ratio:	15.95
Total % Inerts (% N2, CO2, He):	5.9%
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.998
Stoich A/F Ratio (Vol/Vol):	9.84
Stoich A/F Ratio (Mass/Mass):	15.14
Specific Gravity (Relative to Air):	0.650
Fuel Specific Heat Ratio (K):	1.304

CONDITIONS AND DEFINITIONS

Caterpillar Methane Number represents the knock resistance of a gaseous fuel. It should be used with the Caterpillar Fuel Usage Guide for the engine and rating to determine the rating for the fuel specified. A Fuel Usage Guide for each rating is included on page 2 of its standard technical data sheet.

RPC always applies to naturally aspirated (NA) engines, and turbocharged (TA or LE) engines only when they are derated for altitude and ambient site conditions.

Project specific technical data sheets generated by the Caterpillar Gas Engine Rating Pro program take the Caterpillar Methane Number and RPC into account when generating a site rating.

Fuel properties for Btu/scf calculations are at 60F and 14.696 psia.

Caterpillar shall have no liability in law or equity, for damages, consequently or otherwise, arising from use of program and related material or any part thereof.

FUEL LIQUIDS

Field gases, well head gases, and associated gases typically contain liquid water and heavy hydrocarbons entrained in the gas. To prevent detonation and severe damage to the engine, hydrocarbon liquids must not be allowed to enter the engine fuel system. To remove liquids, a liquid separator and coalescing filter are recommended, with an automatic drain and collection tank to prevent contamination of the ground in accordance with local codes and standards.

To avoid water condensation in the engine or fuel lines, limit the relative humidity of water in the fuel to 80% at the minimum fuel operating temperature.

G3516B

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
XTO Los Dos Medanos

ENGINE SPEED (rpm):	1400	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	8	RATING LEVEL:	CONTINUOUS
AFTERCOOLER TYPE:	SCAC	FUEL SYSTEM:	CAT WIDE RANGE WITH AIR FUEL RATIO CONTROL
AFTERCOOLER - STAGE 2 INLET (°F):	130		
AFTERCOOLER - STAGE 1 INLET (°F):	201	**SITE CONDITIONS:**	
JACKET WATER OUTLET (°F):	210	FUEL:	Gas Analysis
ASPIRATION:	TA	FUEL PRESSURE RANGE(psig): (See note 1)	7.0-40.0
COOLING SYSTEM:	JW+OC+1AC, 2AC	FUEL METHANE NUMBER:	56.9
CONTROL SYSTEM:	ADEM3	FUEL LHV (Btu/scf):	1153
EXHAUST MANIFOLD:	DRY	ALTITUDE(ft):	500
COMBUSTION:	LOW EMISSION	MAXIMUM INLET AIR TEMPERATURE(°F):	80
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.5	STANDARD RATED POWER:	1380 bhp@1400rpm
SET POINT TIMING:	28		

				MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING		**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(WITHOUT FAN)	(2)	bhp	1380	1380	1035	690
INLET AIR TEMPERATURE			°F	80	80	80	80
ENGINE DATA							
FUEL CONSUMPTION (LHV)		(3)	Btu/bhp-hr	7425	7425	7952	8541
FUEL CONSUMPTION (HHV)		(3)	Btu/bhp-hr	8181	8181	8762	9411
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(4)(5)	ft3/min	3167	3167	2484	1737
AIR FLOW	(WET)	(4)(5)	lb/hr	13963	13963	10953	7657
FUEL FLOW (60ºF, 14.7 psia)			scfm	148	148	119	85
INLET MANIFOLD PRESSURE		(6)	in Hg(abs)	93.3	93.3	75.7	53.2
EXHAUST TEMPERATURE - ENGINE OUTLET		(7)	°F	997	997	983	992
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(8)(5)	ft3/min	9165	9165	7127	5021
EXHAUST GAS MASS FLOW	(WET)	(8)(5)	lb/hr	14470	14470	11360	7949
EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(9)(10)	g/bhp-hr	0.50	0.50	0.50	0.50
CO		(9)(10)	g/bhp-hr	2.93	2.93	3.14	3.08
THC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	4.53	4.53	4.85	4.92
NMHC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	2.07	2.07	2.22	2.25
NMNEHC (VOCs) (mol. wt. of 15.84)		(9)(10)(11)	g/bhp-hr	1.16	1.16	1.24	1.26
HCHO (Formaldehyde)		(9)(10)	g/bhp-hr	0.40	0.40	0.39	0.39
CO2		(9)(10)	g/bhp-hr	504	504	539	585
EXHAUST OXYGEN		(9)(12)	% DRY	9.1	9.1	8.8	8.4
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(13)	Btu/min	22888	22888	21630	20370
HEAT REJ. TO ATMOSPHERE		(13)	Btu/min	6110	6110	5092	4074
HEAT REJ. TO LUBE OIL (OC)		(13)	Btu/min	4475	4475	3978	3363
HEAT REJ. TO A/C - STAGE 1 (1AC)		(13)(14)	Btu/min	9991	9991	8219	2701
HEAT REJ. TO A/C - STAGE 2 (2AC)		(13)(14)	Btu/min	5380	5380	5074	3337

COOLING SYSTEM SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+OC+1AC)	(14)(15)	Btu/min	41037
TOTAL AFTERCOOLER CIRCUIT (2AC)	(14)(15)	Btu/min	5649
A cooling system safety factor of 0% has been added to the cooling system sizing criteria.			

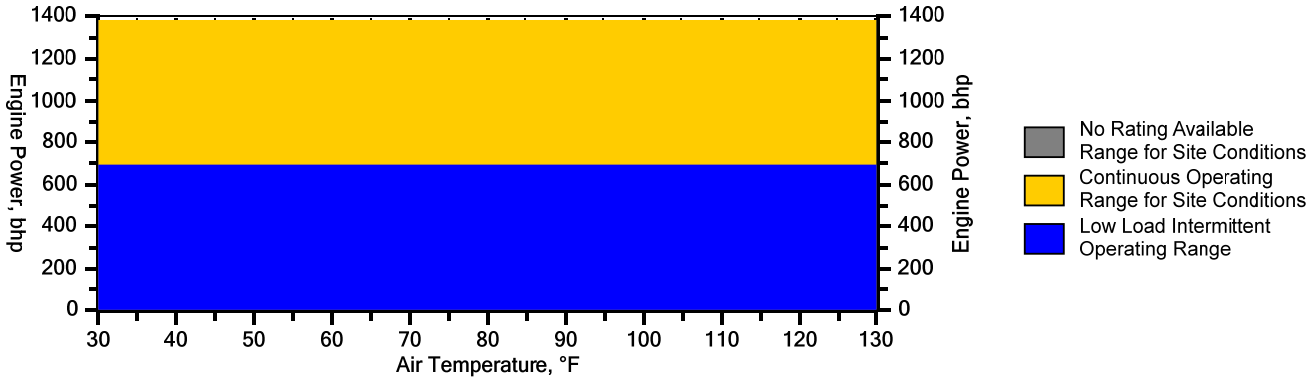
CONDITIONS AND DEFINITIONS

Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

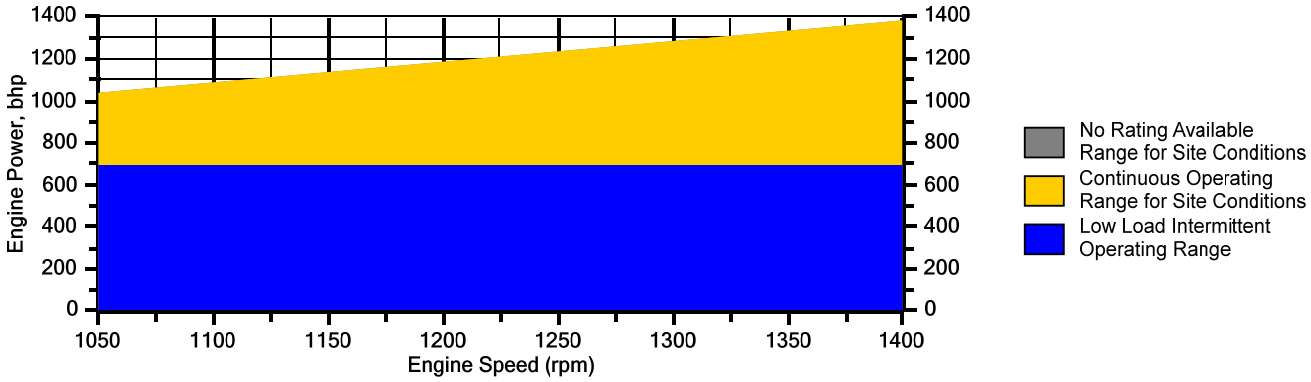
Engine Power vs. Inlet Air Temperature

Data represents temperature sweep at 500 ft and 1400 rpm



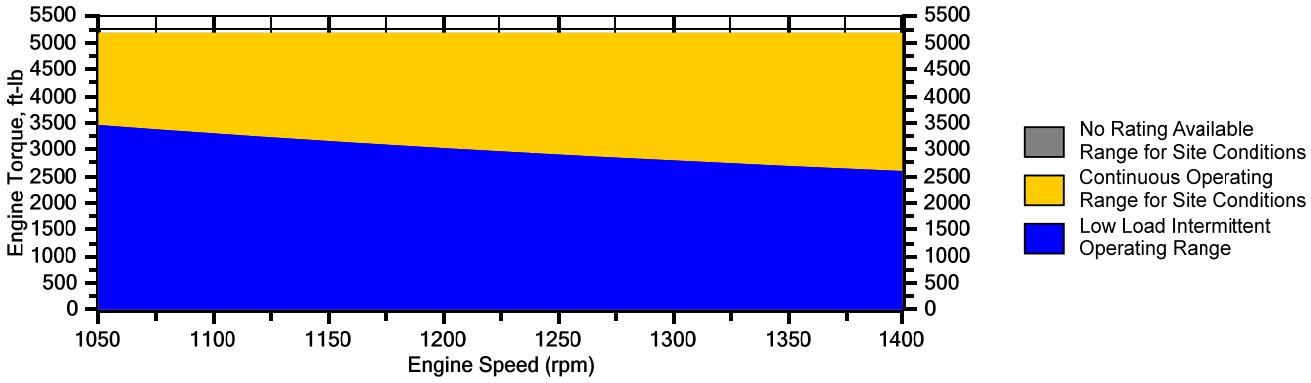
Engine Power vs. Engine Speed

Data represents speed sweep at 500 ft and 80 ºF



Engine Torque vs. Engine Speed

Data represents speed sweep at 500 ft and 80 ºF



Note: At site conditions of 500 ft and 80°F inlet air temp., constant torque can be maintained down to 1050 rpm. The minimum speed for loading at these conditions is 1050 rpm.

NOTES

1. Fuel pressure range specified is to the engine fuel pressure regulator. Additional fuel train components should be considered in pressure and flow calculations.

2. Engine rating is with two engine driven water pumps. Tolerance is ± 3% of full load.

3. Fuel consumption tolerance is ± 3.0% of full load data.

4. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of ± 5 %.

5. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.

6. Inlet manifold pressure is a nominal value with a tolerance of ± 5 %.

7. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.

8. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of ± 6 %.

9. Emissions data is at engine exhaust flange prior to any after treatment.

10. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate the maximum values expected under steady state conditions. Fuel methane number cannot vary more than ± 3. THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.

11. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ

12. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is ± 0.5.

13. Heat rejection values are nominal. Tolerances, based on treated water, are ± 10% for jacket water circuit, ± 50% for radiation, ± 20% for lube oil circuit, and ± 5% for aftercooler circuit.

14. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.

15. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0149	0.0149
Methane	CH4	73.1772	73.1772
Ethane	C2H6	13.5988	13.5988
Propane	C3H8	7.2097	7.2097
Isobutane	iso-C4H1O	0.7654	0.7654
Norbutane	nor-C4H1O	1.7079	1.7079
Isopentane	iso-C5H12	0.2523	0.2523
Norpentane	nor-C5H12	0.2381	0.2381
Hexane	C6H14	0.0716	0.0716
Heptane	C7H16	0.0208	0.0208
Nitrogen	N2	2.8337	2.8337
Carbon Dioxide	CO2	0.1082	0.1082
Hydrogen Sulfide	H2S	0.0000	0.0000
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0013	0.0013
Nonane	C9H20	0.0001	0.0001
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		100.0000	100.0000

Fuel Makeup:	Gas Analysis
Unit of Measure:	English

Calculated Fuel Properties

Caterpillar Methane Number:	56.9
Lower Heating Value (Btu/scf):	1153
Higher Heating Value (Btu/scf):	1271
WOBBE Index (Btu/scf):	1332
THC: Free Inert Ratio:	32.99
Total % Inerts (% N2, CO2, He):	2.94%
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.996
Stoich A/F Ratio (Vol/Vol):	11.95
Stoich A/F Ratio (Mass/Mass):	15.93
Specific Gravity (Relative to Air):	0.750
Fuel Specific Heat Ratio (K):	1.279

CONDITIONS AND DEFINITIONS

Caterpillar Methane Number represents the knock resistance of a gaseous fuel. It should be used with the Caterpillar Fuel Usage Guide for the engine and rating to determine the rating for the fuel specified. A Fuel Usage Guide for each rating is included on page 2 of its standard technical data sheet.

RPC always applies to naturally aspirated (NA) engines, and turbocharged (TA or LE) engines only when they are derated for altitude and ambient site conditions.

Project specific technical data sheets generated by the Caterpillar Gas Engine Rating Pro program take the Caterpillar Methane Number and RPC into account when generating a site rating.

Fuel properties for Btu/scf calculations are at 60F and 14.696 psia.

Caterpillar shall have no liability in law or equity, for damages, consequently or otherwise, arising from use of program and related material or any part thereof.

FUEL LIQUIDS

Field gases, well head gases, and associated gases typically contain liquid water and heavy hydrocarbons entrained in the gas. To prevent detonation and severe damage to the engine, hydrocarbon liquids must not be allowed to enter the engine fuel system. To remove liquids, a liquid separator and coalescing filter are recommended, with an automatic drain and collection tank to prevent contamination of the ground in accordance with local codes and standards.

To avoid water condensation in the engine or fuel lines, limit the relative humidity of water in the fuel to 80% at the minimum fuel operating temperature.

G3306

NON-CURRENT

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA

NASH COMPRESSOR STATION

ENGINE SPEED (rpm):	1800	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	8	RATING LEVEL:	CONTINUOUS
AFTERCOOLER TYPE:	SCAC	FUEL SYSTEM:	HPG IMPCO
AFTERCOOLER WATER INLET (°F):	130		WITH CUSTOMER SUPPLIED AIR FUEL RATIO CONTROL
JACKET WATER OUTLET (°F):	210	**SITE CONDITIONS:**	
ASPIRATION:	TA	FUEL:	Nash CS Fuel Gas
COOLING SYSTEM:	JW+OC, AC	FUEL PRESSURE RANGE(psig):	12.0-24.9
CONTROL SYSTEM:	MAG	FUEL METHANE NUMBER:	73.0
EXHAUST MANIFOLD:	WC	FUEL LHV (Btu/scf):	944
COMBUSTION:	CATALYST SETTING	ALTITUDE(ft):	500
EXHAUST OXYGEN (% O2):	0.5	MAXIMUM INLET AIR TEMPERATURE(°F):	90
SET POINT TIMING:	32	STANDARD RATED POWER:	203 bhp@1800rpm

				MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING		**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(WITHOUT FAN)	(1)	bhp	203	203	152	101
INLET AIR TEMPERATURE			°F	90	90	90	90
ENGINE DATA							
FUEL CONSUMPTION (LHV)		(2)	Btu/bhp-hr	8139	8139	8485	9241
FUEL CONSUMPTION (HHV)		(2)	Btu/bhp-hr	9014	9014	9397	10235
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(3)(4)	ft3/min	315	315	252	184
AIR FLOW	(WET)	(3)(4)	lb/hr	1363	1363	1089	795
FUEL FLOW (60ºF, 14.7 psia)			scfm	29	29	23	17
INLET MANIFOLD PRESSURE		(5)	in Hg(abs)	38.4	38.4	32.2	24.9
EXHAUST TEMPERATURE - ENGINE OUTLET		(6)	°F	1072	1072	1038	996
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(7)(4)	ft3/min	982	982	766	543
EXHAUST GAS MASS FLOW	(WET)	(7)(4)	lb/hr	1449	1449	1156	844
EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(8)(9)	g/bhp-hr	16.30	16.30	16.00	13.55
CO		(8)(9)	g/bhp-hr	16.30	16.30	16.00	13.55
THC (mol. wt. of 15.84)		(8)(9)	g/bhp-hr	1.16	1.16	1.34	1.61
NMHC (mol. wt. of 15.84)		(8)(9)	g/bhp-hr	0.23	0.23	0.26	0.32
NMNEHC (VOCs) (mol. wt. of 15.84)		(8)(9)(10)	g/bhp-hr	0.12	0.12	0.13	0.16
HCHO (Formaldehyde)		(8)(9)	g/bhp-hr	0.25	0.25	0.25	0.25
CO2		(8)(9)	g/bhp-hr	535	535	574	635
EXHAUST OXYGEN		(8)(11)	% DRY	0.5	0.5	0.5	0.5
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(12)	Btu/min	9050	9050	7552	6048
HEAT REJ. TO ATMOSPHERE		(12)	Btu/min	1101	1101	861	625
HEAT REJ. TO LUBE OIL (OC)		(12)	Btu/min	1431	1431	1194	956
HEAT REJ. TO AFTERCOOLER (AC)		(12)(13)	Btu/min	626	626	255	38

COOLING SYSTEM SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+OC)	(13)	Btu/min	11672
TOTAL AFTERCOOLER CIRCUIT (AC)	(13)(14)	Btu/min	658
A cooling system safety factor of 0% has been added to the cooling system sizing criteria.			

CONDITIONS AND DEFINITIONS

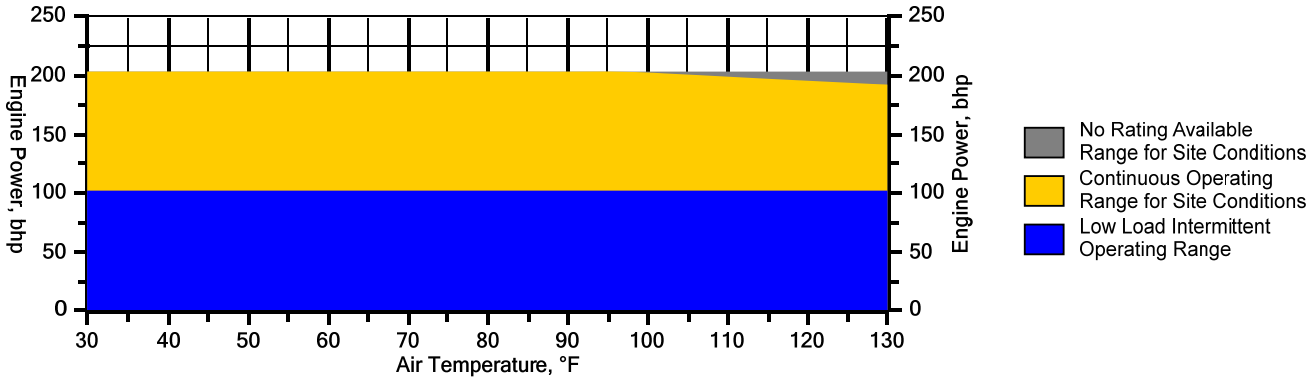
Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

PREPARED BY: John McMichael, XTO ENERGY INC
Data generated by Gas Engine Rating Pro Version 6.06.01
Ref. Data Set DM5202-09-001, G6X, Printed 22Feb2018

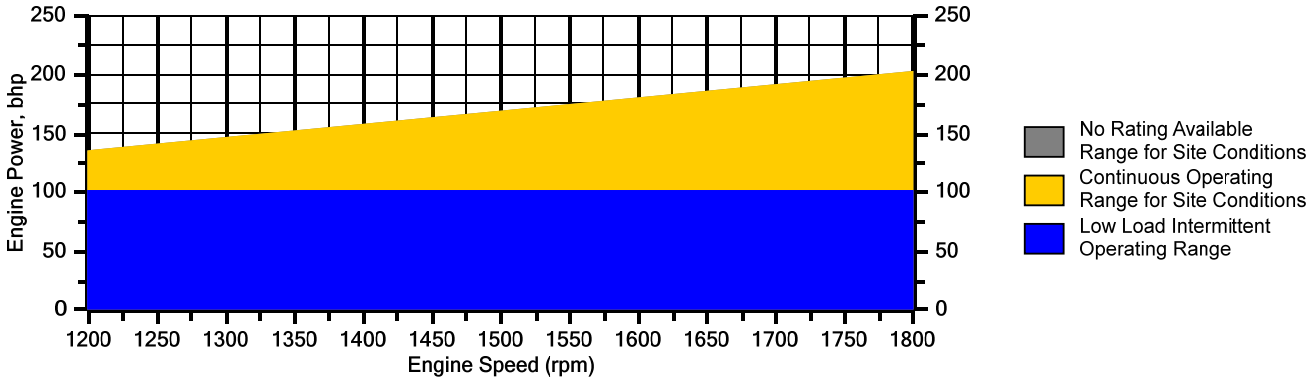
Engine Power vs. Inlet Air Temperature

Data represents temperature sweep at 500 ft and 1800 rpm



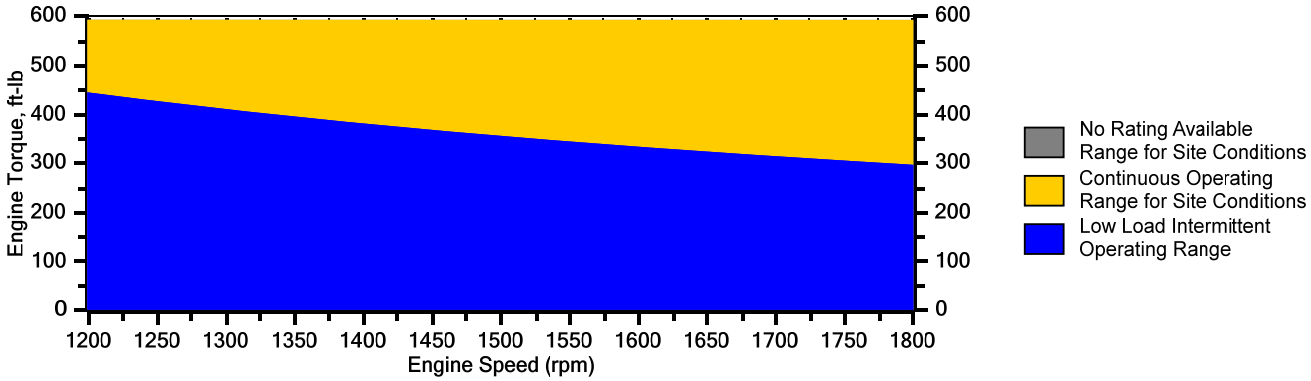
Engine Power vs. Engine Speed

Data represents speed sweep at 500 ft and 90 ºF



Engine Torque vs. Engine Speed

Data represents speed sweep at 500 ft and 90 ºF



Note: At site conditions of 500 ft and 90°F inlet air temp., constant torque can be maintained down to 1200 rpm. The minimum speed for loading at these conditions is 1200 rpm.

NOTES

1. Engine rating is with two engine driven water pumps. Tolerance is ± 3% of full load.

2. Fuel consumption tolerance is ± 5.0% of full load data.

3. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of ± 5 %.

4. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.

5. Inlet manifold pressure is a nominal value with a tolerance of ± 5 %.

6. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.

7. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of ± 6 %.

8. Emissions data is at engine exhaust flange prior to any after treatment.

9. Emission values are based on engine operating at steady state conditions. Fuel methane number cannot vary more than ± 3. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate "Not to Exceed" values. THC, NMHC, and NMNEHC do not include aldehydes. Part Load data requires customer supplied air fuel ratio control.

10. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ

11. Exhaust Oxygen tolerance is ± 0.2.

12. Heat rejection values are nominal. Tolerances, based on treated water, are ± 10% for jacket water circuit, ± 50% for radiation, ± 20% for lube oil circuit, and ± 5% for aftercooler circuit.

13. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.

14. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0220	0.0220
Methane	CH4	85.3560	85.3560
Ethane	C2H6	5.9630	5.9630
Propane	C3H8	2.1540	2.1540
Isobutane	iso-C4H1O	0.1270	0.1270
Norbutane	nor-C4H1O	0.3060	0.3060
Isopentane	iso-C5H12	0.0610	0.0610
Norpentane	nor-C5H12	0.0610	0.0610
Hexane	C6H14	0.0370	0.0370
Heptane	C7H16	0.0120	0.0120
Nitrogen	N2	3.6720	3.6720
Carbon Dioxide	CO2	2.2280	2.2280
Hydrogen Sulfide	H2S	0.0000	0.0000
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0010	0.0010
Nonane	C9H20	0.0000	0.0000
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		100.0000	100.0000

Fuel Makeup:	Nash CS Fuel Gas
Unit of Measure:	English

Calculated Fuel Properties

Caterpillar Methane Number:	73.0
Lower Heating Value (Btu/scf):	944
Higher Heating Value (Btu/scf):	1046
WOBBE Index (Btu/scf):	1171
THC: Free Inert Ratio:	15.95
Total % Inerts (% N2, CO2, He):	5.9%
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.998
Stoich A/F Ratio (Vol/Vol):	9.84
Stoich A/F Ratio (Mass/Mass):	15.14
Specific Gravity (Relative to Air):	0.650
Fuel Specific Heat Ratio (K):	1.304

CONDITIONS AND DEFINITIONS

Caterpillar Methane Number represents the knock resistance of a gaseous fuel. It should be used with the Caterpillar Fuel Usage Guide for the engine and rating to determine the rating for the fuel specified. A Fuel Usage Guide for each rating is included on page 2 of its standard technical data sheet.

RPC always applies to naturally aspirated (NA) engines, and turbocharged (TA or LE) engines only when they are derated for altitude and ambient site conditions.

Project specific technical data sheets generated by the Caterpillar Gas Engine Rating Pro program take the Caterpillar Methane Number and RPC into account when generating a site rating.

Fuel properties for Btu/scf calculations are at 60F and 14.696 psia.

Caterpillar shall have no liability in law or equity, for damages, consequently or otherwise, arising from use of program and related material or any part thereof.

FUEL LIQUIDS

Field gases, well head gases, and associated gases typically contain liquid water and heavy hydrocarbons entrained in the gas. To prevent detonation and severe damage to the engine, hydrocarbon liquids must not be allowed to enter the engine fuel system. To remove liquids, a liquid separator and coalescing filter are recommended, with an automatic drain and collection tank to prevent contamination of the ground in accordance with local codes and standards.

To avoid water condensation in the engine or fuel lines, limit the relative humidity of water in the fuel to 80% at the minimum fuel operating temperature.

April 18, 2018 **Tornado Quote No: 0000-18-04-18 - Rev. 0**

XTO Energy Inc.
6401 N. Holiday Hill Rd.
Midland, TX 79707

Attention: **Ryan Smith**
Phone: **713-294-1148**
Email: **Ryan_Smith@xtoenergy.com**

Subject: **Compressor Station Flares: FL-1512 (Flare), FL-1513 (HP Flare Tip), FL-1514 (LP Flare Tip)**
30" Air-Assisted Flare Stack 140' Tall with a 20" HP Riser & an 8" LP Riser
(Design based on the Raider Compression Station – 0000-18-02-16 (XTO0218)

Tornado Combustion Technologies Inc. is pleased to provide you with a quotation for the following flare system specifically designed to meet your project requirements as specified. This design is based on the Raider Compression Station Flare project, reference number 0000-18-02-16 (XTO0218).

The pricing within this quotation includes the following furnished by Tornado:

- Engineering related to general arrangement drawings for approval.
- Fabrication and packaging of all vendor supplied items.
- Procurement of critical long lead items.

Tornado Combustion Technologies has provided engineered combustion solutions for many years that have exceeded our customer expectations for long term reliability and performance in the most severe operating conditions. Not only has Tornado equipment exceeded engineering expectations but it has also been widely accepted by operations personnel.

Proper operation of an air assisted flare requires that electrical power be supplied to continuously run the blower at all times. Operation of an air assist flare without the blower running (power outage) may result in physical damage to flare tip and pilots. Damage of this nature falls outside the normal warranty as the air assisted flare is not operating as intended.
The flare stack has been designed as per ASME STS-1 code; site and environmental specific anomalies such as dynamic wind loading conditions have not been considered as part of the design.

Note: Estimated weight of the 140' flare package is 26,400 lbs and estimated weight of the 145' flare package is 27,700 lbs.

1.0 FLARE STACK – DESIGN SPECIFICATIONS

Flare Application	HP (Summer, Rich)	LP (Winter, Rich, Recycle)
Design Maximum Flow	59,767,069 SCFD	952,833 SCFD
Design Minimum Smokeless Flow	N/A	124,363 SCFD
Design Maximum Smokeless Flow	N/A	952,833 SCFD
Minimum Flow (Purge)	298 SCFH	50 SCFH
Design Temperature	65.32 °F	87.5 °F
Allowable Pressure Drop	4 psig (Assumed)	0.25 psig
Total Pressure Drop (Flare Only)	2.81 psig	0.1 psig
Flare Support	Guyed	
Max. Peak Design Wind Load	90 mph	
Stack Location	Near Carlsbad, NM	
Atmospheric Pressure	13.04 psi	
Corrosion Allowance	1/8-inch	
Composition	As provided	
Maximum Ground Level Radiation Including Solar	1400 BTU/hr/ft^2	58 BTU/hr/ft^2
Stack Sizing By	Tornado	

Note: Additional purge gas may be required at low waste gas flow rates based on flame stability.

1.1 FLARE STACK – GENERAL DESCRIPTION

The air assisted flare will be a guyed structure with a 20-inch HP waste gas riser, an 8-inch LP waste gas riser and a 30-inch Tornado High Efficiency Air Assist Flare Tip.

Air Annulus Tip: 5-feet of 316L SS 0.375-inch thick plate rolled to 30-inch OD. The air annulus tip will be welded to LP tip at approximately 135-feet from grade;

LP Waste Gas Tip: 8-feet of 316L SS 0.375-inch thick plate rolled to 22-inch OD. The LP gas tip will welded to the HP tip at approximately 132-feet from grade;

HP Waste Gas Tip: 10-feet of 316L SS 0.375-inch thick plate rolled to 20-inch OD. The HP gas tip will be welded to the HP gas riser duct at approximately 130-feet from grade;

LP Velocity Purge Reducer: 8-inch, 304L SS weld-in dynamic purge gas reducing seal. Minimum purge gas requirement is 50 SCFH.

HP Velocity Purge Reducer: 20-inch, 304L SS weld-in dynamic purge gas reducing seal. Minimum purge gas requirement is 298 SCFH.

LP Waste Gas Riser: 8-inch standard A106B smls pipe 22-feet above grade to approximately 132-feet above grade where it is welded to the waste gas tip. Break flanges will be at approximately every 40-feet using standard A105N 150# RFWN flanges, A193-B7M studs, A194-2HM nuts and 1/8-inch 316L SS gasket;

HP Waste Gas Riser: 20-inch standard A106B smls pipe from grade to approximately 130-feet above grade where it is welded to the waste gas tip. Break flanges will be at approximately every 40-feet using standard A105N 150# RFWN flanges, A193-B7M studs, A194-2HM nuts and 1/8-inch 316L SS gasket;

LP Waste Gas Inlet: 8-inch standard A105N 150# RF flange on a 45-degree angle using a standard SA234 WPB weld elbow, with a 22-foot inlet elevation above grade. Nozzle loads have not been considered;

HP Waste Gas Inlet: 20-inch standard A105N 150# RF flange on a 45-degree angle using a standard SA234 WPB weld elbow, with a 20-foot inlet elevation above grade. Nozzle loads have not been considered;

Air Duct Riser: 18-inch standard A106B pipe to approximately 135-feet above grade where it is welded to the air annulus tip. Break flanges will be at approximately every 40-feet using standard A105N 150# RFWN flanges, A193-B7M studs, A194-2HM nuts, and 1/8-inch 316L SS gasket. Xylan coated Studs & Nuts will be provided by Tornado as well as gaskets as described above, all necessary labor for site connections will be provided by the client;

Blower Connection: Fabricated carbon steel c/w mating blower flange, approximately 6-feet above grade.

Base Plate: 1½-inch thick x 36-inch diameter A36 CS plate c/w 8 gussets and 8 anchor bolt holes (1 ¼-inch dia A193-B7 studs and A194-2H nuts supplied by others);

Lifting Lug: Sch. 80 trunnion assembly c/w endplate and repad designed for a single section lift. Although Tornado Combustion Technologies Inc. has reviewed the suitability of the structure for the above stated lift, it is incumbent on the customer and/or end user to engage others, to provide a critical pre-engineered lift plan for the appliance;

Guy Wire Package:	Three sets of three galvanized cables c/w Crosby hardware package c/w cable clamps, heavy thimbles, J-J turnbuckles, G2130 safety anchor shackles (piling radius of 80-feet);
Paint:	SSPC-SP6 commercial sandblast (1.5 to 2.5 mils blast profile), Devoe Cathacoat 302H primer (2.5 to 4.0 mils DFT), and Cloverdale Armorshield topcoat (black, 2.0 to 4.0 mils DFT).
Blower:	One (1) Centrifugal Blower rated @ 7900 ACFM c/w inlet screen, inlet bell and mounting brackets to the flare stack;
Motor:	General purpose 15 Horsepower TEFC motor, 460 VAC, 3 phase, 60 Hertz (VFD & Local Disconnect by the Purchaser);
Flow Transmitter:	24 VDC Mass Flow Transmitter will be supplied by Tornado to output a 4-20 mA signal to the PLC (by client). The PLC will output a proportional signal to a Variable Frequency Drive (by client), which adjusts the motor speed to control the air output of the blower in relation to the waste gas flow rate.

1.2 FLARE STACK – OPERATING PARAMETERS

See attached computer printout in the appendices section at the end of the quotation.

1.3 RETRACTING PACKAGE

The original Tornado innovation. Allows pilots/ignitors to be installed or serviced from ground level without ladders, platforms, or riggers. Flexible fuel hose coils at the base of stack upon retraction.

The patented Tornado retractable package includes: 2-inch x 1-inch HSS tracking, ¼-inch x 3-inch flat bar tracking supports, double-acting retracting winch, SS retracting cable, and SS retracting pulley.

2.0 CONSTANT PILOT and AUTO-RELIGHT

Two Tornado pilots will be used to ignite the waste gas stream.

***Tornado Retractable Constant-Ignition Pilot (TSI #6)*:**
Fuel consumption of 25 SCFH at 15 PSIg, pilot head made of silicon carbide, body is 304L SS and 316L SS construction, c/w HSR pilot tracking AQP 1503-4 fuel hose, fuel hose stabilizers, regulator, strainer, isolation valve and ¼-inch NPT dry CS gauge.

Note: Minimum fuel supply pressure is 60 PSIg, Maximum is 165 PSIg

***Tornado Pilot Monitoring and Auto-Relight* (TPMR) System:**
Model: TPMR-120 VAC
Mounts directly on the *Tornado Retractable Constant-Ignition Pilot* c/w 120 VAC temperature controller and timer delay to alarm mode, Type K thermocouple, NEMA 4X approved control enclosure c/w ON/OFF switch, alarm terminal, mounting brackets, flexible SOOW cable from the ignition transformer near the pilot to a Tornado supplied junction box at the base of the stack.

TPMR System – Operating Information:
The ultimate in fail-safe reliability. The TPMR operates as follows:

At initial start-up (with power turned ON at the control panel), the thermocouple housed inside the ceramic nozzle is cool. This automatically triggers the RELIGHT system. The pilot is ignited and the thermocouple heats up until the system senses that the pilot is operational. The signal from the thermocouple then shuts down the RELIGHT mechanism and enters a continuous MONITOR mode.

The thermocouple is housed directly inside the pilot nozzle (Tornado innovation) and monitors the ambient temperature of the nozzle itself. This prevents false alarms from shifting winds and protects the thermocouple from premature breakdown. If a loss of pilot flame occurs, the silicon carbide nozzle (and thermocouple) rapidly cools down. Once the low-temperature factory set point is reached (adjustable), the RELIGHT system automatically activates. A solenoid valve opens, a fuel-air mixture is ignited, and a flame front is sent to relight the pilot. The system remains engaged until the pilot re-ignites and heats the thermocouple to above its temperature set point. At this time the RELIGHT function switches back to the MONITOR mode. Should the pilot fail to re-ignite within 10 minutes after loss of flame (adjustable factory setting), the RELIGHT system will time-out, and trip a set of alarm contacts for the operator.

The Tornado TPMR is the premier pilot/auto-relight ignition system available on the market today. Tornado incorporates superior quality parts and components which means the longest life and ultimate reliability of our systems. The Type K 310SS thermocouples are far superior to “flame rods” for reliable flame source detection (ask operators in the field for their unbiased feedback). The TPMR can be easily adapted to any existing flare.

Note: All electrical components are suitable for operation in a general purpose area.

Note: Tornado recommends that the customer orientates the flare stack in a direction so the ignition system is installed downwind from the flare tip and waste gas.

3.0 TORNADO'S ILSF-B DETONATION ARRESTOR

Tornado's Sure-Stop Detonation Arrestors are passive safety devices that have been designed to prevent the propagation of flame fronts back through lines and piping configurations, and between combustion units and tanks.

Tornado Detonation Arrestors (DA's) allow gas or vapor to pass through, but will stop dead even supersonic explosions. Our unique patented flame-quenching cell is unlike any in the industry.

Most DA manufacturers use conventional crimped-ribbon Flame Arrestor cells and simply stack multiple cells together. Tornado spent countless hours of research to develop a patented alumina ceramic media system. The oxidization and corrosion-proof beads act as a maze to the flame, allowing total protection and the longest continuous burn ratings in the industry.

The Tornado Sure-Stop Detonation Arrestor for the LP Flare, Model: 12" ILSF-B, will include the following features:

- Carbon Steel Flame Cell Housing
- 304L Stainless Steel Flame Cell Grids
- Alumina Ceramic Flame Quenching Media (Beads)
- Carbon Steel Threaded Couplings for Differential Pressure, Temperature Monitoring, Media Fill and Drain
- 12" - 150LB Carbon Steel Raised Face Inlet/Outlet Connections (Bi-Directional)
- **United States Coast Guard Accepted, Type I Burn Endurance Tested**
- **Highest burn rating in the industry for USCG**
- Meets and Exceeds CSA-Z343 – Rev 12
- Gas Classifications: NEC Group C and D Gasses
- Removable Flame Cell, Cleanable to "As New" Condition if Performed by Tornado Combustion Technologies, Inc.

NOTE: Nozzle loads have not been considered in the structural design of the flare stack. As such, independent support of the Detonation Arrestor is required by XTO Energy to assure that the nozzle loads on the flare inlet (from the weight of the DA hanging off of it) are reduced to a negligible value.

Tornado Technologies Inc

Flare Systems

What is a Flare Stack?

A flare stack refers to an elevated vertical stack used for burning off unusable waste gas in a variety of oil and gas production applications. Waste gases are either uneconomical to recover/retain, or released during planned or unplanned over-pressuring of plant equipment. Waste gases are released to the flare via piping (flare header) and burned as they exit the flare stack.





What makes a Flare System properly designed?

1. To maintain a stable flame during operation. An unstable flame can either blow-off or ingress back into the flare tip;
2. To ensure the flame is high enough to limit operators' ground-level exposure to thermal radiation, emissions or noise;
3. To comply with all the requirements from the customer's and regional regulatory bodies. The standard Tornado Technologies Flare complies with the following Standards/Guidelines where applicable:
    - Flare Design Guidelines
        - API 521
        - API 537
    - Construction Guidelines
        - ASME B31.1
        - API 537
    - Environmental Regulations
        - 40CFR60
        - AER Directive 060
    - Structural Standards
        - ANSI/ASC 7-88, &-97 & 7-98
        - NBC Canadian

What are the primary Flare Design Parameters?

Overall flare height and internal tip diameters (the main construction considerations) are directly affected by the following design parameters:

- Radiation Limits
- Ground Level Concentration Limits
- Noise Limits
- Structural stability
- Chemical Composition of Waste Gas
- Environmental Conditions
- Allowable Pressure Drop
- Exit Velocity of Waste Gas

How do I choose the right Flare?

To fully understand your application, the following questions should be considered:

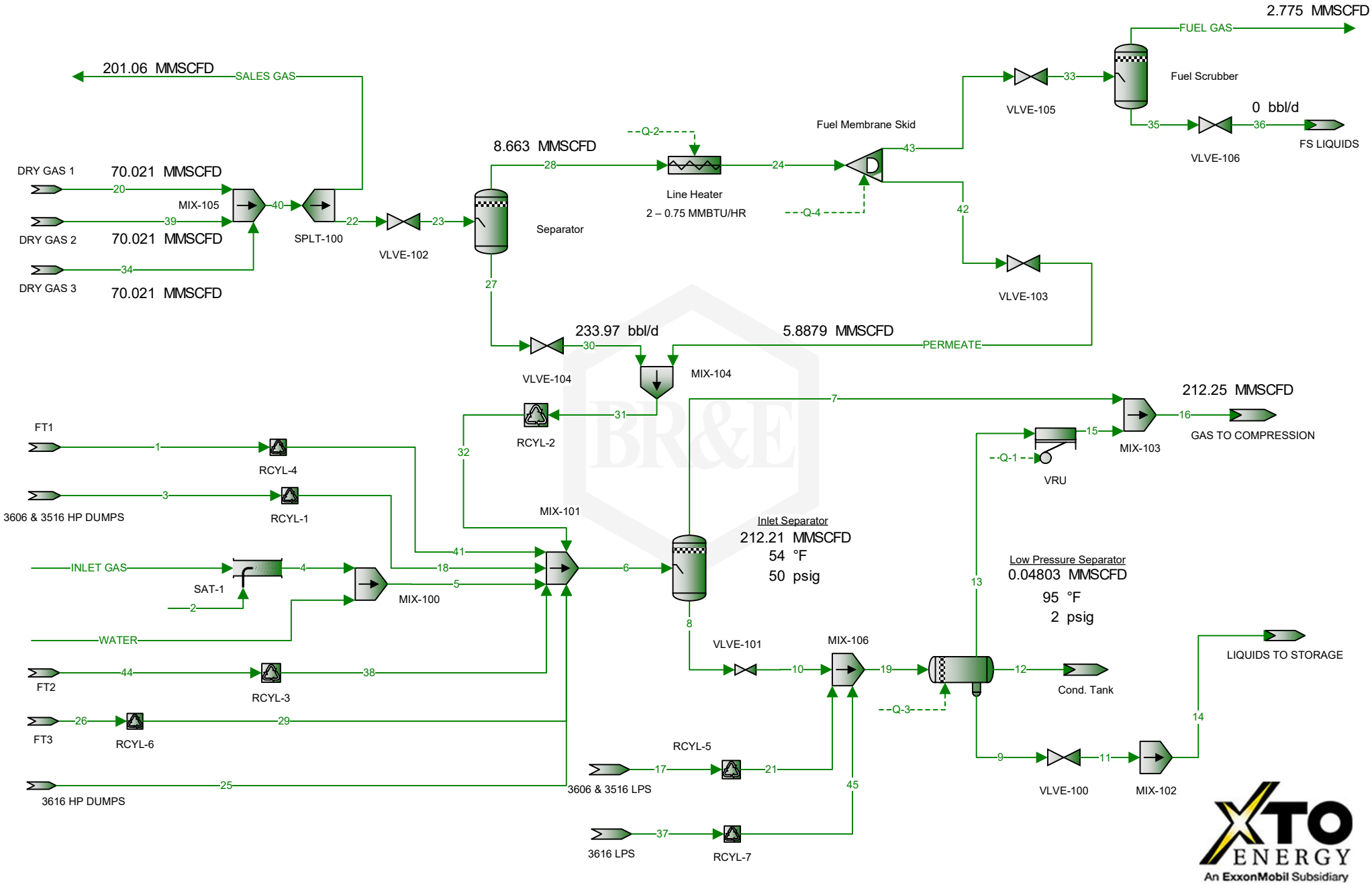
1. What is the flow rate of the gas that is to be combusted?
2. Will this flow be present at all times?
3. What are the utilities present onsite?
4. Does the flare need to be smokeless?
5. How combustible is the gas that is to be flared?
6. Is the gas to be flared dangerous (acidic or toxic)?
7. Will the gas composition smoke?
8. What are the regulations that need to be adhered to in the flare's design?

Is there an easy way to collect this information?

Yes. Click here to download Tornado's Flare Design Specification Sheet.

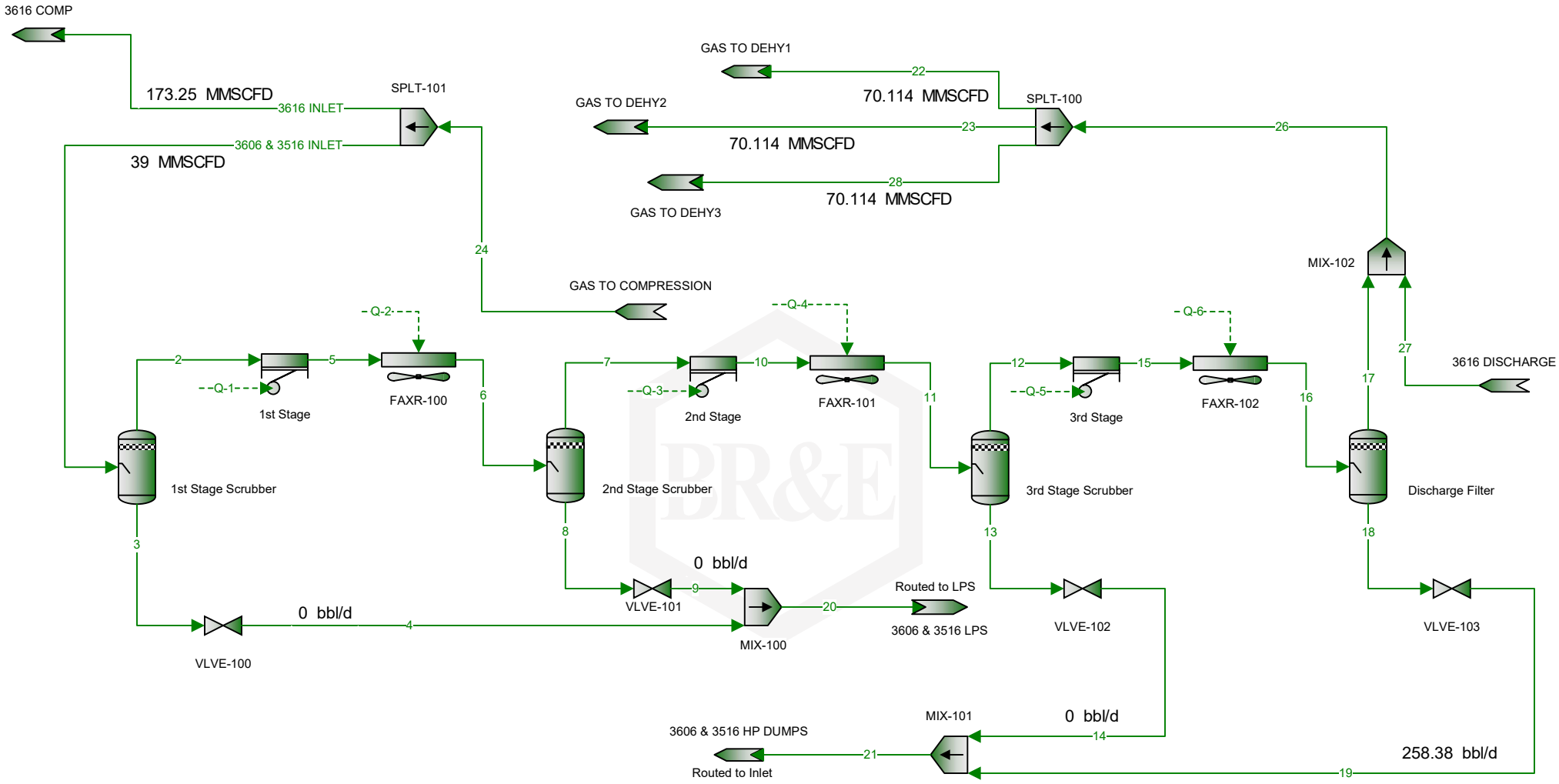
This form will take you through a detailed step-by-step process allowing our Combustion Design Team to identify which type of flare you require, or to establish what other questions we need answered. We're here to help. 7,000 flare stacks worldwide has taught us most everything you don't need to know. Leave the worrying to us.

DELAWARE DEFAULT COMPRESSOR STATION



XTO ENERGY
An ExxonMobil Subsidiary

DELAWARE DEFAULT COMPRESSOR STATION



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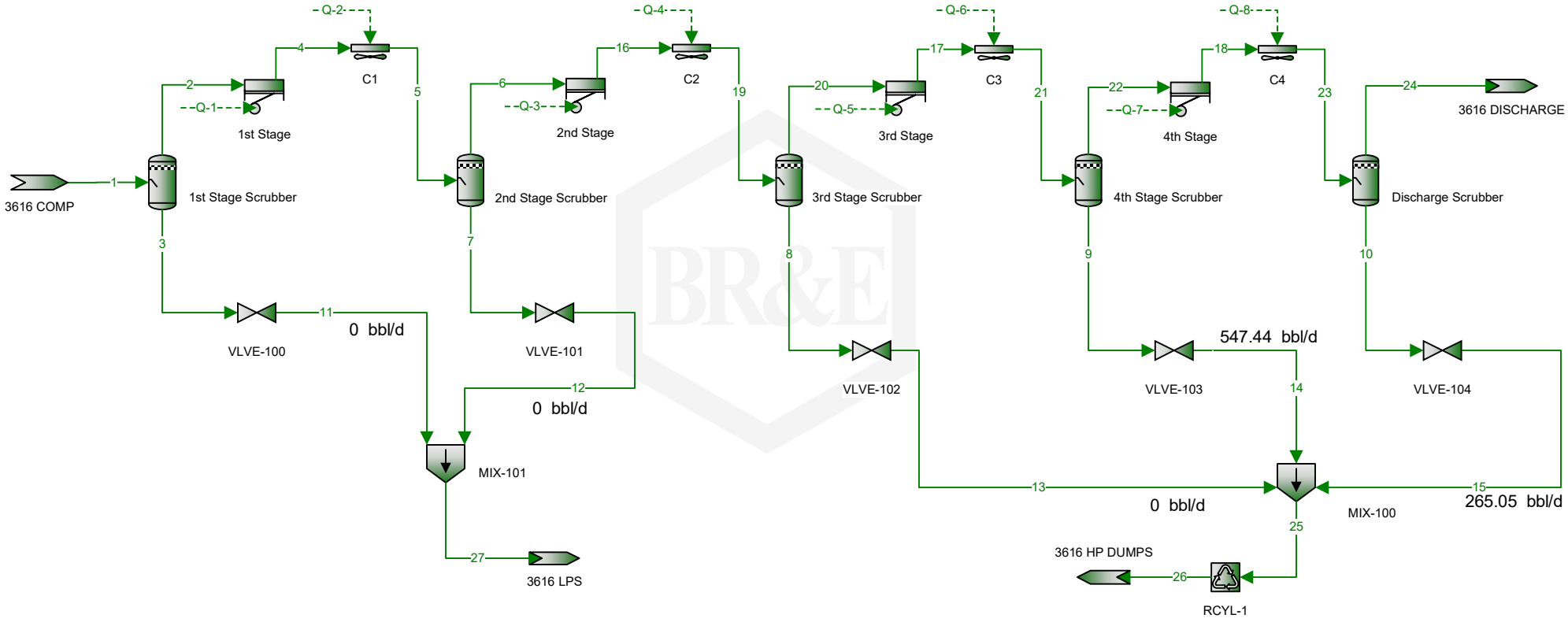

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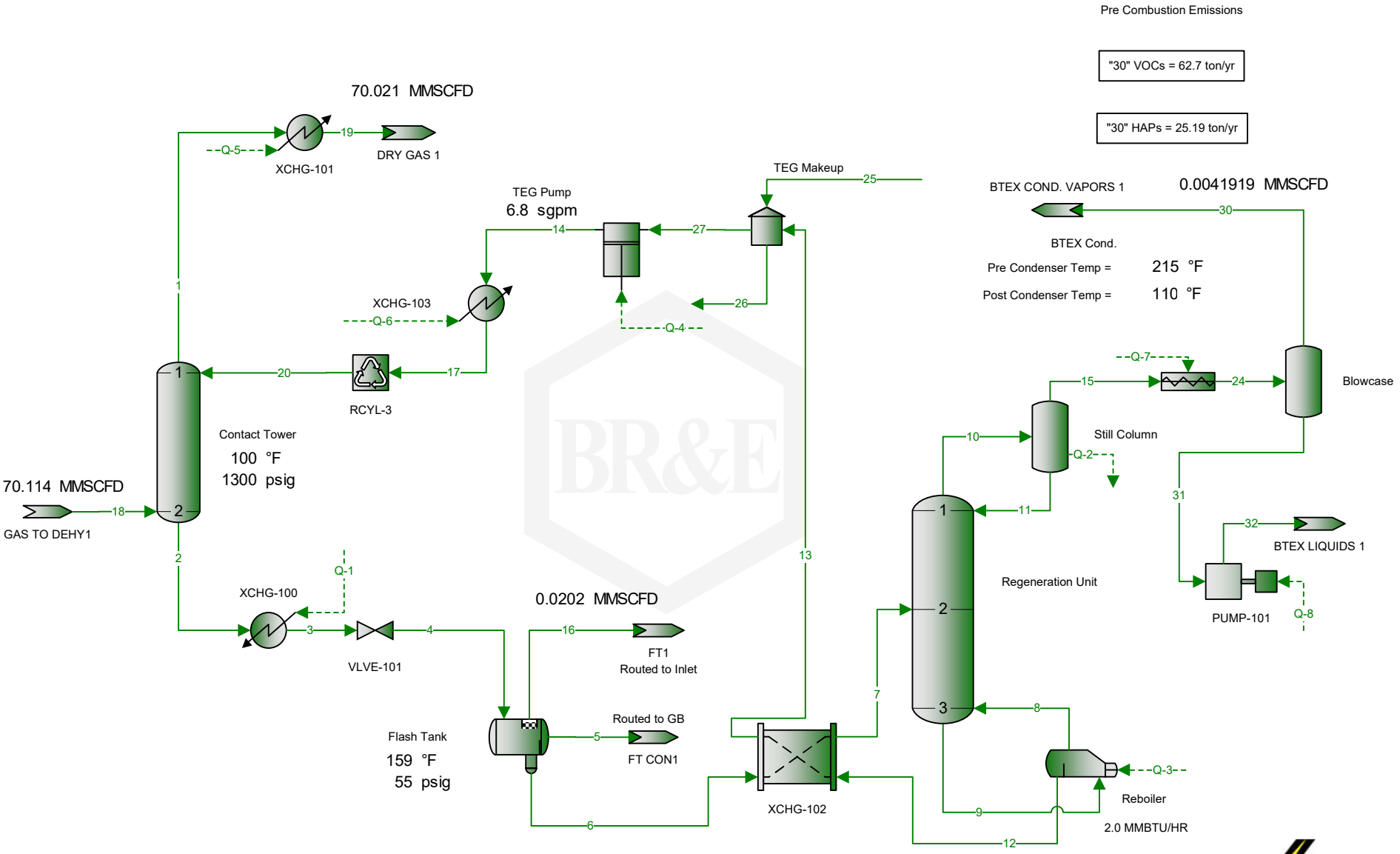

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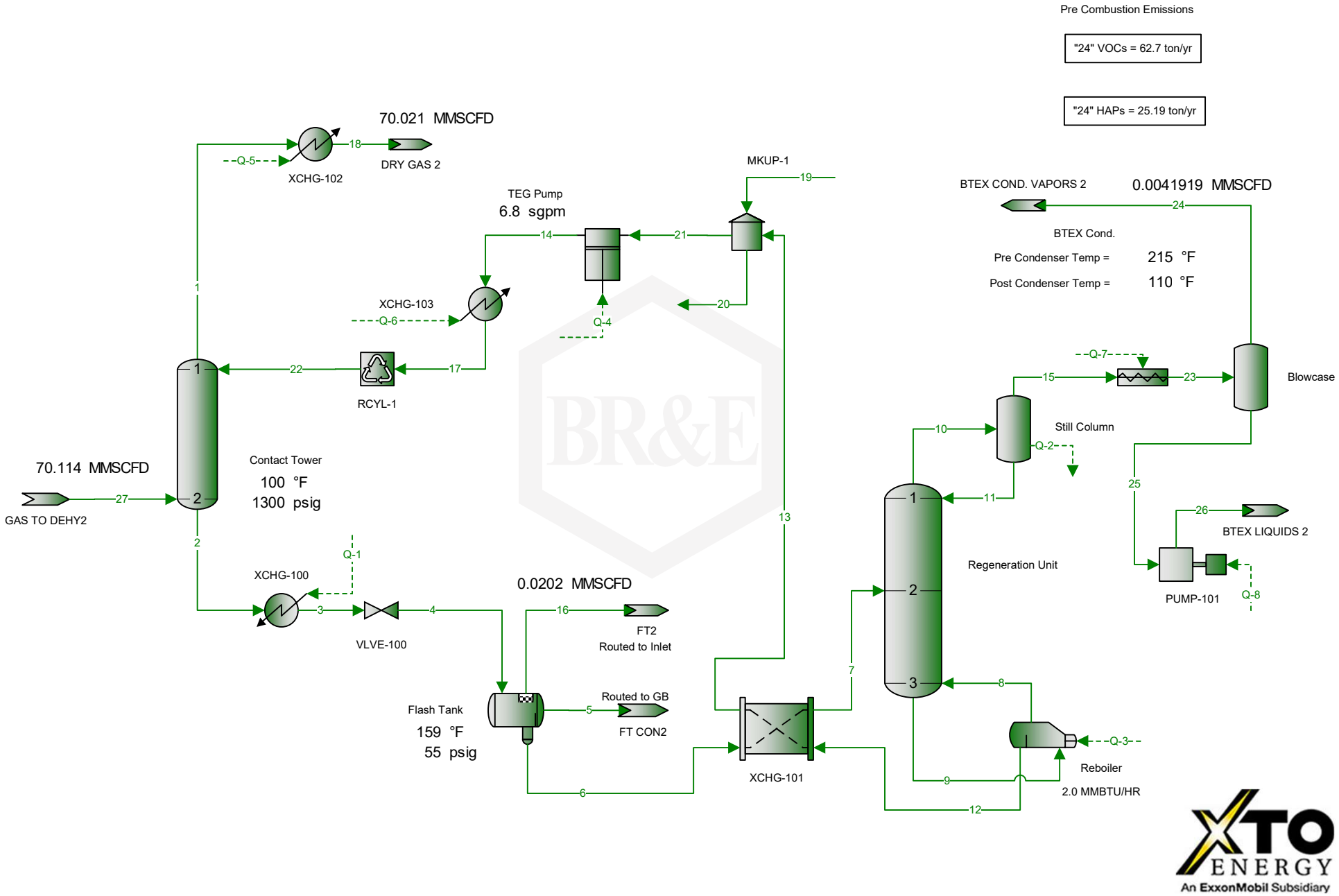
DELAWARE DEFAULT COMPRESSOR STATION



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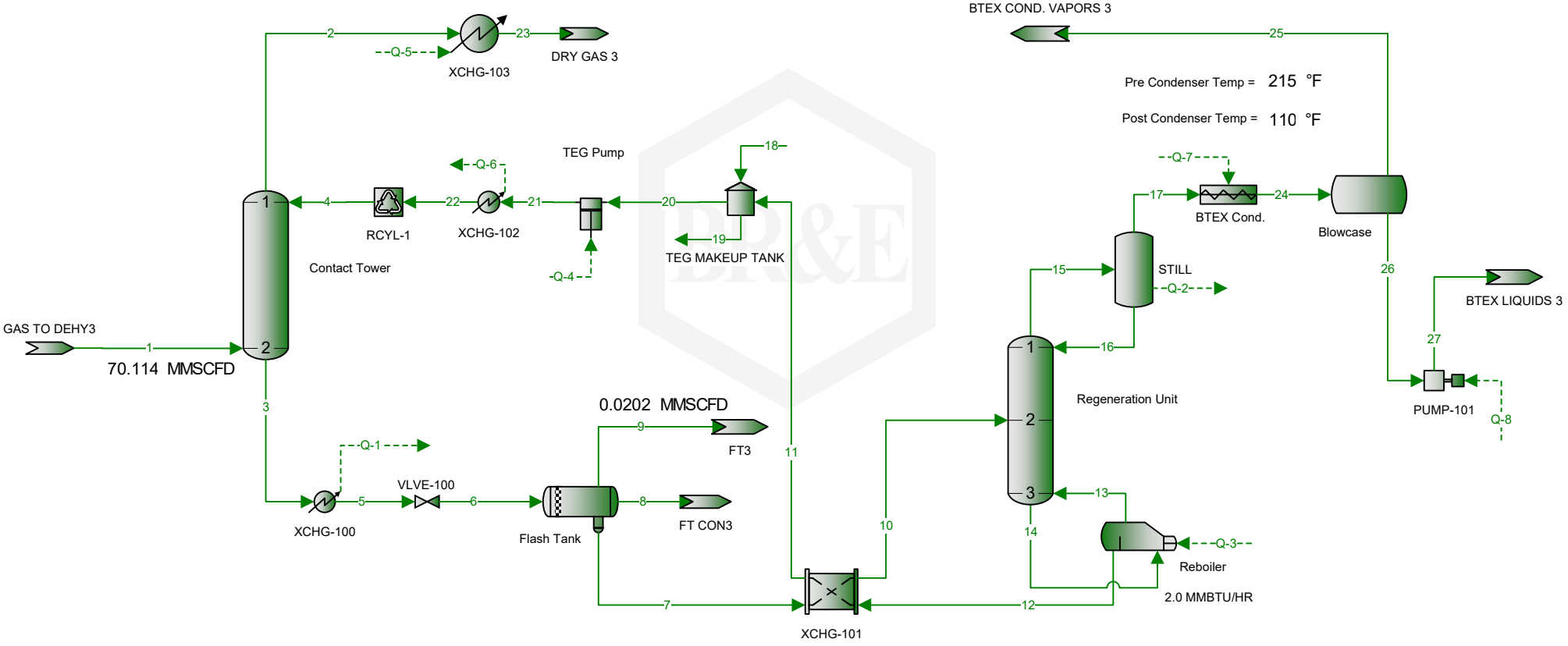
An ExxonMobil Subsidiary

DELAWARE DEFAULT COMPRESSOR STATION

Pre Combustion Emissions

"25" VOCs = 62.69 ton/yr

"25" HAPs = 25.19 ton/yr



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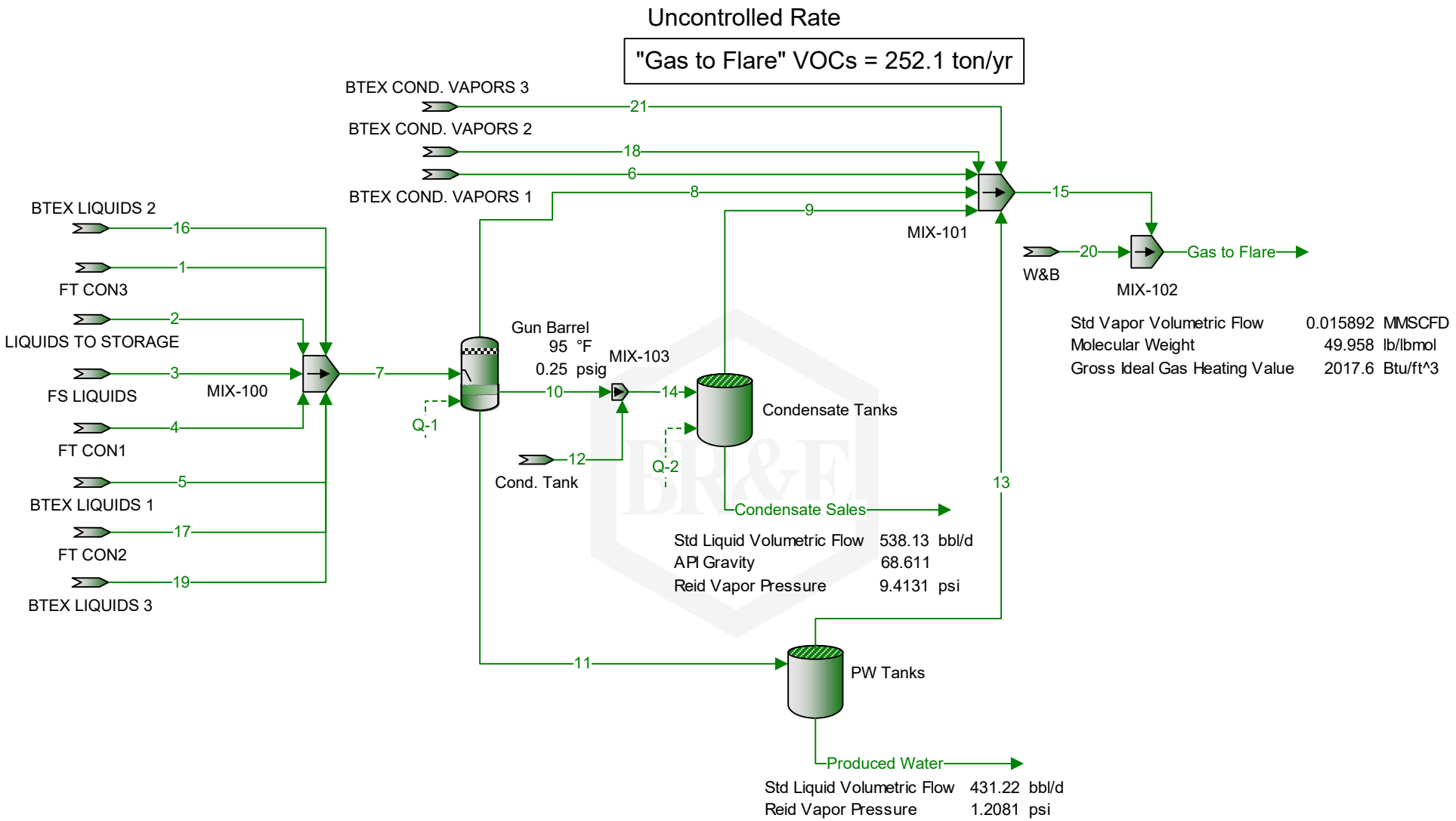
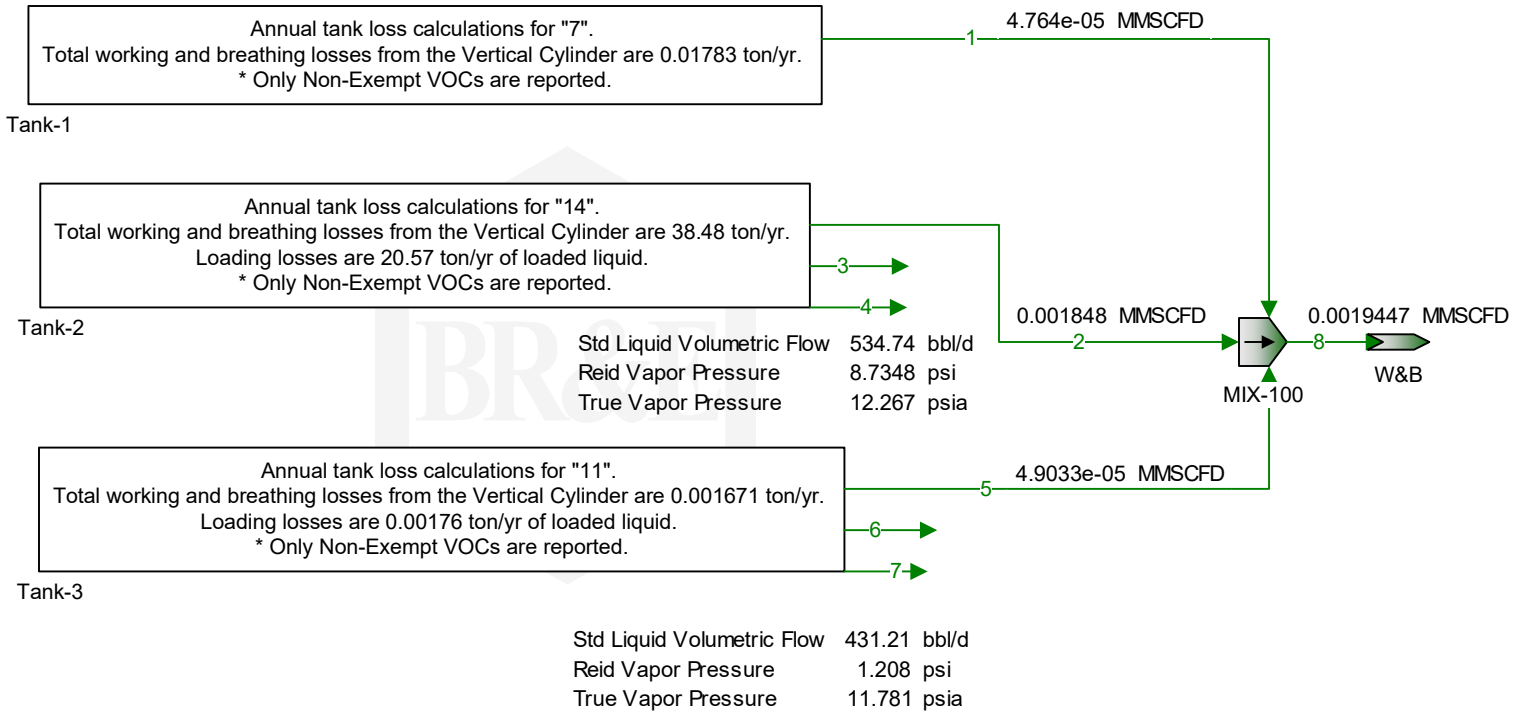



Annual tank loss calculations for "7".
Total working and breathing losses from the Vertical Cylinder are 0.01783 ton/yr.
* Only Non-Exempt VOCs are reported.
Tank-1
1
4.764e-05 MMSCFD
Annual tank loss calculations for "14".
Total working and breathing losses from the Vertical Cylinder are 38.48 ton/yr.
Loading losses are 20.57 ton/yr of loaded liquid.
* Only Non-Exempt VOCs are reported.
Tank-2
3
4
Std Liquid Volumetric Flow 534.74 bbl/d
Reid Vapor Pressure 8.7348 psi
True Vapor Pressure 12.267 psia
0.001848 MMSCFD
2
MIX-100
8
0.0019447 MMSCFD
W&B
Annual tank loss calculations for "11".
Total working and breathing losses from the Vertical Cylinder are 0.001671 ton/yr.
Loading losses are 0.00176 ton/yr of loaded liquid.
* Only Non-Exempt VOCs are reported.
Tank-3
5
4.9033e-05 MMSCFD
6
7
Std Liquid Volumetric Flow 431.21 bbl/d
Reid Vapor Pressure 1.208 psi
True Vapor Pressure 11.781 psia

May 9, 2017

FESCO, Ltd.
1100 Fesco Ave. - Alice, Texas 78332

For: XTO Energy Inc.
810 Houston St. - Petro 4
Fort Worth, Texas 76102

Sample: PLU Big Sinks No. 22 (H24-25-30 No. 1Y)
Inlet Separator
Spot Gas Sample @ 74 psig & 91 °F

Date Sampled: 04/21/2017 Job Number: 72050.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	1.697	
Carbon Dioxide	5.334	
Methane	72.546	
Ethane	10.176	2.787
Propane	5.422	1.530
Isobutane	0.750	0.251
n-Butane	1.896	0.612
2-2 Dimethylpropane	0.020	0.008
Isopentane	0.489	0.183
n-Pentane	0.594	0.220
Hexanes	0.478	0.202
Heptanes Plus	0.598	0.246
Totals	100.000	6.039

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity	3.332	(Air=1)
Molecular Weight	96.11	
Gross Heating Value	5088	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity	0.805	(Air=1)
Compressibility (Z)	0.9958	
Molecular Weight	23.23	
Gross Heating Value		
Dry Basis	1265	BTU/CF
Saturated Basis	1244	BTU/CF

*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)
0.126 Gr/100 CF, 2.0 PPMV or 0.0002 Mol%

Base Conditions: 15.025 PSI & 60 Deg F

Sampled By: (16) JRG
Analyst: HB
Processor: NG
Cylinder ID: T-1311

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	1.697		2.046
Carbon Dioxide	5.334		10.104
Methane	72.546		50.095
Ethane	10.176	2.787	13.170
Propane	5.422	1.530	10.291
Isobutane	0.750	0.251	1.876
n-Butane	1.896	0.612	4.743
2,2 Dimethylpropane	0.020	0.008	0.062
Isopentane	0.489	0.183	1.519
n-Pentane	0.594	0.220	1.845
2,2 Dimethylbutane	0.005	0.002	0.019
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.046	0.019	0.171
2 Methylpentane	0.150	0.064	0.556
3 Methylpentane	0.080	0.033	0.297
n-Hexane	0.197	0.083	0.731
Methylcyclopentane	0.080	0.028	0.290
Benzene	0.047	0.013	0.158
Cyclohexane	0.077	0.027	0.279
2-Methylhexane	0.024	0.011	0.104
3-Methylhexane	0.028	0.013	0.121
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.074	0.033	0.316
n-Heptane	0.057	0.027	0.246
Methylcyclohexane	0.064	0.026	0.270
Toluene	0.034	0.012	0.135
Other C8's	0.060	0.029	0.285
n-Octane	0.016	0.008	0.079
Ethylbenzene	0.003	0.001	0.014
M & P Xylenes	0.007	0.003	0.032
O-Xylene	0.002	0.001	0.009
Other C9's	0.019	0.010	0.103
n-Nonane	0.004	0.002	0.022
Other C10's	0.001	0.001	0.006
n-Decane	0.001	0.001	0.006
Undecanes (11)	0.000	0.000	0.000
Totals	100.000	6.039	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity	0.805	(Air=1)
Compressibility (Z)	0.9958	
Molecular Weight	23.23	
Gross Heating Value		
Dry Basis	1265	BTU/CF
Saturated Basis	1244	BTU/CF

June 1, 2017

FESCO, Ltd.
1100 FESCO Avenue - Alice, Texas 78332

For: XTO Energy Inc.
810 Houston St. - Petro 4
Fort Worth, Texas 76102

Sample: PLU Big Sinks No. 22 (H24-25-30 No. 1Y)
Inlet Separator Hydrocarbon Liquid
Sampled @ 74 psig & 91 °F

Date Sampled: 04/21/17 Job Number: 72050.002

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M

COMPONENT	MOL %	LIQ VOL %	WT %
Nitrogen	0.028	0.005	0.005
Carbon Dioxide	0.247	0.069	0.072
Methane	1.783	0.495	0.189
Ethane	1.753	0.768	0.347
Propane	3.454	1.559	1.004
Isobutane	1.097	0.588	0.420
n-Butane	4.088	2.112	1.567
2,2 Dimethylpropane	0.032	0.020	0.015
Isopentane	2.486	1.490	1.183
n-Pentane	3.871	2.299	1.841
2,2 Dimethylbutane	0.041	0.028	0.024
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.395	0.265	0.224
2 Methylpentane	1.832	1.246	1.041
3 Methylpentane	1.070	0.716	0.608
n-Hexane	3.100	2.089	1.761
Heptanes Plus	74.725	86.251	89.699
Totals:	100.000	100.000	100.000

Characteristics of Heptanes Plus:

Specific Gravity	0.8190	(Water=1)
°API Gravity	41.28	@ 60°F
Molecular Weight	182.1	
Vapor Volume	14.28	CF/Gal
Weight	6.82	Lbs/Gal

Characteristics of Total Sample:

Specific Gravity	0.7875	(Water=1)
°API Gravity	48.18	@ 60°F
Molecular Weight	151.7	
Vapor Volume	16.48	CF/Gal
Weight	6.56	Lbs/Gal

Base Conditions: 15.025 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: (16) Garza
Analyst: XG
Processor: XGdjv
Cylinder ID: W-1636

David Dannhaus 361-661-7015

TANKS DATA INPUT REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Carbon Dioxide	0.247	0.069	0.072
Nitrogen	0.028	0.005	0.005
Methane	1.783	0.495	0.189
Ethane	1.753	0.768	0.347
Propane	3.454	1.559	1.004
Isobutane	1.097	0.588	0.420
n-Butane	4.120	2.132	1.582
Isopentane	2.486	1.490	1.183
n-Pentane	3.871	2.299	1.841
Other C-6's	3.338	2.255	1.897
Heptanes	10.615	7.239	6.598
Octanes	11.245	8.463	7.958
Nonanes	6.408	5.647	5.356
Decanes Plus	41.418	62.051	66.623
Benzene	0.923	0.423	0.475
Toluene	2.085	1.144	1.267
E-Benzene	0.226	0.143	0.158
Xylenes	1.806	1.141	1.264
n-Hexane	3.100	2.089	1.761
2,2,4 Trimethylpentane	0.000	0.000	0.000
Totals:	100.000	100.000	100.000

Characteristics of Total Sample:

Specific Gravity	0.7875	(Water=1)
°API Gravity	48.18	@ 60°F
Molecular Weight	151.7	
Vapor Volume	16.48	CF/Gal
Weight	6.56	Lbs/Gal

Characteristics of Decanes (C10) Plus:

Specific Gravity	0.8455	(Water=1)
Molecular Weight	244.0	

Characteristics of Atmospheric Sample:

°API Gravity	46.42	@ 60°F
Reid Vapor Pressure Equivalent (D-6377)	6.22	psi

QUALITY CONTROL CHECK			
	Sampling Conditions	Test Samples	
Cylinder Number	------	W-1636*	------
Pressure, PSIG	74	70	------
Temperature, °F	91	91	------

* Sample used for analysis

TOTAL EXTENDED REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Nitrogen	0.028	0.005	0.005
Carbon Dioxide	0.247	0.069	0.072
Methane	1.783	0.495	0.189
Ethane	1.753	0.768	0.347
Propane	3.454	1.559	1.004
Isobutane	1.097	0.588	0.420
n-Butane	4.088	2.112	1.567
2,2 Dimethylpropane	0.032	0.020	0.015
Isopentane	2.486	1.490	1.183
n-Pentane	3.871	2.299	1.841
2,2 Dimethylbutane	0.041	0.028	0.024
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.395	0.265	0.224
2 Methylpentane	1.832	1.246	1.041
3 Methylpentane	1.070	0.716	0.608
n-Hexane	3.100	2.089	1.761
Methylcyclopentane	1.726	1.001	0.958
Benzene	0.923	0.423	0.475
Cyclohexane	2.069	1.154	1.148
2-Methylhexane	1.085	0.826	0.717
3-Methylhexane	0.996	0.750	0.658
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C-7's	2.098	1.512	1.372
n-Heptane	2.641	1.996	1.745
Methylcyclohexane	3.403	2.241	2.203
Toluene	2.085	1.144	1.267
Other C-8's	5.714	4.435	4.153
n-Octane	2.127	1.786	1.602
E-Benzene	0.226	0.143	0.158
M & P Xylenes	1.253	0.797	0.877
O-Xylene	0.553	0.345	0.387
Other C-9's	4.734	4.104	3.940
n-Nonane	1.674	1.543	1.415
Other C-10's	4.948	4.714	4.609
n-decane	1.297	1.305	1.217
Undecanes(11)	4.702	4.596	4.558
Dodecanes(12)	3.474	3.668	3.687
Tridecanes(13)	3.399	3.848	3.922
Tetradecanes(14)	2.873	3.484	3.599
Pentadecanes(15)	2.584	3.357	3.510
Hexadecanes(16)	1.829	2.538	2.676
Heptadecanes(17)	1.785	2.621	2.790
Octadecanes(18)	1.513	2.339	2.505
Nonadecanes(19)	1.602	2.579	2.778
Eicosanes(20)	1.049	1.756	1.902
Heneicosanes(21)	1.106	1.948	2.122
Docosanes(22)	1.031	1.891	2.073
Tricosanes(23)	0.795	1.512	1.666
Tetracosanes(24)	0.723	1.425	1.577
Pentacosanes(25)	0.672	1.374	1.529
Hexacosanes(26)	0.594	1.258	1.405
Heptacosanes(27)	0.679	1.492	1.674
Octacosanes(28)	0.414	0.941	1.060
Nonacosanes(29)	0.455	1.067	1.206
Triacontanes(30)	0.414	1.003	1.137
Hentriacontanes Plus(31+)	3.480	11.335	13.422
Total	100.000	100.000	100.000

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Connections

	1	2	3	4	5
From Block	Contact Tower	Contact Tower	XCHG-100	VLVE-101	Flash Tank
To Block	XCHG-101	XCHG-100	VLVE-101	Flash Tank	FT CON1

Stream Composition

Mole Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	5.38887	1.77197	1.77197	1.77197	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	1.67394	0.0183535	0.0183535	0.0183535	
Methane	72.5586	2.62745	2.62745	2.62745	
Ethane	10.2599	0.882838	0.882838	0.882838	
Propane	5.47655	0.670024	0.670024	0.670024	
Isobutane	0.757964	0.0837987	0.0837987	0.0837987	
n-Butane	1.93204	0.301961	0.301961	0.301961	
Isopentane	0.487451	0.0939834	0.0939834	0.0939834	
n-Pentane	0.588042	0.137728	0.137728	0.137728	
Cyclopentane	0	0	0	0	
n-Hexane	0.179633	0.0574612	0.0574612	0.0574612	
Cyclohexane	0.0679013	0.0729961	0.0729961	0.0729961	
i-C6	0.265905	0.0763645	0.0763645	0.0763645	
iC7	0.210315	0.0818345	0.0818345	0.0818345	
Methylcyclohexane	0.045065	0.0505099	0.0505099	0.0505099	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	0.0409057	0.384916	0.384916	0.384916	
Toluene	0.0216655	0.27923	0.27923	0.27923	
Ethylbenzene	0.000922518	0.0118487	0.0118487	0.0118487	
o-Xylene	0.00223923	0.0406468	0.0406468	0.0406468	
Octane	0.0352918	0.0193303	0.0193303	0.0193303	
Triethylene Glycol	8.50046E-05	67.4711	67.4711	67.4711	
Water	0.00676012	24.8656	24.8656	24.8656	

Mass Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	10.2609	0.716063	0.716063	0.716063	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	2.02884	0.004721	0.004721	0.004721	
Methane	50.3618	0.387038	0.387038	0.387038	
Ethane	13.3476	0.243753	0.243753	0.243753	
Propane	10.4482	0.271291	0.271291	0.271291	
Isobutane	1.90604	0.0447227	0.0447227	0.0447227	
n-Butane	4.85846	0.161154	0.161154	0.161154	
Isopentane	1.5216	0.0622628	0.0622628	0.0622628	
n-Pentane	1.8356	0.0912434	0.0912434	0.0912434	
Cyclopentane	0	0	0	0	
n-Hexane	0.669746	0.0454681	0.0454681	0.0454681	
Cyclohexane	0.247242	0.0564094	0.0564094	0.0564094	
i-C6	0.991404	0.0604259	0.0604259	0.0604259	
iC7	0.911774	0.0752941	0.0752941	0.0752941	
Methylcyclohexane	0.191439	0.0455381	0.0455381	0.0455381	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	0.138242	0.276078	0.276078	0.276078	
Toluene	0.0863674	0.236239	0.236239	0.236239	
Ethylbenzene	0.00423738	0.0115505	0.0115505	0.0115505	
o-Xylene	0.0102854	0.0396239	0.0396239	0.0396239	
Octane	0.174417	0.020275	0.020275	0.020275	
Triethylene Glycol	0.000552301	93.0376	93.0376	93.0376	
Water	0.0052691	4.11329	4.11329	4.11329	

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Mass Flow	1 lb/h	2 lb/h	3 lb/h	4 lb/h	5 lb/h
Carbon Dioxide	18233.4	29.2538	29.2538	29.2538	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	3605.2	0.192871	0.192871	0.192871	0
Methane	89491.8	15.812	15.812	15.812	0
Ethane	23718.4	9.9582	9.9582	9.9582	0
Propane	18566.3	11.0832	11.0832	11.0832	0
Isobutane	3386.99	1.82709	1.82709	1.82709	0
n-Butane	8633.38	6.58375	6.58375	6.58375	0
Isopentane	2703.85	2.54367	2.54367	2.54367	0
n-Pentane	3261.83	3.72763	3.72763	3.72763	0
Cyclopentane	0	0	0	0	0
n-Hexane	1190.13	1.85754	1.85754	1.85754	0
Cyclohexane	439.344	2.30453	2.30453	2.30453	0
i-C6	1761.7	2.46862	2.46862	2.46862	0
iC7	1620.2	3.07605	3.07605	3.07605	0
Methylcyclohexane	340.183	1.8604	1.8604	1.8604	0
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	245.654	11.2788	11.2788	11.2788	0
Toluene	153.473	9.65123	9.65123	9.65123	0
Ethylbenzene	7.52974	0.471881	0.471881	0.471881	0
o-Xylene	18.277	1.61878	1.61878	1.61878	0
Octane	309.936	0.82831	0.82831	0.82831	0
Triethylene Glycol	0.981427	3800.93	3800.93	3800.93	0
Water	9.3631	168.043	168.043	168.043	0

Stream Properties

Property	Units	1	2	3	4	5
Temperature	°F	100.775	100.988	155 *	158.603	
Molecular Weight	lb/lbmol	23.1131	108.906	108.906	108.906	
Std Vapor Volumetric Flow	MMSCFD	70.021	0.341653	0.341653	0.341653	0
Std Liquid Volumetric Flow	sgpm	934.507	7.476	7.476	7.476	0
Gross Ideal Gas Heating Value	Btu/ft^3	1225.86	2922.68	2922.68	2922.68	

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Connections

	6	7	8	9	10
From Block	Flash Tank	XCHG-102	Reboiler	Regeneration Unit	Regeneration Unit
To Block	XCHG-102	Regeneration Unit	Regeneration Unit	Reboiler	Still Column

Stream Composition

Mole Fraction	6 %	7 %	8 %	9 %	10 %
Carbon Dioxide	0.41746	0.41746	0.000152724	3.75183E-05	1.81827
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.000187912	0.000187912	5.10952E-10	1.2486E-10	0.000818448
Methane	0.0963147	0.0963147	1.8215E-06	4.45604E-07	0.419498
Ethane	0.0982171	0.0982171	1.10656E-05	2.71311E-06	0.427786
Propane	0.127643	0.127643	3.6935E-05	9.074E-06	0.555951
Isobutane	0.0187042	0.0187042	7.64421E-06	1.88037E-06	0.0814665
n-Butane	0.088779	0.088779	6.18274E-05	1.52314E-05	0.38668
Isopentane	0.0398256	0.0398256	6.34331E-05	1.56898E-05	0.173462
n-Pentane	0.0641238	0.0641238	0.000130698	3.23644E-05	0.279293
Cyclopentane	0	0	0	0	0
n-Hexane	0.0353456	0.0353456	0.000153555	3.82061E-05	0.153948
Cyclohexane	0.0623128	0.0623128	0.00172271	0.000439299	0.271338
i-C6	0.0432451	0.0432451	0.000150515	3.73876E-05	0.188355
iC7	0.0580275	0.0580275	0.000414822	0.000103686	0.252733
Methylcyclohexane	0.0449727	0.0449727	0.00163874	0.000419771	0.195804
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.38938	0.38938	0.0754107	0.0199452	1.68975
Toluene	0.288416	0.288416	0.115245	0.0312184	1.24318
Ethylbenzene	0.0123454	0.0123454	0.00781184	0.00216183	0.0526736
o-Xylene	0.0425869	0.0425869	0.0420637	0.0119471	0.178188
Octane	0.0165618	0.0165618	0.000351857	8.89852E-05	0.072124
Triethylene Glycol	71.7136	71.7136	7.41662	71.9039	0.266961
Water	26.342	26.342	92.338	28.0296	91.2917

Mass Fraction	6 %	7 %	8 %	9 %	10 %
Carbon Dioxide	0.161539	0.161539	0.000240088	1.46004E-05	3.56453
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	4.62846E-05	4.62846E-05	5.11286E-10	3.09289E-11	0.0010213
Methane	0.0135857	0.0135857	1.0438E-06	6.32113E-08	0.299777
Ethane	0.0259671	0.0259671	1.18854E-05	7.21376E-07	0.572985
Propane	0.0494891	0.0494891	5.8177E-05	3.53809E-06	1.09202
Isobutane	0.00955869	0.00955869	1.58705E-05	9.66406E-07	0.21092
n-Butane	0.04537	0.04537	0.000128363	7.8281E-06	1.00113
Isopentane	0.0252644	0.0252644	0.000163479	1.00097E-05	0.557481
n-Pentane	0.0406785	0.0406785	0.000336833	2.06477E-05	0.897607
Cyclopentane	0	0	0	0	0
n-Hexane	0.0267815	0.0267815	0.000472677	2.91133E-05	0.590953
Cyclohexane	0.0461102	0.0461102	0.00517883	0.000326917	1.01721
i-C6	0.032767	0.032767	0.000463321	2.84896E-05	0.723032
iC7	0.0511242	0.0511242	0.00148476	9.18691E-05	1.12807
Methylcyclohexane	0.0388254	0.0388254	0.00574748	0.00036445	0.856386
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.267428	0.267428	0.21041	0.0137762	5.87946
Toluene	0.233656	0.233656	0.379297	0.0254347	5.10237
Ethylbenzene	0.011524	0.011524	0.0296246	0.00202944	0.249099
o-Xylene	0.0397534	0.0397534	0.159517	0.0112155	0.842671
Octane	0.0166341	0.0166341	0.00143568	8.98809E-05	0.366988
Triethylene Glycol	94.6913	94.6913	39.7846	95.4814	1.78582
Water	4.17259	4.17259	59.4208	4.46511	73.2605

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Mass Flow	6 lb/h	7 lb/h	8 lb/h	9 lb/h	10 lb/h
Carbon Dioxide	6.48421	6.48421	0.000592512	0.000596206	6.48431
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.00185787	0.00185787	1.2618E-09	1.26298E-09	0.00185788
Methane	0.545331	0.545331	2.57599E-06	2.58123E-06	0.545332
Ethane	1.04232	1.04232	2.93318E-05	2.94574E-05	1.04233
Propane	1.9865	1.9865	0.000143574	0.000144478	1.98651
Isobutane	0.383688	0.383688	3.91668E-05	3.94632E-05	0.38369
n-Butane	1.82116	1.82116	0.000316787	0.00031966	1.82118
Isopentane	1.01412	1.01412	0.000403448	0.000408746	1.01413
n-Pentane	1.63284	1.63284	0.000831268	0.000843148	1.63286
Cyclopentane	0	0	0	0	0
n-Hexane	1.07502	1.07502	0.00116651	0.00118884	1.07502
Cyclohexane	1.85087	1.85087	0.0127808	0.0133497	1.85043
i-C6	1.31527	1.31527	0.00114342	0.00116337	1.31528
iC7	2.05214	2.05214	0.00366422	0.00375147	2.0521
Methylcyclohexane	1.55846	1.55846	0.0141842	0.0148823	1.55787
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	10.7346	10.7346	0.51927	0.562552	10.6955
Toluene	9.37901	9.37901	0.936064	1.03863	9.28184
Ethylbenzene	0.462576	0.462576	0.0731103	0.0828723	0.453142
o-Xylene	1.59571	1.59571	0.39367	0.457983	1.53292
Octane	0.667695	0.667695	0.00354311	0.00367028	0.667596
Triethylene Glycol	3800.93	3800.93	98.1841	3898.98	3.24862
Water	167.489	167.489	146.644	182.333	133.27

Stream Properties

Property	Units	6	7	8	9	10
Temperature	°F	158.562	275 *	395 *	291.748	270.483
Molecular Weight	lb/lbmol	113.732	113.732	27.9951	113.09	22.4493
Std Vapor Volumetric Flow	MMSCFD	0.321441	0.321441	0.0802875	0.328861	0.0738013
Std Liquid Volumetric Flow	sgpm	7.18492	7.18492	0.471392	7.26961	0.395188
Gross Ideal Gas Heating Value	Btu/ft^3	3026.89	3026.89	363.041	2981.52	303.941

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Connections

	11	12	13	14	15
From Block	Still Column	Reboiler	XCHG-102	TEG Pump	Still Column
To Block	Regeneration Unit	XCHG-102	TEG Makeup	XCHG-103	BTEX Cond.

Stream Composition

Mole Fraction	11 %	12 %	13 %	14 %	15 %
Carbon Dioxide	0.00227499	3.07522E-07	3.07522E-07	0	1.84154
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	5.4474E-08	1.54571E-13	1.54571E-13	0	0.000828934
Methane	7.49257E-05	1.19846E-09	1.19846E-09	0	0.424872
Ethane	0.000171026	1.53042E-08	1.53042E-08	0	0.433264
Propane	0.00033095	7.50681E-08	7.50681E-08	0	0.56307
Isobutane	4.80578E-05	1.86825E-08	1.86825E-08	0	0.0825097
n-Butane	0.000362786	1.8116E-07	1.8116E-07	0	0.391629
Isopentane	0.00020616	2.69019E-07	2.69019E-07	2.68952E-07	0.175682
n-Pentane	0.000367774	6.03329E-07	6.03329E-07	6.0318E-07	0.282867
Cyclopentane	0	0	0	0	0
n-Hexane	0.000272474	9.49219E-07	9.49219E-07	9.48986E-07	0.155917
Cyclohexane	0.00148136	2.47658E-05	2.47658E-05	2.47597E-05	0.274796
i-C6	0.000335576	8.4804E-07	8.4804E-07	8.47832E-07	0.190764
iC7	0.000491204	3.19062E-06	3.19062E-06	3.18983E-06	0.255965
Methylcyclohexane	0.00111815	2.60518E-05	2.60518E-05	2.60454E-05	0.198299
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.0514159	0.00203023	0.00203023	0.00202973	1.71074
Toluene	0.0571011	0.00407846	0.00407846	0.00407746	1.25838
Ethylbenzene	0.00300533	0.000336906	0.000336906	0.000336823	0.05331
o-Xylene	0.014016	0.00221956	0.00221956	0.00221901	0.180292
Octane	0.000240173	4.07926E-06	4.07926E-06	4.07826E-06	0.073045
Triethylene Glycol	20.2724	92.7329	92.7329	92.7345	0.0106382
Water	79.5943	7.25839	7.25839	7.25673	91.4416

Mass Fraction	11 %	12 %	13 %	14 %	15 %
Carbon Dioxide	0.00222991	9.62749E-08	9.62749E-08	0	3.657
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	3.39873E-08	3.08024E-14	3.08024E-14	0	0.00104781
Methane	2.67709E-05	1.36768E-10	1.36768E-10	0	0.307558
Ethane	0.000114536	3.27356E-09	3.27356E-09	0	0.587855
Propane	0.000325027	2.35473E-08	2.35473E-08	0	1.12036
Isobutane	6.22111E-05	7.72445E-09	7.72445E-09	0	0.216394
n-Butane	0.000469629	7.49022E-08	7.49022E-08	0	1.02711
Isopentane	0.00033128	1.38071E-07	1.38071E-07	1.38035E-07	0.571943
n-Pentane	0.000590978	3.09652E-07	3.09652E-07	3.09571E-07	0.920892
Cyclopentane	0	0	0	0	0
n-Hexane	0.000522962	5.81889E-07	5.81889E-07	5.81737E-07	0.60628
Cyclohexane	0.00277668	1.48268E-05	1.48268E-05	1.48229E-05	1.04354
i-C6	0.000644073	5.19865E-07	5.19865E-07	5.19728E-07	0.741784
iC7	0.00109623	2.27427E-06	2.27427E-06	2.27367E-06	1.15732
Methylcyclohexane	0.00244519	1.81961E-05	1.81961E-05	1.81913E-05	0.878553
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.0894491	0.00112811	0.00112811	0.00112782	6.02976
Toluene	0.117178	0.00267318	0.00267318	0.00267248	5.23178
Ethylbenzene	0.00710616	0.000254437	0.000254437	0.000254371	0.255381
o-Xylene	0.0331411	0.00167625	0.00167625	0.00167581	0.863685
Octane	0.000611028	3.31472E-06	3.31472E-06	3.31385E-06	0.376498
Triethylene Glycol	67.8046	99.064	99.064	99.0643	0.072087
Water	31.9363	0.930191	0.930191	0.929963	74.3332

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Mass Flow	11 lb/h	12 lb/h	13 lb/h	14 lb/h	15 lb/h
Carbon Dioxide	0.000102635	3.69379E-06	3.69379E-06	0	6.48421
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.56432E-09	1.1818E-12	1.1818E-12	0	0.00185787
Methane	1.23217E-06	5.2474E-09	5.2474E-09	0	0.545331
Ethane	5.2717E-06	1.25597E-07	1.25597E-07	0	1.04232
Propane	1.49598E-05	9.03442E-07	9.03442E-07	0	1.9865
Isobutane	2.86336E-06	2.96365E-07	2.96365E-07	0	0.383687
n-Butane	2.16153E-05	2.87378E-06	2.87378E-06	0	1.82116
Isopentane	1.52476E-05	5.29737E-06	5.29737E-06	5.29737E-06	1.01411
n-Pentane	2.72006E-05	1.18804E-05	1.18804E-05	1.18804E-05	1.63283
Cyclopentane	0	0	0	0	0
n-Hexane	2.40701E-05	2.23254E-05	2.23254E-05	2.23254E-05	1.07499
Cyclohexane	0.000127801	0.00056886	0.00056886	0.00056886	1.8503
i-C6	2.96444E-05	1.99457E-05	1.99457E-05	1.99457E-05	1.31525
iC7	5.04554E-05	8.7257E-05	8.7257E-05	8.7257E-05	2.05205
Methylcyclohexane	0.000112543	0.000698131	0.000698131	0.000698131	1.55776
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.00411702	0.0432824	0.0432824	0.0432824	10.6913
Toluene	0.0053933	0.102562	0.102562	0.102562	9.27645
Ethylbenzene	0.000327071	0.00976202	0.00976202	0.00976202	0.452814
o-Xylene	0.00152537	0.0643127	0.0643127	0.0643127	1.5314
Octane	2.81234E-05	0.000127176	0.000127176	0.000127176	0.667568
Triethylene Glycol	3.1208	3800.8	3800.8	3801.8	0.127817
Water	1.46992	35.6887	35.6887	35.6893	131.8

Stream Properties

Property	Units	11	12	13	14	15
Temperature	°F	215 *	395	277.388	287.82	215
Molecular Weight	lb/lbmol	44.8991	140.575	140.575	140.578	22.1616
Std Vapor Volumetric Flow	MMSCFD	0.000933629	0.248573	0.248573	0.248634	0.0728677
Std Liquid Volumetric Flow	sgpm	0.00848888	6.79822	6.79822	6.8	0.386699
Gross Ideal Gas Heating Value	Btu/ft^3	881.452	3827.27	3827.27	3827.34	296.542

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Connections

	16	17	18	19	20
From Block	Flash Tank	XCHG-103	GAS TO DEHY1	XCHG-101	RCYL-3
To Block	FT1	RCYL-3	Contact Tower	DRY GAS 1	Contact Tower

Stream Composition

Mole Fraction	16 %	17 %	18 %	19 %	20 %
Carbon Dioxide	23.3133	0	5.39036	5.38887	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.30725	0	1.67181	1.67394	0
Methane	42.8812	0	72.4751	72.5586	0
Ethane	13.361	0	10.2506	10.2599	0
Propane	9.29576	0	5.47255	5.47655	0
Isobutane	1.11903	0	0.757367	0.757964	0
n-Butane	3.69229	0	1.93094	1.93204	0
Isopentane	0.955279	2.68952E-07	0.487262	0.487451	0
n-Pentane	1.3083	6.0318E-07	0.587933	0.588042	0
Cyclopentane	0	0	0	0	0
n-Hexane	0.409175	9.48986E-07	0.179675	0.179633	2.64145E-07
Cyclohexane	0.242897	2.47597E-05	0.0681669	0.0679013	7.3383E-06
i-C6	0.603077	8.47832E-07	0.265924	0.265905	2.40489E-07
iC7	0.460448	3.18983E-06	0.210435	0.210315	9.52006E-07
Methylcyclohexane	0.13857	2.60454E-05	0.0452513	0.045065	8.76273E-06
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.313927	0.00202973	0.0427249	0.0409057	0.000601802
Toluene	0.13313	0.00407746	0.022992	0.0216655	0.00149999
Ethylbenzene	0.00394906	0.000336823	0.000978328	0.000922518	0.000198152
o-Xylene	0.00979266	0.00221901	0.00242899	0.00223923	0.00150636
Octane	0.0633588	4.07826E-06	0.0353391	0.0352918	2.00905E-06
Triethylene Glycol	0.00129939	92.7345	0	8.50046E-05	92.7315
Water	1.38696	7.25673	0.102154	0.00676012	7.26466

Mass Fraction	16 %	17 %	18 %	19 %	20 %
Carbon Dioxide	31.9109	0	10.2631	10.2609	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.267698	0	2.02612	2.02884	0
Methane	21.3957	0	50.3006	50.3618	0
Ethane	12.4953	0	13.3346	13.3476	0
Propane	12.7488	0	10.4399	10.4482	0
Isobutane	2.02288	0	1.90441	1.90604	0
n-Butane	6.67461	0	4.85539	4.85846	0
Isopentane	2.14362	1.38035E-07	1.52091	1.5216	0
n-Pentane	2.93578	3.09571E-07	1.83514	1.8356	0
Cyclopentane	0	0	0	0	0
n-Hexane	1.09668	5.81737E-07	0.669858	0.669746	1.61932E-07
Cyclohexane	0.635789	1.48229E-05	0.248193	0.247242	4.39345E-06
i-C6	1.61638	5.19728E-07	0.991411	0.991404	1.4743E-07
iC7	1.43498	2.27367E-06	0.912234	0.911774	6.78614E-07
Methylcyclohexane	0.423163	1.81913E-05	0.192218	0.191439	6.12063E-06
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.762664	0.00112782	0.144381	0.138242	0.000334409
Toluene	0.381509	0.00267248	0.0916497	0.0863674	0.00098319
Ethylbenzene	0.0130396	0.000254371	0.00449344	0.00423738	0.000149654
o-Xylene	0.0323348	0.00167581	0.0111563	0.0102854	0.00113767
Octane	0.225097	3.31385E-06	0.17464	0.174417	1.63257E-06
Triethylene Glycol	0.00606903	99.0643	0	0.000552301	99.0664
Water	0.777129	0.929963	0.0796174	0.0052691	0.931029

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Dehy 1	

Mass Flow	16 lb/h	17 lb/h	18 lb/h	19 lb/h	20 lb/h
Carbon Dioxide	22.7696	0	18262.7	18233.4	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.191013	0	3605.4	3605.2	0
Methane	15.2666	0	89507.7	89491.8	0
Ethane	8.91588	0	23728.4	23718.4	0
Propane	9.09673	0	18577.4	18566.3	0
Isobutane	1.4434	0	3388.82	3386.99	0
n-Butane	4.76259	0	8639.96	8633.38	0
Isopentane	1.52955	5.29737E-06	2706.4	2703.85	0
n-Pentane	2.09479	1.18804E-05	3265.56	3261.83	0
Cyclopentane	0	0	0	0	0
n-Hexane	0.782524	2.23254E-05	1191.98	1190.13	6.21452E-06
Cyclohexane	0.45366	0.00056886	441.649	439.344	0.000168609
i-C6	1.15335	1.99457E-05	1764.17	1761.7	5.65798E-06
iC7	1.02391	8.7257E-05	1623.28	1620.2	2.60435E-05
Methylcyclohexane	0.301943	0.000698131	342.044	340.183	0.000234894
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.54419	0.0432824	256.92	245.654	0.0128338
Toluene	0.272221	0.102562	163.087	153.473	0.0377323
Ethylbenzene	0.00930424	0.00976202	7.99588	7.52974	0.00574333
o-Xylene	0.0230721	0.0643127	19.8521	18.277	0.0436609
Octane	0.160615	0.000127176	310.764	309.936	6.2654E-05
Triethylene Glycol	0.00433049	3801.8	0	0.981427	3801.91
Water	0.554511	35.6893	141.676	9.3631	35.7305

Stream Properties

Property	Units	16	17	18	19	20
Temperature	°F	158.562	95 *	99.9999	90 *	95
Molecular Weight	lb/lbmol	32.1523	140.578	23.1146	23.1131	140.57
Std Vapor Volumetric Flow	MMSCFD	0.020212	0.248634	70.114	70.021	0.24865
Std Liquid Volumetric Flow	sgpm	0.29108	6.8	935.183	934.507	6.8
Gross Ideal Gas Heating Value	Btu/ft^3	1265.38	3827.34	1224.9	1225.86	3827

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Connections

	24	25	26	27	30
From Block	BTEX Cond.	--	TEG Makeup	TEG Makeup	Blowcase
To Block	Blowcase	TEG Makeup	--	TEG Pump	BTEX COND. VAPORS 1

Stream Composition

Mole Fraction	24 %	25 %	26 %	27 %	30 %
Carbon Dioxide	1.84154	0 *	3.07522E-07	0	31.6598
Hydrogen Sulfide	0	0 *	0	0	0
Nitrogen	0.000828934	0 *	1.54571E-13	0	0.0144011
Methane	0.424872	0 *	1.19846E-09	0	7.37069
Ethane	0.433264	0 *	1.53042E-08	0	7.45216
Propane	0.56307	0 *	7.50681E-08	0	9.48854
Isobutane	0.0825097	0 *	1.86825E-08	0	1.33745
n-Butane	0.391629	0 *	1.8116E-07	0	6.14115
Isopentane	0.175682	0 *	2.69019E-07	2.68952E-07	2.43262
n-Pentane	0.282867	0 *	6.03329E-07	6.0318E-07	3.70047
Cyclopentane	0	0 *	0	0	0
n-Hexane	0.155917	0 *	9.49219E-07	9.48986E-07	1.37301
Cyclohexane	0.274796	0 *	2.47658E-05	2.47597E-05	1.89574
i-C6	0.190764	0 *	8.4804E-07	8.47832E-07	1.92946
iC7	0.255965	0 *	3.19062E-06	3.18983E-06	1.4618
Methylcyclohexane	0.198299	0 *	2.60518E-05	2.60454E-05	0.799416
2,2,4-Trimethylpentane	0	0 *	0	0	0
Benzene	1.71074	0 *	0.00203023	0.00202973	10.2892
Toluene	1.25838	0 *	0.00407846	0.00407746	3.29457
Ethylbenzene	0.05331	0 *	0.000336906	0.000336823	0.0470124
o-Xylene	0.180292	0 *	0.00221956	0.00221901	0.179088
Octane	0.073045	0 *	4.07926E-06	4.07826E-06	0.123682
Triethylene Glycol	0.0106382	99.5 *	92.7329	92.7345	7.32126E-08
Water	91.4416	0.5 *	7.25839	7.25673	9.00973

Mass Fraction	24 %	25 %	26 %	27 %	30 %
Carbon Dioxide	3.657	0 *	9.62749E-08	0	27.8196
Hydrogen Sulfide	0	0 *	0	0	0
Nitrogen	0.00104781	0 *	3.08024E-14	0	0.00805489
Methane	0.307558	0 *	1.36768E-10	0	2.36089
Ethane	0.587855	0 *	3.27356E-09	0	4.47403
Propane	1.12036	0 *	2.35473E-08	0	8.35395
Isobutane	0.216394	0 *	7.72445E-09	0	1.55209
n-Butane	1.02711	0 *	7.49022E-08	0	7.12671
Isopentane	0.571943	0 *	1.38071E-07	1.38035E-07	3.50429
n-Pentane	0.920892	0 *	3.09652E-07	3.09571E-07	5.33069
Cyclopentane	0	0 *	0	0	0
n-Hexane	0.60628	0 *	5.81889E-07	5.81737E-07	2.3624
Cyclohexane	1.04354	0 *	1.48268E-05	1.48229E-05	3.18551
i-C6	0.741784	0 *	5.19865E-07	5.19728E-07	3.31983
iC7	1.15732	0 *	2.27427E-06	2.27367E-06	2.92456
Methylcyclohexane	0.878553	0 *	1.81961E-05	1.81913E-05	1.56718
2,2,4-Trimethylpentane	0	0 *	0	0	0
Benzene	6.02976	0 *	0.00112811	0.00112782	16.0471
Toluene	5.23178	0 *	0.00267318	0.00267248	6.06089
Ethylbenzene	0.255381	0 *	0.000254437	0.000254371	0.099653
o-Xylene	0.863685	0 *	0.00167625	0.00167581	0.379617
Octane	0.376498	0 *	3.31472E-06	3.31385E-06	0.282084
Triethylene Glycol	0.072087	99.9398 *	99.064	99.0643	2.1952E-07
Water	74.3332	0.0602469 *	0.930191	0.929963	3.24078

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Mass Flow	24 lb/h	25 lb/h	26 lb/h	27 lb/h	30 lb/h
Carbon Dioxide	6.48421	0 *	0	0	6.41295
Hydrogen Sulfide	0	0 *	0	0	0
Nitrogen	0.00185787	0 *	0	0	0.0018568
Methane	0.545331	0 *	0	0	0.54423
Ethane	1.04232	0 *	0	0	1.03135
Propane	1.9865	0 *	0	0	1.92574
Isobutane	0.383687	0 *	0	0	0.357785
n-Butane	1.82116	0 *	0	0	1.64284
Isopentane	1.01411	0 *	0	5.29737E-06	0.807805
n-Pentane	1.63283	0 *	0	1.18804E-05	1.22882
Cyclopentane	0	0 *	0	0	0
n-Hexane	1.07499	0 *	0	2.23254E-05	0.544577
Cyclohexane	1.8503	0 *	0	0.00056886	0.734321
i-C6	1.31525	0 *	0	1.99457E-05	0.765284
iC7	2.05205	0 *	0	8.7257E-05	0.674167
Methylcyclohexane	1.55776	0 *	0	0.000698131	0.361265
2,2,4-Trimethylpentane	0	0 *	0	0	0
Benzene	10.6913	0 *	0	0.0432824	3.69916
Toluene	9.27645	0 *	0	0.102562	1.39715
Ethylbenzene	0.452814	0 *	0	0.00976202	0.0229719
o-Xylene	1.5314	0 *	0	0.0643127	0.0875089
Octane	0.667568	0 *	0	0.000127176	0.0650257
Triethylene Glycol	0.127817	1.00411 *	0	3801.8	5.06036E-08
Water	131.8	0.00060531 *	0	35.6893	0.747061

Stream Properties

Property	Units	24	25	26	27	30
Temperature	°F	110 *	85 *		277.341	110
Molecular Weight	lb/lbmol	22.1616	149.512	140.575	140.578	50.0844
Std Vapor Volumetric Flow	MMSCFD	0.0728677	6.12029E-05	0	0.248634	0.00419187
Std Liquid Volumetric Flow	sgpm	0.386699	0.00177821	0	6.8 *	0.0683045
Gross Ideal Gas Heating Value	Btu/ft^3	296.542	4102.48	3827.27	3827.34	1854.28

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Connections

	31	32			
From Block	Blowcase	PUMP-101			
To Block	PUMP-101	BTEX LIQUIDS 1			

Stream Composition

Mole Fraction	31 %	32 %			
Carbon Dioxide	0.0214735	0.0214735			
Hydrogen Sulfide	0	0			
Nitrogen	5.07026E-07	5.07026E-07			
Methane	0.000909632	0.000909632			
Ethane	0.0048413	0.0048413			
Propane	0.0182725	0.0182725			
Isobutane	0.00591003	0.00591003			
n-Butane	0.0406867	0.0406867			
Isopentane	0.0379214	0.0379214			
n-Pentane	0.0742609	0.0742609			
Cyclopentane	0	0			
n-Hexane	0.0816271	0.0816271			
Cyclohexane	0.175855	0.175855			
i-C6	0.0846364	0.0846364			
iC7	0.182363	0.182363			
Methylcyclohexane	0.161608	0.161608			
2,2,4-Trimethylpentane	0	0			
Benzene	1.18713	1.18713			
Toluene	1.13409	1.13409			
Ethylbenzene	0.0536944	0.0536944			
o-Xylene	0.180365	0.180365			
Octane	0.0699542	0.0699542			
Triethylene Glycol	0.0112875	0.0112875			
Water	96.4731	96.4731			

Mass Fraction	31 %	32 %			
Carbon Dioxide	0.0461957	0.0461957			
Hydrogen Sulfide	0	0			
Nitrogen	6.94301E-07	6.94301E-07			
Methane	0.000713327	0.000713327			
Ethane	0.00711597	0.00711597			
Propane	0.0393863	0.0393863			
Isobutane	0.0167913	0.0167913			
n-Butane	0.115597	0.115597			
Isopentane	0.133741	0.133741			
n-Pentane	0.261903	0.261903			
Cyclopentane	0	0			
n-Hexane	0.343851	0.343851			
Cyclohexane	0.723453	0.723453			
i-C6	0.356527	0.356527			
iC7	0.893233	0.893233			
Methylcyclohexane	0.775646	0.775646			
2,2,4-Trimethylpentane	0	0			
Benzene	4.53279	4.53279			
Toluene	5.10788	5.10788			
Ethylbenzene	0.278652	0.278652			
o-Xylene	0.936023	0.936023			
Octane	0.390607	0.390607			
Triethylene Glycol	0.0828595	0.0828595			
Water	84.957	84.957			

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Dehy 1		

Mass Flow	31 lb/h	32 lb/h			
Carbon Dioxide	0.0712604	0.0712604			
Hydrogen Sulfide	0	0			
Nitrogen	1.07101E-06	1.07101E-06			
Methane	0.00110036	0.00110036			
Ethane	0.0109769	0.0109769			
Propane	0.0607564	0.0607564			
Isobutane	0.0259019	0.0259019			
n-Butane	0.178317	0.178317			
Isopentane	0.206306	0.206306			
n-Pentane	0.404006	0.404006			
Cyclopentane	0	0			
n-Hexane	0.530416	0.530416			
Cyclohexane	1.11598	1.11598			
i-C6	0.549971	0.549971			
iC7	1.37788	1.37788			
Methylcyclohexane	1.19649	1.19649			
2,2,4-Trimethylpentane	0	0			
Benzene	6.99218	6.99218			
Toluene	7.8793	7.8793			
Ethylbenzene	0.429843	0.429843			
o-Xylene	1.44389	1.44389			
Octane	0.602542	0.602542			
Triethylene Glycol	0.127817	0.127817			
Water	131.053	131.053			

Stream Properties

Property	Units	31	32			
Temperature	°F	110	128.258			
Molecular Weight	lb/lbmol	20.4573	20.4573			
Std Vapor Volumetric Flow	MMSCFD	0.0686758	0.0686758			
Std Liquid Volumetric Flow	sgpm	0.318395	0.318395			
Gross Ideal Gas Heating Value	Btu/ft^3	201.46	201.46			

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	FUEL GAS	INLET GAS	PERMEATE	SALES GAS	WATER
From Block	Fuel Scrubber	--	VLVE-103	SPLT-100	--
To Block	--	SAT-1	MIX-104	--	MIX-100

Stream Composition

Mole Fraction	FUEL GAS %	INLET GAS %	PERMEATE %	SALES GAS %	WATER %
Carbon Dioxide	2.22172	5.334 *	7.0014	5.38887	0 *
Hydrogen Sulfide	0	0 *	0	0	0 *
Nitrogen	3.69301	1.697 *	0.808209	1.67394	0 *
Methane	85.4955	72.546 *	69.4403	72.5586	0 *
Ethane	5.92927	10.176 *	12.1975	10.2599	0 *
Propane	2.10255	5.422 *	6.45138	5.47654	0 *
Isobutane	0.119253	0.75 *	0.865488	0.757964	0 *
n-Butane	0.281612	1.916 *	2.04382	1.93204	0 *
Isopentane	0.0519144	0.489 *	0.411754	0.48745	0 *
n-Pentane	0.0499669	0.594 *	0.453359	0.588042	0 *
Cyclopentane	0	0 *	0	0	0 *
n-Hexane	0.00790211	0.197 *	0.0743537	0.179633	0 *
Cyclohexane	0.00265442	0.077 *	0.0249763	0.0679016	0 *
i-C6	0.0144066	0.281 *	0.135556	0.265905	0 *
iC7	0.00598966	0.263 *	0.0563588	0.210315	0 *
Methylcyclohexane	0.000968573	0.064 *	0.00911365	0.0450653	0 *
2,2,4-Trimethylpentane	0	0 *	0	0	0 *
Benzene	0.00118487	0.047 *	0.0183716	0.0409146	0 *
Toluene	0.000288974	0.034 *	0.00448061	0.0216773	0 *
Ethylbenzene	5.51479E-06	0.003 *	8.46211E-05	0.000923336	0 *
o-Xylene	1.13534E-05	0.009 *	0.000171832	0.00224306	0 *
Octane	0.000332994	0.101 *	0.00333844	0.0352918	0 *
Triethylene Glycol	7.38552E-06	0 *	0	8.50197E-05	0 *
Water	0.021417	0 *	0	0.00674987	100 *

Mass Fraction	FUEL GAS %	INLET GAS %	PERMEATE %	SALES GAS %	WATER %
Carbon Dioxide	5.2069	10.1002 *	13.0756	10.2609	0 *
Hydrogen Sulfide	0	0 *	0	0	0 *
Nitrogen	5.50923	2.04539 *	0.960773	2.02883	0 *
Methane	73.0397	50.0742 *	47.273	50.3617	0 *
Ethane	9.49436	13.1652 *	15.564	13.3476	0 *
Propane	4.93725	10.2869 *	12.072	10.4482	0 *
Isobutane	0.36911	1.87557 *	2.13469	1.90604	0 *
n-Butane	0.871642	4.79145 *	5.041	4.85845	0 *
Isopentane	0.199463	1.51798 *	1.26066	1.5216	0 *
n-Pentane	0.19198	1.84393 *	1.38804	1.8356	0 *
Cyclopentane	0	0 *	0	0	0 *
n-Hexane	0.0362636	0.73043 *	0.271905	0.669746	0 *
Cyclohexane	0.0118964	0.278819 *	0.0891995	0.247243	0 *
i-C6	0.0661131	1.04188 *	0.495717	0.991403	0 *
iC7	0.0319612	1.13386 *	0.239645	0.911773	0 *
Methylcyclohexane	0.00506439	0.27037 *	0.0379728	0.19144	0 *
2,2,4-Trimethylpentane	0	0 *	0	0	0 *
Benzene	0.00492868	0.157959 *	0.0608969	0.138273	0 *
Toluene	0.0014179	0.134787 *	0.017519	0.0864143	0 *
Ethylbenzene	3.11785E-05	0.0137035 *	0.000381233	0.00424113	0 *
o-Xylene	6.41875E-05	0.0411105 *	0.000774135	0.010303	0 *
Octane	0.00202561	0.496392 *	0.0161826	0.174417	0 *
Triethylene Glycol	5.90632E-05	0 *	0	0.000552398	0 *
Water	0.0205468	0 *	0	0.00526111	100 *

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Inlet	

Mass Flow	FUEL GAS lb/h	INLET GAS lb/h	PERMEATE lb/h	SALES GAS lb/h	WATER lb/h
Carbon Dioxide	297.919	52675.9 *	1992	52356.7	0 *
Hydrogen Sulfide	0	0 *	0	0	0 *
Nitrogen	315.217	10667.4 *	146.369	10352.2	0 *
Methane	4179.05	261154 *	7201.8	256973	0 *
Ethane	543.23	68660.8 *	2371.09	68106.6	0 *
Propane	282.49	53649.7 *	1839.11	53312.6	0 *
Isobutane	21.119	9781.73 *	325.208	9725.64	0 *
n-Butane	49.872	24989.1 *	767.969	24790.5	0 *
Isopentane	11.4125	7916.81 *	192.055	7764.03	0 *
n-Pentane	10.9843	9616.74 *	211.461	9366.24	0 *
Cyclopentane	0	0 *	0	0	0 *
n-Hexane	2.07486	3809.45 *	41.4233	3417.41	0 *
Cyclohexane	0.680667	1454.14 *	13.5891	1261.57	0 *
i-C6	3.78274	5433.78 *	75.5199	5058.68	0 *
iC7	1.82869	5913.5 *	36.5087	4652.36	0 *
Methylcyclohexane	0.289765	1410.08 *	5.78496	976.832	0 *
2,2,4-Trimethylpentane	0	0 *	0	0	0 *
Benzene	0.282	823.81 *	9.27732	705.542	0 *
Toluene	0.0811266	702.963 *	2.66893	440.933	0 *
Ethylbenzene	0.00178391	71.4686 *	0.0580789	21.6406	0 *
o-Xylene	0.00367256	214.406 *	0.117935	52.5715	0 *
Octane	0.115898	2588.86 *	2.46534	889.972	0 *
Triethylene Glycol	0.00337937	0 *	0	2.81864	0 *
Water	1.17561	0 *	0	26.845	5106.54 *

Stream Properties

Property	Units	FUEL GAS	INLET GAS	PERMEATE	SALES GAS	WATER
Temperature	°F	85.7569	60 *	111.772	93.2481	60 *
Molecular Weight	lb/lbmol	18.7783	23.2419	23.5651	23.1132	18.0153
Std Vapor Volumetric Flow	MMSCFD	2.77503	204.37 *	5.88794	201.063	2.58161
Std Liquid Volumetric Flow	sgpm	33.8776	2733.16	79.413	2683.41	10.2083 *
Gross Ideal Gas Heating Value	Btu/ft^3	1040.13	1233.55	1224.75	1225.86	50.31

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	1	2	3	4	5
From Block	FT1	--	3606 & 3516 HP DUMPS	SAT-1	MIX-100
To Block	RCYL-4	SAT-1	RCYL-1	MIX-100	MIX-101

Stream Composition

Mole Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	23.3133	0 *	3.28809	5.3181	5.25195
Hydrogen Sulfide	0	0 *	0	0	0
Nitrogen	0.30725	0 *	0.287877	1.69194	1.6709
Methane	42.8812	0 *	25.38	72.3297	71.4301
Ethane	13.361	0 *	9.82154	10.1457	10.0195
Propane	9.29576	0 *	10.1853	5.40583	5.3386
Isobutane	1.11903	0 *	2.26549	0.747764	0.738463
n-Butane	3.69229	0 *	7.235	1.91029	1.88653
Isopentane	0.955279	0 *	2.81781	0.487542	0.481478
n-Pentane	1.3083	0 *	3.99479	0.592229	0.584863
Cyclopentane	0	0 *	0	0	0
n-Hexane	0.409175	0 *	2.46767	0.196413	0.19397
Cyclohexane	0.242897	0 *	1.09427	0.0767704	0.0758156
i-C6	0.603077	0 *	3.02446	0.280162	0.276678
iC7	0.460448	0 *	4.28507	0.262216	0.258954
Methylcyclohexane	0.13857	0 *	1.20861	0.0638092	0.0630155
2,2,4-Trimethylpentane	0	0 *	0	0	0
Benzene	0.313927	0 *	0.60389	0.0468599	0.046277
Toluene	0.13313	0 *	0.640615	0.0338986	0.033477
Ethylbenzene	0.00394906	0 *	0.0518663	0.00299105	0.00295385
o-Xylene	0.00979266	0 *	0.149941	0.00897316	0.00886156
Octane	0.0633588	0 *	1.68439	0.100699	0.0994464
Triethylene Glycol	0.00129939	0 *	3.77626E-10	0	0
Water	1.38696	100 *	19.5134	0.29818	1.53824

Mass Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	31.9109	0 *	3.50119	10.0768	9.97932
Hydrogen Sulfide	0	0 *	0	0	0
Nitrogen	0.267698	0 *	0.195119	2.04066	2.02092
Methane	21.3957	0 *	9.8512	49.9583	49.475
Ethane	12.4953	0 *	7.14539	13.1347	13.0076
Propane	12.7488	0 *	10.8666	10.2631	10.1638
Isobutane	2.02288	0 *	3.18589	1.87123	1.85313
n-Butane	6.67461	0 *	10.1744	4.78037	4.73412
Isopentane	2.14362	0 *	4.91889	1.51447	1.49982
n-Pentane	2.93578	0 *	6.97347	1.83967	1.82187
Cyclopentane	0	0 *	0	0	0
n-Hexane	1.09668	0 *	5.14513	0.72874	0.72169
Cyclohexane	0.635789	0 *	2.2282	0.278175	0.275483
i-C6	1.61638	0 *	6.30605	1.03947	1.02942
iC7	1.43498	0 *	10.3887	1.13124	1.1203
Methylcyclohexane	0.423163	0 *	2.8712	0.269745	0.267135
2,2,4-Trimethylpentane	0	0 *	0	0	0
Benzene	0.762664	0 *	1.1413	0.157593	0.156069
Toluene	0.381509	0 *	1.42812	0.134476	0.133175
Ethylbenzene	0.0130396	0 *	0.133227	0.0136718	0.0135396
o-Xylene	0.0323348	0 *	0.385149	0.0410154	0.0406187
Octane	0.225097	0 *	4.65526	0.495244	0.490453
Triethylene Glycol	0.00606903	0 *	1.37208E-09	0	0
Water	0.777129	100 *	8.5055	0.231281	1.19646

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Mass Flow	1 lb/h	2 lb/h	3 lb/h	4 lb/h	5 lb/h
Carbon Dioxide	22.7696	0 *	73.9182	52675.9	52675.9
Hydrogen Sulfide	0	0 *	0	0	0
Nitrogen	0.191013	0 *	4.11941	10667.4	10667.4
Methane	15.2666	0 *	207.981	261154	261154
Ethane	8.91588	0 *	150.855	68660.8	68660.8
Propane	9.09673	0 *	229.42	53649.7	53649.7
Isobutane	1.4434	0 *	67.2615	9781.73	9781.73
n-Butane	4.76259	0 *	214.804	24989.1	24989.1
Isopentane	1.52955	0 *	103.849	7916.81	7916.81
n-Pentane	2.09479	0 *	147.226	9616.74	9616.74
Cyclopentane	0	0 *	0	0	0
n-Hexane	0.782524	0 *	108.625	3809.45	3809.45
Cyclohexane	0.45366	0 *	47.0423	1454.14	1454.14
i-C6	1.15335	0 *	133.135	5433.78	5433.78
iC7	1.02391	0 *	219.329	5913.5	5913.5
Methylcyclohexane	0.301943	0 *	60.6177	1410.08	1410.08
2,2,4-Trimethylpentane	0	0 *	0	0	0
Benzene	0.54419	0 *	24.0955	823.81	823.81
Toluene	0.272221	0 *	30.1508	702.963	702.963
Ethylbenzene	0.00930424	0 *	2.81273	71.4686	71.4686
o-Xylene	0.0230721	0 *	8.13138	214.406	214.406
Octane	0.160615	0 *	98.2832	2588.86	2588.86
Triethylene Glycol	0.00433049	0 *	2.89678E-08	0	0
Water	0.554511	1209.01 *	179.57	1209.01	6315.54

Stream Properties

Property	Units	1	2	3	4	5
Temperature	°F	158.562	318.941	34.912	60	60.0041
Molecular Weight	lb/lbmol	32.1523	18.0153	41.3307	23.2263	23.1615
Std Vapor Volumetric Flow	MMSCFD	0.020212	0.611214	0.465229	204.981	207.563
Std Liquid Volumetric Flow	sgpm	0.29108	2.4169	7.53622	2735.58	2745.78
Gross Ideal Gas Heating Value	Btu/ft^3	1265.38	50.31	2052.47	1230.02	1215.34

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	6	7	8	9	10
From Block	MIX-101	Inlet Separator	Inlet Separator	Low Pressure Separator	VLVE-101
To Block	Inlet Separator	MIX-103	VLVE-101	VLVE-100	MIX-106

Stream Composition

Mole Fraction	6 %	7 %	8 %	9 %	10 %
Carbon Dioxide	5.27755	5.36472	0.0737455	0.00203493	0.0737455
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.63157	1.65887	0.00164157	1.39918E-06	0.00164157
Methane	70.8185	72.0002	0.272115	0.000455758	0.272115
Ethane	10.0645	10.2286	0.268962	0.000489504	0.268962
Propane	5.41906	5.50072	0.543742	0.0004399	0.543742
Isobutane	0.759771	0.769055	0.205496	5.93433E-05	0.205496
n-Butane	1.95536	1.97476	0.796576	0.000256485	0.796576
Isopentane	0.509557	0.508974	0.544318	5.38756E-05	0.544318
n-Pentane	0.625221	0.620583	0.90216	3.29085E-05	0.90216
Cyclopentane	0	0	0	0	0
n-Hexane	0.22075	0.204716	1.17799	8.70105E-06	1.17799
Cyclohexane	0.0878894	0.0796754	0.578277	5.61486E-05	0.578277
i-C6	0.308885	0.295135	1.12977	2.25197E-05	1.12977
iC7	0.307983	0.258816	3.24336	1.30572E-05	3.24336
Methylcyclohexane	0.0770658	0.0594788	1.12704	2.01242E-05	1.12704
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.0528138	0.0488638	0.288633	0.00120043	0.288633
Toluene	0.040867	0.0305608	0.656167	0.000659847	0.656167
Ethylbenzene	0.00356256	0.00165702	0.117326	3.39266E-05	0.117326
o-Xylene	0.0106117	0.00441656	0.38047	0.000138282	0.38047
Octane	0.119478	0.0575349	3.8176	9.91154E-07	3.8176
Triethylene Glycol	3.81573E-06	4.3921E-12	0.000231621	0.000276377	0.000231621
Water	1.70893	0.33266	83.8744	99.9937	83.8744

Mass Fraction	6 %	7 %	8 %	9 %	10 %
Carbon Dioxide	9.92304	10.1325	0.109331	0.00497039	0.109331
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.95271	1.99434	0.00154913	2.17537E-06	0.00154913
Methane	48.5382	49.5708	0.147057	0.000405788	0.147057
Ethane	12.9294	13.1995	0.272441	0.000816903	0.272441
Propane	10.209	10.4097	0.807702	0.00107657	0.807702
Isobutane	1.88665	1.91832	0.402354	0.000191429	0.402354
n-Butane	4.85549	4.92582	1.55967	0.000827368	1.55967
Isopentane	1.57068	1.57596	1.32295	0.000215733	1.32295
n-Pentane	1.92721	1.92154	2.19268	0.000131774	2.19268
Cyclopentane	0	0	0	0	0
n-Hexane	0.812735	0.757105	3.4197	4.16149E-05	3.4197
Cyclohexane	0.316013	0.287772	1.63946	0.000262263	1.63946
i-C6	1.13722	1.0915	3.27972	0.000107706	3.27972
iC7	1.31847	1.11298	10.948	7.26139E-05	10.948
Methylcyclohexane	0.323279	0.25063	3.72779	0.000109664	3.72779
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.17625	0.163805	0.759496	0.00520411	0.759496
Toluene	0.160872	0.120844	2.03666	0.00337426	2.03666
Ethylbenzene	0.0161588	0.00754973	0.419603	0.000199902	0.419603
o-Xylene	0.0481317	0.0201227	1.36071	0.000814783	1.36071
Octane	0.583082	0.282051	14.6902	6.28362E-06	14.6902
Triethylene Glycol	2.44814E-05	2.83064E-11	0.00117174	0.0023035	0.00117174
Water	1.31532	0.257195	50.9018	99.9789	50.9018

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Inlet	

Mass Flow	6 lb/h	7 lb/h	8 lb/h	9 lb/h	10 lb/h
Carbon Dioxide	55023.1	55010.4	12.6662	0.292882	12.6662
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	10827.7	10827.5	0.17947	0.000128184	0.17947
Methane	269143	269126	17.0368	0.0239112	17.0368
Ethane	71693.4	71661.9	31.5628	0.0481363	31.5628
Propane	56608.9	56515.3	93.5737	0.0634375	93.5737
Isobutane	10461.4	10414.8	46.6134	0.01128	46.6134
n-Butane	26923.6	26742.9	180.69	0.0487529	180.69
Isopentane	8709.38	8556.11	153.267	0.0127121	153.267
n-Pentane	10686.3	10432.3	254.026	0.00776485	254.026
Cyclopentane	0	0	0	0	0
n-Hexane	4506.6	4110.42	396.179	0.00245217	396.179
Cyclohexane	1752.29	1562.35	189.935	0.0154539	189.935
i-C6	6305.87	5925.91	379.961	0.00634661	379.961
iC7	7310.87	6042.53	1268.34	0.0042788	1268.34
Methylcyclohexane	1792.57	1360.7	431.871	0.00646197	431.871
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	977.305	889.316	87.989	0.306654	87.989
Toluene	892.03	656.079	235.95	0.198829	235.95
Ethylbenzene	89.6002	40.9885	48.6117	0.0117793	48.6117
o-Xylene	266.889	109.249	157.64	0.0480113	157.64
Octane	3233.18	1531.29	1701.89	0.000370264	1701.89
Triethylene Glycol	0.135749	1.53679E-07	0.135748	0.135735	0.135748
Water	7293.41	1396.35	5897.06	5891.29	5897.06

Stream Properties

Property	Units	6	7	8	9	10
Temperature	°F	55.4689	54.3729	54.3729	95	52.9287
Molecular Weight	lb/lbmol	23.4064	23.3012	29.685	18.018	29.685
Std Vapor Volumetric Flow	MMSCFD	215.76	212.205	3.55443	2.97852	3.55443
Std Liquid Volumetric Flow	sgpm	2864.13	2835.89	28.2396	11.7804	28.2396
Gross Ideal Gas Heating Value	Btu/ft^3	1226.46	1233.1	829.844	50.4456	829.844

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	11	12	13	14	15
From Block	VLVE-100	Low Pressure Separator	Low Pressure Separator	MIX-102	VRU
To Block	MIX-102	Cond. Tank	VRU	LIQUIDS TO STORAGE	MIX-103

Stream Composition

Mole Fraction	11 %	12 %	13 %	14 %	15 %
Carbon Dioxide	0.00203493	0.0635597	4.63274	0.00203493	4.63274
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.39918E-06	0.000173643	0.119488	1.39918E-06	0.119488
Methane	0.000455758	0.0961612	19.0526	0.000455758	19.0526
Ethane	0.000489504	0.444283	14.9911	0.000489504	14.9911
Propane	0.0004399	1.89109	19.4279	0.0004399	19.4279
Isobutane	5.93433E-05	1.00017	4.21143	5.93433E-05	4.21143
n-Butane	0.000256485	4.23939	12.3409	0.000256485	12.3409
Isopentane	5.38756E-05	3.30263	3.98076	5.38756E-05	3.98076
n-Pentane	3.29085E-05	5.60326	5.17874	3.29085E-05	5.17874
Cyclopentane	0	0	0	0	0
n-Hexane	8.70105E-06	7.73982	2.11108	8.70105E-06	2.11108
Cyclohexane	5.61486E-05	3.81871	0.821753	5.61486E-05	0.821753
i-C6	2.25197E-05	7.35021	2.82365	2.25197E-05	2.82365
iC7	1.30572E-05	21.5776	2.87162	1.30572E-05	2.87162
Methylcyclohexane	2.01242E-05	7.52579	0.691745	2.01242E-05	0.691745
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.00120043	1.89166	0.495187	0.00120043	0.495187
Toluene	0.000659847	4.38185	0.359256	0.000659847	0.359256
Ethylbenzene	3.39266E-05	0.787794	0.0222322	3.39266E-05	0.0222322
o-Xylene	0.000138282	2.55561	0.0602078	0.000138282	0.0602078
Octane	9.91154E-07	25.6351	0.774703	9.91154E-07	0.774703
Triethylene Glycol	0.000276377	1.58393E-07	5.07158E-10	0.000276377	5.07158E-10
Water	99.9937	0.0950956	5.03299	99.9937	5.03299

Mass Fraction	11 %	12 %	13 %	14 %	15 %
Carbon Dioxide	0.00497039	0.0297343	4.47802	0.00497039	4.47802
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	2.17537E-06	5.17074E-05	0.0735178	2.17537E-06	0.0735178
Methane	0.000405788	0.0163984	6.71315	0.000405788	6.71315
Ethane	0.000816903	0.142007	9.90042	0.000816903	9.90042
Propane	0.00107657	0.886415	18.8158	0.00107657	18.8158
Isobutane	0.000191429	0.617942	5.37618	0.000191429	5.37618
n-Butane	0.000827368	2.61924	15.754	0.000827368	15.754
Isopentane	0.000215733	2.53291	6.30807	0.000215733	6.30807
n-Pentane	0.000131774	4.29733	8.20644	0.000131774	8.20644
Cyclopentane	0	0	0	0	0
n-Hexane	4.16149E-05	7.08995	3.99568	4.16149E-05	3.99568
Cyclohexane	0.000262263	3.41625	1.51896	0.000262263	1.51896
i-C6	0.000107706	6.73306	5.34436	0.000107706	5.34436
iC7	7.26139E-05	22.9832	6.31981	7.26139E-05	6.31981
Methylcyclohexane	0.000109664	7.85474	1.49176	0.000109664	1.49176
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.00520411	1.57069	0.849547	0.00520411	0.849547
Toluene	0.00337426	4.29168	0.727019	0.00337426	0.727019
Ethylbenzene	0.000199902	0.889044	0.0518401	0.000199902	0.0518401
o-Xylene	0.000814783	2.88407	0.14039	0.000814783	0.14039
Octane	6.28362E-06	31.1271	1.94362	6.28362E-06	1.94362
Triethylene Glycol	0.0023035	2.52846E-07	1.67277E-09	0.0023035	1.67277E-09
Water	99.9789	0.0182109	1.99145	99.9789	1.99145

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Mass Flow	11 lb/h	12 lb/h	13 lb/h	14 lb/h	15 lb/h
Carbon Dioxide	0.292882	1.62127	10.7521	0.292882	10.7521
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.000128184	0.00281937	0.176522	0.000128184	0.176522
Methane	0.0239112	0.894127	16.1188	0.0239112	16.1188
Ethane	0.0481363	7.74297	23.7717	0.0481363	23.7717
Propane	0.0634375	48.3321	45.1782	0.0634375	45.1782
Isobutane	0.01128	33.6935	12.9086	0.01128	12.9086
n-Butane	0.0487529	142.815	37.8266	0.0487529	37.8266
Isopentane	0.0127121	138.108	15.1462	0.0127121	15.1462
n-Pentane	0.00776485	234.314	19.7043	0.00776485	19.7043
Cyclopentane	0	0	0	0	0
n-Hexane	0.00245217	386.583	9.59394	0.00245217	9.59394
Cyclohexane	0.0154539	186.272	3.64714	0.0154539	3.64714
i-C6	0.00634661	367.123	12.8322	0.00634661	12.8322
iC7	0.0042788	1253.17	15.1744	0.0042788	15.1744
Methylcyclohexane	0.00646197	428.283	3.58182	0.00646197	3.58182
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.306654	85.6425	2.03983	0.306654	2.03983
Toluene	0.198829	234.006	1.74563	0.198829	1.74563
Ethylbenzene	0.0117793	48.4755	0.124472	0.0117793	0.124472
o-Xylene	0.0480113	157.255	0.337087	0.0480113	0.337087
Octane	0.000370264	1697.22	4.66679	0.000370264	4.66679
Triethylene Glycol	0.135735	1.37865E-05	4.01646E-09	0.135735	4.01646E-09
Water	5891.29	0.992956	4.78162	5891.29	4.78162

Stream Properties

Property	Units	11	12	13	14	15
Temperature	°F	95.0043	95	95 *	95.0043	1551.07
Molecular Weight	lb/lbmol	18.018	94.0742	45.5301	18.018	45.5301
Std Vapor Volumetric Flow	MMSCFD	2.97852	0.527877	0.04803	2.97852	0.04803
Std Liquid Volumetric Flow	sgpm	11.7804	15.5642	0.895073	11.7804	0.895073
Gross Ideal Gas Heating Value	Btu/ft^3	50.4456	5084.09	2406.71	50.4456	2406.71

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	16	17	18	19	20
From Block	MIX-103	3606 & 3516 LPS	RCYL-1	MIX-106	DRY GAS 1
To Block	GAS TO COMPRESSION	RCYL-5	MIX-101	Low Pressure Separator	MIX-105

Stream Composition

Mole Fraction	16 %	17 %	18 %	19 %	20 %
Carbon Dioxide	5.36455		3.2881	0.0737455	5.38887
Hydrogen Sulfide	0		0	0	0
Nitrogen	1.65852		0.287877	0.00164157	1.67394
Methane	71.9882		25.38	0.272115	72.5586
Ethane	10.2297		9.82155	0.268962	10.2599
Propane	5.50387		10.1853	0.543742	5.47655
Isobutane	0.769834		2.26548	0.205496	0.757964
n-Butane	1.97711		7.23494	0.796576	1.93204
Isopentane	0.50976		2.81778	0.544318	0.487451
n-Pentane	0.621614		3.99476	0.90216	0.588042
Cyclopentane	0		0	0	0
n-Hexane	0.205147		2.46776	1.17799	0.179633
Cyclohexane	0.0798434		1.09432	0.578277	0.0679013
i-C6	0.295707		3.02452	1.12977	0.265905
iC7	0.259407		4.28538	3.24336	0.210315
Methylcyclohexane	0.0596218		1.20852	1.12704	0.045065
2,2,4-Trimethylpentane	0		0	0	0
Benzene	0.0489648		0.603905	0.288633	0.0409057
Toluene	0.0306351		0.640613	0.656167	0.0216655
Ethylbenzene	0.00166168		0.051868	0.117326	0.000922518
o-Xylene	0.00442919		0.149951	0.38047	0.00223923
Octane	0.0576972		1.68439	3.8176	0.0352918
Triethylene Glycol	4.50586E-12		3.77569E-10	0.000231621	8.50046E-05
Water	0.333724		19.513	83.8744	0.00676012

Mass Fraction	16 %	17 %	18 %	19 %	20 %
Carbon Dioxide	10.13		3.50118	0.109331	10.2609
Hydrogen Sulfide	0		0	0	0
Nitrogen	1.99349		0.195118	0.00154913	2.02884
Methane	49.5519		9.85115	0.147057	50.3618
Ethane	13.1981		7.14535	0.272441	13.3476
Propane	10.4134		10.8666	0.807702	10.4482
Isobutane	1.91985		3.18585	0.402354	1.90604
n-Butane	4.93061		10.1742	1.55967	4.85846
Isopentane	1.57806		4.91881	1.32295	1.5216
n-Pentane	1.92432		6.97339	2.19268	1.8356
Cyclopentane	0		0	0	0
n-Hexane	0.758536		5.14528	3.4197	0.669746
Cyclohexane	0.288317		2.22829	1.63946	0.247242
i-C6	1.09338		6.30613	3.27972	0.991404
iC7	1.11528		10.3894	10.948	0.911774
Methylcyclohexane	0.251179		2.87097	3.72779	0.191439
2,2,4-Trimethylpentane	0		0	0	0
Benzene	0.164108		1.14132	0.759496	0.138242
Toluene	0.121112		1.4281	2.03666	0.0863674
Ethylbenzene	0.00756931		0.133231	0.419603	0.00423738
o-Xylene	0.0201759		0.385171	1.36071	0.0102854
Octane	0.282785		4.65523	14.6902	0.174417
Triethylene Glycol	2.90334E-11		1.37187E-09	0.00117174	0.000552301
Water	0.257962		8.50527	50.9018	0.0052691

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION
Location:	TITLE V COMPRESSOR STATION
Flowsheet:	Inlet
Job:	

Mass Flow	16 lb/h	17 lb/h	18 lb/h	19 lb/h	20 lb/h
Carbon Dioxide	55021.2	0	73.9256	12.6662	18233.4
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	10827.7	0	4.11981	0.17947	3605.2
Methane	269142	0	208.002	17.0368	89491.8
Ethane	71685.6	0	150.87	31.5628	23718.4
Propane	56560.5	0	229.441	93.5737	18566.3
Isobutane	10427.7	0	67.2676	46.6134	3386.99
n-Butane	26780.8	0	214.823	180.69	8633.38
Isopentane	8571.26	0	103.858	153.267	2703.85
n-Pentane	10452	0	147.239	254.026	3261.83
Cyclopentane	0	0	0	0	0
n-Hexane	4120.01	0	108.64	396.179	1190.13
Cyclohexane	1566	0	47.0492	189.935	439.344
i-C6	5938.74	0	133.151	379.961	1761.7
iC7	6057.7	0	219.366	1268.34	1620.2
Methylcyclohexane	1364.28	0	60.6191	431.871	340.183
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	891.356	0	24.0985	87.989	245.654
Toluene	657.825	0	30.1537	235.95	153.473
Ethylbenzene	41.1129	0	2.8131	48.6117	7.52974
o-Xylene	109.586	0	8.13267	157.64	18.277
Octane	1535.96	0	98.2928	1701.89	309.936
Triethylene Glycol	1.57696E-07	0	2.89662E-08	0.135748	0.981427
Water	1401.13	0	179.584	5897.06	9.3631

Stream Properties

Property	Units	16	17	18	19	20
Temperature	°F	55.4495		34.9134	52.9287	90
Molecular Weight	lb/lbmol	23.3062		41.331	29.685	23.1131
Std Vapor Volumetric Flow	MMSCFD	212.253	0	0.465274	3.55443	70.021
Std Liquid Volumetric Flow	sgpm	2836.78	0	7.537	28.2396	934.507
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36		2052.49	829.844	1225.86

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	21	22	23	24	25
From Block	RCYL-5	SPLT-100	VLVE-102	Line Heater	3616 HP DUMPS
To Block	MIX-106	VLVE-102	Separator	Fuel Membrane Skid	MIX-101

Stream Composition

Mole Fraction	21 %	22 %	23 %	24 %	25 %
Carbon Dioxide		5.38887	5.38887	5.47031	2.27884
Hydrogen Sulfide		0	0	0	0
Nitrogen		1.67394	1.67394	1.7323	0.166668
Methane		72.5586	72.5586	74.5833	16.1528
Ethane		10.2599	10.2599	10.1896	7.32439
Propane		5.47654	5.47654	5.05831	8.554
Isobutane		0.757964	0.757964	0.626445	2.10206
n-Butane		1.93204	1.93204	1.47933	7.00088
Isopentane		0.48745	0.48745	0.296486	3.0398
n-Pentane		0.588042	0.588042	0.32414	4.43559
Cyclopentane		0	0	0	0
n-Hexane		0.179633	0.179633	0.0530671	3.18264
Cyclohexane		0.0679016	0.0679016	0.0178259	1.45203
i-C6		0.265905	0.265905	0.0967481	3.75012
iC7		0.210315	0.210315	0.0402239	6.08835
Methylcyclohexane		0.0450653	0.0450653	0.00650452	1.78008
2,2,4-Trimethylpentane		0	0	0	0
Benzene		0.0409146	0.0409146	0.0128661	0.778129
Toluene		0.0216773	0.0216773	0.00313789	0.946159
Ethylbenzene		0.000923336	0.000923336	5.92808E-05	0.0849141
o-Xylene		0.00224306	0.00224306	0.000120426	0.248583
Octane		0.0352918	0.0352918	0.0023757	2.7866
Triethylene Glycol		8.50197E-05	8.50197E-05	2.36582E-06	5.39383E-10
Water		0.00674987	0.00674987	0.00686054	27.8473

Mass Fraction	21 %	22 %	23 %	24 %	25 %
Carbon Dioxide		10.2609	10.2609	10.9272	2.21012
Hydrogen Sulfide		0	0	0	0
Nitrogen		2.02883	2.02883	2.20263	0.102891
Methane		50.3617	50.3617	54.3081	5.71053
Ethane		13.3476	13.3476	13.9068	4.85342
Propane		10.4482	10.4482	10.124	8.31231
Isobutane		1.90604	1.90604	1.65263	2.69243
n-Butane		4.85845	4.85845	3.90264	8.96709
Isopentane		1.5216	1.5216	0.970922	4.83316
n-Pentane		1.8356	1.8356	1.06148	7.0524
Cyclopentane		0	0	0	0
n-Hexane		0.669746	0.669746	0.207568	6.04404
Cyclohexane		0.247243	0.247243	0.0680936	2.693
i-C6		0.991403	0.991403	0.378423	7.12173
iC7		0.911773	0.911773	0.182942	13.4441
Methylcyclohexane		0.19144	0.19144	0.0289879	3.85165
2,2,4-Trimethylpentane		0	0	0	0
Benzene		0.138273	0.138273	0.045616	1.33945
Toluene		0.0864143	0.0864143	0.0131229	1.92115
Ethylbenzene		0.00424113	0.00424113	0.000285658	0.198664
o-Xylene		0.010303	0.010303	0.000580299	0.58158
Octane		0.174417	0.174417	0.0123174	7.01466
Triethylene Glycol		0.000552398	0.000552398	1.61259E-05	1.78503E-09
Water		0.00526111	0.00526111	0.00560985	11.0556

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Inlet	

Mass Flow	21 lb/h	22 lb/h	23 lb/h	24 lb/h	25 lb/h
Carbon Dioxide	0	2343.59	2343.59	2289.92	159.247
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0	463.387	463.387	461.585	7.41361
Methane	0	11502.6	11502.6	11380.8	411.463
Ethane	0	3048.59	3048.59	2914.32	349.705
Propane	0	2386.38	2386.38	2121.6	598.929
Isobutane	0	435.34	435.34	346.327	193.999
n-Butane	0	1109.67	1109.67	817.841	646.109
Isopentane	0	347.534	347.534	203.467	348.246
n-Pentane	0	419.252	419.252	222.445	508.149
Cyclopentane	0	0	0	0	0
n-Hexane	0	152.97	152.97	43.4981	435.493
Cyclohexane	0	56.4704	56.4704	14.2697	194.04
i-C6	0	226.437	226.437	79.3026	513.144
iC7	0	208.25	208.25	38.3374	968.695
Methylcyclohexane	0	43.725	43.725	6.07473	277.524
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0	31.5815	31.5815	9.55932	96.5116
Toluene	0	19.7371	19.7371	2.75005	138.426
Ethylbenzene	0	0.968677	0.968677	0.0598628	14.3144
o-Xylene	0	2.35321	2.35321	0.121608	41.9048
Octane	0	39.837	39.837	2.58124	505.429
Triethylene Glycol	0	0.126168	0.126168	0.00337937	1.28618E-07
Water	0	1.20164	1.20164	1.17561	796.592

Stream Properties

Property	Units	21	22	23	24	25
Temperature	°F	85 *	93.2481	62.2137	120 *	63.7833
Molecular Weight	lb/lbmol		23.1132	23.1132	22.0317	45.3778
Std Vapor Volumetric Flow	MMSCFD	0	9 *	9	8.66297	1.44616
Std Liquid Volumetric Flow	sgpm	0 *	120.115	120.115	113.291	23.6997
Gross Ideal Gas Heating Value	Btu/ft^3		1225.86	1225.86	1165.61	2200.36

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	26	27	28	29	30
From Block	FT3	Separator	Separator	RCYL-6	VLVE-104
To Block	RCYL-6	VLVE-104	Line Heater	MIX-101	MIX-104

Stream Composition

Mole Fraction	26 %	27 %	28 %	29 %	30 %
Carbon Dioxide	23.313	3.29558	5.47031	23.3131	3.29558
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.307231	0.173783	1.7323	0.307237	0.173783
Methane	42.8808	20.5156	74.5833	42.8816	20.5156
Ethane	13.3615	12.0668	10.1896	13.3617	12.0668
Propane	9.29645	16.2268	5.05831	9.29636	16.2268
Isobutane	1.11912	4.13848	0.626445	1.11908	4.13848
n-Butane	3.69261	13.5682	1.47933	3.69237	13.5682
Isopentane	0.955378	5.39593	0.296486	0.955255	5.39593
n-Pentane	1.30848	7.37128	0.32414	1.30826	7.37128
Cyclopentane	0	0	0	0	0
n-Hexane	0.409233	3.43283	0.0530671	0.409095	3.43283
Cyclohexane	0.242913	1.35503	0.0178259	0.242816	1.35503
i-C6	0.603149	4.61384	0.0967481	0.602962	4.61384
iC7	0.4605	4.58226	0.0402239	0.460402	4.58226
Methylcyclohexane	0.138581	1.03622	0.00650452	0.138599	1.03622
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.31395	0.76186	0.0128661	0.313835	0.76186
Toluene	0.13315	0.498205	0.00313789	0.133181	0.498205
Ethylbenzene	0.00394989	0.0231326	5.92808E-05	0.00396079	0.0231326
o-Xylene	0.00979695	0.0568024	0.000120426	0.00982925	0.0568024
Octane	0.0633675	0.881354	0.0023757	0.0635468	0.881354
Triethylene Glycol	0.00129992	0.00220952	2.36582E-06	0.00129992	0.00220952
Water	1.38551	0.00390511	0.00686054	1.38549	0.00390511

Mass Fraction	26 %	27 %	28 %	29 %	30 %
Carbon Dioxide	31.9098	2.84888	10.9272	31.9104	2.84888
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.267677	0.0956243	2.20263	0.267685	0.0956243
Methane	21.395	6.46474	54.3081	21.3957	6.46474
Ethane	12.4955	7.12699	13.9068	12.4958	7.12699
Propane	12.7494	14.0547	10.124	12.7495	14.0547
Isobutane	2.02301	4.72474	1.65263	2.02296	4.72474
n-Butane	6.67505	15.4903	3.90264	6.6747	15.4903
Isopentane	2.14379	7.647	0.970922	2.14355	7.647
n-Pentane	2.93612	10.4464	1.06148	2.93568	10.4464
Cyclopentane	0	0	0	0	0
n-Hexane	1.09681	5.81073	0.207568	1.09646	5.81073
Cyclohexane	0.635818	2.23999	0.0680936	0.635573	2.23999
i-C6	1.61654	7.80982	0.378423	1.61606	7.80982
iC7	1.43511	9.01886	0.182942	1.43482	9.01886
Methylcyclohexane	0.423187	1.99846	0.0289879	0.423249	1.99846
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.762705	1.16893	0.045616	0.762435	1.16893
Toluene	0.381558	0.901664	0.0131229	0.381652	0.901664
Ethylbenzene	0.013042	0.0482394	0.000285658	0.0130782	0.0482394
o-Xylene	0.0323483	0.118452	0.000580299	0.0324554	0.118452
Octane	0.225123	1.97752	0.0123174	0.225763	1.97752
Triethylene Glycol	0.00607137	0.00651756	1.61259E-05	0.00607148	0.00651756
Water	0.776299	0.00138188	0.00560985	0.776299	0.00138188

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Inlet	

Mass Flow	26 lb/h	27 lb/h	28 lb/h	29 lb/h	30 lb/h
Carbon Dioxide	22.7645	53.6719	2289.92	22.7647	53.6719
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.190961	1.80153	461.585	0.190965	1.80153
Methane	15.2632	121.793	11380.8	15.2636	121.793
Ethane	8.91431	134.27	2914.32	8.91447	134.27
Propane	9.09546	264.786	2121.6	9.09543	264.786
Isobutane	1.44322	89.0125	346.327	1.44317	89.0125
n-Butane	4.76199	291.831	817.841	4.7617	291.831
Isopentane	1.52938	144.067	203.467	1.5292	144.067
n-Pentane	2.09463	196.807	222.445	2.0943	196.807
Cyclopentane	0	0	0	0	0
n-Hexane	0.782466	109.472	43.4981	0.782206	109.472
Cyclohexane	0.453593	42.2007	14.2697	0.453414	42.2007
i-C6	1.15324	147.134	79.3026	1.15289	147.134
iC7	1.02381	169.912	38.3374	1.02359	169.912
Methylcyclohexane	0.301902	37.6503	6.07473	0.301944	37.6503
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.544115	22.0222	9.55932	0.543917	22.0222
Toluene	0.272204	16.987	2.75005	0.272268	16.987
Ethylbenzene	0.00930419	0.908814	0.0598628	0.00932993	0.908814
o-Xylene	0.0230773	2.2316	0.121608	0.0231535	2.2316
Octane	0.160603	37.2558	2.58124	0.161058	37.2558
Triethylene Glycol	0.00433132	0.122789	0.00337937	0.00433135	0.122789
Water	0.553812	0.0260341	1.17561	0.553807	0.0260341

Stream Properties

Property	Units	26	27	28	29	30
Temperature	°F	158.563	62.2137	62.2137	158.563	11.6775
Molecular Weight	lb/lbmol	32.153	50.9101	22.0317	32.1525	50.9101
Std Vapor Volumetric Flow	MMSCFD	0.0202077	0.337034	8.66297	0.0202078	0.337034
Std Liquid Volumetric Flow	sgpm	0.291024	6.8242	113.291	0.291023	6.8242
Gross Ideal Gas Heating Value	Btu/ft^3	1265.44	2774.63	1165.61	1265.42	2774.63

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	31	32	33	34	35
From Block	MIX-104	RCYL-2	VLVE-105	DRY GAS 3	Fuel Scrubber
To Block	RCYL-2	MIX-101	Fuel Scrubber	MIX-105	VLVE-106

Stream Composition

Mole Fraction	31 %	32 %	33 %	34 %	35 %
Carbon Dioxide	6.80076	6.80102	2.22172	5.38887	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	0.77386	0.773922	3.69301	1.67394	
Methane	66.7914	66.7957	85.4955	72.5585	
Ethane	12.1904	12.1902	5.92927	10.2599	
Propane	6.98064	6.97962	2.10255	5.47654	
Isobutane	1.04269	1.04238	0.119253	0.757964	
n-Butane	2.66778	2.66666	0.281612	1.93203	
Isopentane	0.681608	0.681125	0.0519144	0.48745	
n-Pentane	0.827911	0.827211	0.0499669	0.588042	
Cyclopentane	0	0	0	0	
n-Hexane	0.256189	0.255814	0.00790211	0.179633	
Cyclohexane	0.0969882	0.0968307	0.00265442	0.0679023	
i-C6	0.37802	0.37749	0.0144066	0.265905	
iC7	0.301401	0.301146	0.00598966	0.210315	
Methylcyclohexane	0.0647232	0.0647455	0.000968573	0.0450659	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	0.0586257	0.0585389	0.00118487	0.0409325	
Toluene	0.0312119	0.0312366	0.000288974	0.0217009	
Ethylbenzene	0.00133249	0.00134532	5.51479E-06	0.000924971	
o-Xylene	0.00323794	0.00327511	1.13534E-05	0.00225072	
Octane	0.0508761	0.0513771	0.000332994	0.035292	
Triethylene Glycol	0.000119628	0.000119599	7.38552E-06	8.50498E-05	
Water	0.000211431	0.000211236	0.021417	0.00672935	

Mass Fraction	31 %	32 %	33 %	34 %	35 %
Carbon Dioxide	11.9501	11.9515	5.2069	10.2609	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	0.865559	0.865695	5.50923	2.02883	
Methane	42.7819	42.788	73.0397	50.3616	
Ethane	14.6355	14.6364	9.49436	13.3476	
Propane	12.2902	12.2894	4.93725	10.4482	
Isobutane	2.41973	2.41919	0.36911	1.90603	
n-Butane	6.19099	6.18887	0.871642	4.85844	
Isopentane	1.96351	1.96227	0.199463	1.5216	
n-Pentane	2.38496	2.38313	0.19198	1.8356	
Cyclopentane	0	0	0	0	
n-Hexane	0.881479	0.880257	0.0362636	0.669745	
Cyclohexane	0.325905	0.3254	0.0118964	0.247245	
i-C6	1.30067	1.29895	0.0661131	0.991401	
iC7	1.20584	1.20491	0.0319612	0.911772	
Methylcyclohexane	0.253734	0.253841	0.00506439	0.191442	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	0.182841	0.182584	0.00492868	0.138333	
Toluene	0.114823	0.114923	0.0014179	0.0865083	
Ethylbenzene	0.00564825	0.00570306	3.11785E-05	0.00424864	
o-Xylene	0.0137252	0.0138839	6.41875E-05	0.0103382	
Octane	0.232037	0.23434	0.00202561	0.174418	
Triethylene Glycol	0.000717288	0.000717171	5.90632E-05	0.000552593	
Water	0.000152082	0.000151954	0.0205468	0.00524511	

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Mass Flow	31 lb/h	32 lb/h	33 lb/h	34 lb/h	35 lb/h
Carbon Dioxide	2045.67	2045.7	297.919	18233.4	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	148.17	148.178	315.217	3605.2	0
Methane	7323.59	7323.89	4179.05	89491.8	0
Ethane	2505.36	2505.26	543.23	23718.4	0
Propane	2103.89	2103.53	282.49	18566.3	0
Isobutane	414.221	414.085	21.119	3386.99	0
n-Butane	1059.8	1059.33	49.872	8633.38	0
Isopentane	336.122	335.875	11.4125	2703.85	0
n-Pentane	408.268	407.913	10.9843	3261.83	0
Cyclopentane	0	0	0	0	0
n-Hexane	150.895	150.671	2.07486	1190.13	0
Cyclohexane	55.7898	55.6978	0.680667	439.351	0
i-C6	222.654	222.337	3.78274	1761.71	0
iC7	206.421	206.241	1.82869	1620.21	0
Methylcyclohexane	43.4353	43.4492	0.289765	340.191	0
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	31.2995	31.2524	0.282	245.815	0
Toluene	19.656	19.671	0.0811266	153.724	0
Ethylbenzene	0.966893	0.976175	0.00178391	7.54976	0
o-Xylene	2.34954	2.37646	0.00367256	18.3708	0
Octane	39.7211	40.1113	0.115898	309.938	0
Triethylene Glycol	0.122789	0.122756	0.00337937	0.981949	0
Water	0.0260341	0.0260095	1.17561	9.32048	0

Stream Properties

Property	Units	31	32	33	34	35
Temperature	°F	70.1411	70.1749	85.7569	95	
Molecular Weight	lb/lbmol	25.0456	25.0437	18.7783	23.1132	
Std Vapor Volumetric Flow	MMSCFD	6.22497	6.22482	2.77503	70.021	0
Std Liquid Volumetric Flow	sgpm	86.2372	86.2321	33.8776	934.508	0
Gross Ideal Gas Heating Value	Btu/ft^3	1308.66	1308.55	1040.13	1225.86	

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	36	37	38	39	40
From Block	VLVE-106	3616 LPS	RCYL-3	DRY GAS 2	MIX-105
To Block	FS LIQUIDS	RCYL-7	MIX-101	MIX-105	SPLT-100

Stream Composition

Mole Fraction	36 %	37 %	38 %	39 %	40 %
Carbon Dioxide			23.3134	5.38887	5.38887
Hydrogen Sulfide			0	0	0
Nitrogen			0.307255	1.67394	1.67394
Methane			42.882	72.5586	72.5586
Ethane			13.3612	10.2599	10.2599
Propane			9.29567	5.47655	5.47654
Isobutane			1.11898	0.757964	0.757964
n-Butane			3.69205	1.93204	1.93204
Isopentane			0.955156	0.487451	0.48745
n-Pentane			1.30808	0.588042	0.588042
Cyclopentane			0	0	0
n-Hexane			0.409037	0.179633	0.179633
Cyclohexane			0.2428	0.0679013	0.0679016
i-C6			0.602889	0.265905	0.265905
iC7			0.460351	0.210315	0.210315
Methylcyclohexane			0.138589	0.045065	0.0450653
2,2,4-Trimethylpentane			0	0	0
Benzene			0.313811	0.0409057	0.0409146
Toluene			0.133161	0.0216655	0.0216773
Ethylbenzene			0.00395997	0.000922518	0.000923336
o-Xylene			0.00982496	0.00223923	0.00224306
Octane			0.0635381	0.0352918	0.0352918
Triethylene Glycol			0.0012994	8.50046E-05	8.50197E-05
Water			1.38694	0.00676012	0.00674987

Mass Fraction	36 %	37 %	38 %	39 %	40 %
Carbon Dioxide			31.9115	10.2609	10.2609
Hydrogen Sulfide			0	0	0
Nitrogen			0.267707	2.02884	2.02883
Methane			21.3964	50.3618	50.3617
Ethane			12.4956	13.3476	13.3476
Propane			12.7488	10.4482	10.4482
Isobutane			2.02283	1.90604	1.90604
n-Butane			6.67426	4.85846	4.85845
Isopentane			2.14337	1.5216	1.5216
n-Pentane			2.93534	1.8356	1.8356
Cyclopentane			0	0	0
n-Hexane			1.09633	0.669746	0.669746
Cyclohexane			0.635544	0.247242	0.247243
i-C6			1.6159	0.991404	0.991403
iC7			1.43469	0.911774	0.911773
Methylcyclohexane			0.423225	0.191439	0.19144
2,2,4-Trimethylpentane			0	0	0
Benzene			0.762394	0.138242	0.138273
Toluene			0.381603	0.0863674	0.0864143
Ethylbenzene			0.0130758	0.00423738	0.00424113
o-Xylene			0.0324419	0.0102854	0.010303
Octane			0.225737	0.174417	0.174417
Triethylene Glycol			0.00606914	0.000552301	0.000552398
Water			0.777129	0.0052691	0.00526111

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Mass Flow	36 lb/h	37 lb/h	38 lb/h	39 lb/h	40 lb/h
Carbon Dioxide	0	0	22.7699	18233.4	54700.3
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0	0	0.191017	3605.2	10815.6
Methane	0	0	15.267	89491.8	268476
Ethane	0	0	8.91604	23718.4	71155.2
Propane	0	0	9.0967	18566.3	55699
Isobutane	0	0	1.44335	3386.99	10161
n-Butane	0	0	4.7623	8633.38	25900.1
Isopentane	0	0	1.52936	2703.85	8111.56
n-Pentane	0	0	2.09446	3261.83	9785.49
Cyclopentane	0	0	0	0	0
n-Hexane	0	0	0.782264	1190.13	3570.38
Cyclohexane	0	0	0.453481	439.344	1318.04
i-C6	0	0	1.153	1761.7	5285.11
iC7	0	0	1.0237	1620.2	4860.61
Methylcyclohexane	0	0	0.301984	340.183	1020.56
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0	0	0.543992	245.654	737.123
Toluene	0	0	0.272286	153.473	460.67
Ethylbenzene	0	0	0.00932998	7.52974	22.6092
o-Xylene	0	0	0.0231483	18.277	54.9247
Octane	0	0	0.161071	309.936	929.809
Triethylene Glycol	0	0	0.00433052	0.981427	2.9448
Water	0	0	0.554506	9.3631	28.0467

Stream Properties

Property	Units	36	37	38	39	40
Temperature	°F			158.562	95	93.2481
Molecular Weight	lb/lbmol			32.1518	23.1131	23.1132
Std Vapor Volumetric Flow	MMSCFD	0	0	0.0202121	70.021	210.063
Std Liquid Volumetric Flow	sgpm	0	0	0.291079	934.507	2803.52
Gross Ideal Gas Heating Value	Btu/ft^3			1265.36	1225.86	1225.86

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Connections

	41	42	43	44	45
From Block	RCYL-4	Fuel Membrane Skid	Fuel Membrane Skid	FT2	RCYL-7
To Block	MIX-101	VLVE-103	VLVE-105	RCYL-3	MIX-106

Stream Composition

Mole Fraction	41 %	42 %	43 %	44 %	45 %
Carbon Dioxide	23.3134	7.0014	2.22172	23.3133	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	0.307255	0.808209	3.69301	0.30725	
Methane	42.882	69.4403	85.4955	42.8812	
Ethane	13.3612	12.1975	5.92927	13.361	
Propane	9.29567	6.45138	2.10255	9.29576	
Isobutane	1.11898	0.865488	0.119253	1.11903	
n-Butane	3.69205	2.04382	0.281612	3.69229	
Isopentane	0.955156	0.411754	0.0519144	0.955279	
n-Pentane	1.30808	0.453359	0.0499669	1.3083	
Cyclopentane	0	0	0	0	
n-Hexane	0.409037	0.0743537	0.00790211	0.409175	
Cyclohexane	0.2428	0.0249763	0.00265442	0.242897	
i-C6	0.602889	0.135556	0.0144066	0.603077	
iC7	0.460351	0.0563588	0.00598966	0.460448	
Methylcyclohexane	0.138589	0.00911365	0.000968573	0.13857	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	0.313811	0.0183716	0.00118487	0.313927	
Toluene	0.133161	0.00448061	0.000288974	0.13313	
Ethylbenzene	0.00395997	8.46211E-05	5.51479E-06	0.00394906	
o-Xylene	0.00982496	0.000171832	1.13534E-05	0.00979266	
Octane	0.0635381	0.00333844	0.000332994	0.0633588	
Triethylene Glycol	0.0012994	0	7.38552E-06	0.00129939	
Water	1.38694	0	0.021417	1.38696	

Mass Fraction	41 %	42 %	43 %	44 %	45 %
Carbon Dioxide	31.9115	13.0756	5.2069	31.9109	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	0.267707	0.960773	5.50923	0.267698	
Methane	21.3964	47.273	73.0397	21.3957	
Ethane	12.4956	15.564	9.49436	12.4953	
Propane	12.7488	12.072	4.93725	12.7488	
Isobutane	2.02283	2.13469	0.36911	2.02288	
n-Butane	6.67426	5.041	0.871642	6.67461	
Isopentane	2.14337	1.26066	0.199463	2.14362	
n-Pentane	2.93534	1.38804	0.19198	2.93578	
Cyclopentane	0	0	0	0	
n-Hexane	1.09633	0.271905	0.0362636	1.09668	
Cyclohexane	0.635544	0.0891995	0.0118964	0.635789	
i-C6	1.6159	0.495717	0.0661131	1.61638	
iC7	1.43469	0.239645	0.0319612	1.43498	
Methylcyclohexane	0.423225	0.0379728	0.00506439	0.423163	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	0.762394	0.0608969	0.00492868	0.762664	
Toluene	0.381603	0.017519	0.0014179	0.381509	
Ethylbenzene	0.0130758	0.000381233	3.11785E-05	0.0130396	
o-Xylene	0.0324419	0.000774135	6.41875E-05	0.0323348	
Octane	0.225737	0.0161826	0.00202561	0.225097	
Triethylene Glycol	0.00606914	0	5.90632E-05	0.00606903	
Water	0.777129	0	0.0205468	0.777129	

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Inlet		

Mass Flow	41 lb/h	42 lb/h	43 lb/h	44 lb/h	45 lb/h
Carbon Dioxide	22.7699	1992	297.919	22.7696	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.191017	146.369	315.217	0.191013	0
Methane	15.267	7201.8	4179.05	15.2666	0
Ethane	8.91604	2371.09	543.23	8.91588	0
Propane	9.0967	1839.11	282.49	9.09673	0
Isobutane	1.44335	325.208	21.119	1.4434	0
n-Butane	4.7623	767.969	49.872	4.76259	0
Isopentane	1.52936	192.055	11.4125	1.52955	0
n-Pentane	2.09446	211.461	10.9843	2.09479	0
Cyclopentane	0	0	0	0	0
n-Hexane	0.782264	41.4233	2.07486	0.782524	0
Cyclohexane	0.453481	13.5891	0.680667	0.45366	0
i-C6	1.153	75.5199	3.78274	1.15335	0
iC7	1.0237	36.5087	1.82869	1.02391	0
Methylcyclohexane	0.301984	5.78496	0.289765	0.301943	0
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.543992	9.27732	0.282	0.54419	0
Toluene	0.272286	2.66893	0.0811266	0.272221	0
Ethylbenzene	0.00932998	0.0580789	0.00178391	0.00930424	0
o-Xylene	0.0231483	0.117935	0.00367256	0.0230721	0
Octane	0.161071	2.46534	0.115898	0.160615	0
Triethylene Glycol	0.00433052	0	0.00337937	0.00433049	0
Water	0.554506	0	1.17561	0.554511	0

Stream Properties

Property	Units	41	42	43	44	45
Temperature	°F	158.562	120	120	158.562	
Molecular Weight	lb/lbmol	32.1518	23.5651	18.7783	32.1523	
Std Vapor Volumetric Flow	MMSCFD	0.0202121	5.88794	2.77503	0.020212	0
Std Liquid Volumetric Flow	sgpm	0.291079	79.413	33.8776	0.29108	0 *
Gross Ideal Gas Heating Value	Btu/ft^3	1265.36	1224.75	1040.13	1265.38	

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Connections

	Condensate Sales	Gas to Flare	Produced Water	1	2
From Block	Condensate Tanks	MIX-102	PW Tanks	FT CON3	LIQUIDS TO STORAGE
To Block	--	--	--	MIX-100	MIX-100

Stream Composition

Mole Fraction	Condensate Sales %	Gas to Flare %	Produced Water %	1 %	2 %
Carbon Dioxide	0.0529299	25.8984	0.00310898		0.00203493
Hydrogen Sulfide	0	0	0		0
Nitrogen	5.77321E-05	0.0153893	1.16579E-06		1.39918E-06
Methane	0.0609539	7.2519	0.000369295		0.000455758
Ethane	0.403295	9.7915	0.000310934		0.000489504
Propane	1.82631	12.4282	0.000204371		0.0004399
Isobutane	0.980772	2.10915	1.60903E-05		5.93433E-05
n-Butane	4.17844	7.99772	0.000102269		0.000256485
Isopentane	3.27302	2.90384	2.45416E-05		5.38756E-05
n-Pentane	5.56115	4.19046	1.71397E-05		3.29085E-05
Cyclopentane	0	0	0		0
n-Hexane	7.68787	1.61259	3.92819E-06		8.70105E-06
Cyclohexane	3.84584	1.68515	8.91312E-05		5.61486E-05
i-C6	7.30132	2.22188	1.09382E-05		2.25197E-05
iC7	21.424	1.55459	4.54146E-06		1.30572E-05
Methylcyclohexane	7.51094	0.797859	1.5589E-05		2.01242E-05
2,2,4-Trimethylpentane	0	0	0		0
Benzene	2.25035	8.25917	0.0144454		0.00120043
Toluene	4.75584	2.68368	0.00384573		0.000659847
Ethylbenzene	0.800505	0.0417338	4.60769E-05		3.39266E-05
o-Xylene	2.59879	0.15277	0.000256513		0.000138282
Octane	25.4033	0.277389	1.00369E-07		9.91154E-07
Triethylene Glycol	2.66241E-07	5.84081E-08	0.000990603		0.000276377
Water	0.0843439	8.12664	99.9761		99.9937

Mass Fraction	Condensate Sales %	Gas to Flare %	Produced Water %	1 %	2 %
Carbon Dioxide	0.0247523	22.8147	0.00758897		0.00497039
Hydrogen Sulfide	0	0	0		0
Nitrogen	1.71851E-05	0.0086294	1.81135E-06		2.17537E-06
Methane	0.0103906	2.32873	0.000328596		0.000405788
Ethane	0.128858	5.89338	0.000518568		0.000816903
Propane	0.855734	10.9698	0.000499843		0.00107657
Isobutane	0.605728	2.45383	5.1871E-05		0.000191429
n-Butane	2.58062	9.30474	0.00032969		0.000827368
Isopentane	2.50926	4.1937	9.82087E-05		0.000215733
n-Pentane	4.26345	6.05183	6.85883E-05		0.000131774
Cyclopentane	0	0	0		0
n-Hexane	7.03974	2.78166	1.87756E-05		4.16149E-05
Cyclohexane	3.43923	2.83881	0.000416055		0.000262263
i-C6	6.68578	3.83266	5.22813E-05		0.000107706
iC7	22.811	3.11809	2.524E-05		7.26139E-05
Methylcyclohexane	7.83631	1.56809	8.48957E-05		0.000109664
2,2,4-Trimethylpentane	0	0	0		0
Benzene	1.86782	12.9137	0.0625843		0.00520411
Toluene	4.65625	4.94957	0.0196534		0.00337426
Ethylbenzene	0.903053	0.088688	0.000271321		0.000199902
o-Xylene	2.93171	0.324649	0.00151046		0.000814783
Octane	30.8342	0.634249	6.35905E-07		6.28362E-06
Triethylene Glycol	4.24849E-07	1.75574E-07	0.00825105		0.0023035

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Mass Fraction	Condensate Sales %	Gas to Flare %	Produced Water %	1 %	2 %
Water	0.0161459	2.93054	99.8976		99.9789

Mass Flow	Condensate Sales lb/h	Gas to Flare lb/h	Produced Water lb/h	1 lb/h	2 lb/h
Carbon Dioxide	1.36378	19.8882	0.477394	0	0.292882
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.000946849	0.00752249	0.000113946	0	0.000128184
Methane	0.572493	2.03001	0.0206707	0	0.0239112
Ethane	7.0997	5.13742	0.0326212	0	0.0481363
Propane	47.1486	9.56266	0.0314433	0	0.0634375
Isobutane	33.374	2.13907	0.00326301	0	0.01128
n-Butane	142.185	8.1112	0.0207396	0	0.0487529
Isopentane	138.253	3.65577	0.00617794	0	0.0127121
n-Pentane	234.904	5.27554	0.00431463	0	0.00776485
Cyclopentane	0	0	0	0	0
n-Hexane	387.871	2.42485	0.0011811	0	0.00245217
Cyclohexane	189.492	2.47467	0.0261725	0	0.0154539
i-C6	368.368	3.34103	0.00328882	0	0.00634661
iC7	1256.82	2.71812	0.00158775	0	0.0042788
Methylcyclohexane	431.759	1.36695	0.00534047	0	0.00646197
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	102.912	11.2572	3.93695	0	0.306654
Toluene	256.546	4.31468	1.23632	0	0.198829
Ethylbenzene	49.7558	0.0773118	0.0170678	0	0.0117793
o-Xylene	161.529	0.283006	0.0950171	0	0.0480113
Octane	1698.88	0.552893	4.00024E-05	0	0.000370264
Triethylene Glycol	2.3408E-05	1.53053E-07	0.519043	0	0.135735
Water	0.889595	2.55463	6284.19	0	5891.29

Stream Properties

Property	Units	Condensate Sales	Gas to Flare	Produced Water	1	2
Temperature	°F	95	106.487	95		95.0043
Molecular Weight	lb/lbmol	94.1092	49.9579	18.0294		18.018
Std Vapor Volumetric Flow	MMSCFD	0.533215	0.0158921	3.17773	0	2.97852
Std Liquid Volumetric Flow	sgpm	15.6955	0.27056	12.5773	0	11.7804
Gross Ideal Gas Heating Value	Btu/ft^3	5081.74	2017.64	51.0929		50.4456

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Connections

	3	4	5	6	7
From Block	FS LIQUIDS	FT CON1	BTEX LIQUIDS 1	BTEX COND. VAPORS 1	MIX-100
To Block	MIX-100	MIX-100	MIX-100	MIX-101	Gun Barrel

Stream Composition

Mole Fraction	3 %	4 %	5 %	6 %	7 %
Carbon Dioxide			0.0214735	31.6598	0.00329225
Hydrogen Sulfide			0	0	0
Nitrogen			5.07026E-07	0.0144011	1.3415E-06
Methane			0.000909632	7.37069	0.000485135
Ethane			0.0048413	7.45216	0.000771084
Propane			0.0182725	9.48854	0.00159373
Isobutane			0.00591003	1.33745	0.000437905
n-Butane			0.0406867	6.14115	0.00287245
Isopentane			0.0379214	2.43262	0.00250404
n-Pentane			0.0742609	3.70047	0.0048358
Cyclopentane			0	0	0
n-Hexane			0.0816271	1.37301	0.00528973
Cyclohexane			0.175855	1.89574	0.0114305
i-C6			0.0846364	1.92946	0.0054973
iC7			0.182363	1.4618	0.0118116
Methylcyclohexane			0.161608	0.799416	0.0104749
2,2,4-Trimethylpentane			0	0	0
Benzene			1.18713	10.2892	0.0779281
Toluene			1.13409	3.29457	0.073992
Ethylbenzene			0.0536944	0.0470124	0.00350575
o-Xylene			0.180365	0.179088	0.0117997
Octane			0.0699542	0.123682	0.00452714
Triethylene Glycol			0.0112875	7.32126E-08	0.000988534
Water			96.4731	9.00973	99.766

Mass Fraction	3 %	4 %	5 %	6 %	7 %
Carbon Dioxide			0.0461957	27.8196	0.00797161
Hydrogen Sulfide			0	0	0
Nitrogen			6.94301E-07	0.00805489	2.06759E-06
Methane			0.000713327	2.36089	0.000428194
Ethane			0.00711597	4.47403	0.00127564
Propane			0.0393863	8.35395	0.00386649
Isobutane			0.0167913	1.55209	0.00140033
n-Butane			0.115597	7.12671	0.00918546
Isopentane			0.133741	3.50429	0.00993979
n-Pentane			0.261903	5.33069	0.0191957
Cyclopentane			0	0	0
n-Hexane			0.343851	2.3624	0.0250798
Cyclohexane			0.723453	3.18551	0.0529268
i-C6			0.356527	3.31983	0.0260639
iC7			0.893233	2.92456	0.0651163
Methylcyclohexane			0.775646	1.56718	0.0565859
2,2,4-Trimethylpentane			0	0	0
Benzene			4.53279	16.0471	0.334902
Toluene			5.10788	6.06089	0.375087
Ethylbenzene			0.278652	0.099653	0.0204771
o-Xylene			0.936023	0.379617	0.0689221
Octane			0.390607	0.282084	0.0284515
Triethylene Glycol			0.0828595	2.1952E-07	0.00816752
Water			84.957	3.24078	98.885

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Tankage	

Mass Flow	3 lb/h	4 lb/h	5 lb/h	6 lb/h	7 lb/h
Carbon Dioxide	0	0	0.0712604	6.41295	0.506602
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0	0	1.07101E-06	0.0018568	0.000131397
Methane	0	0	0.00110036	0.54423	0.0272121
Ethane	0	0	0.0109769	1.03135	0.0810679
Propane	0	0	0.0607564	1.92574	0.245719
Isobutane	0	0	0.0259019	0.357785	0.0889918
n-Butane	0	0	0.178317	1.64284	0.583743
Isopentane	0	0	0.206306	0.807805	0.631682
n-Pentane	0	0	0.404006	1.22882	1.2199
Cyclopentane	0	0	0	0	0
n-Hexane	0	0	0.530416	0.544577	1.59384
Cyclohexane	0	0	1.11598	0.734321	3.36354
i-C6	0	0	0.549971	0.765284	1.65638
iC7	0	0	1.37788	0.674167	4.13819
Methylcyclohexane	0	0	1.19649	0.361265	3.59608
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0	0	6.99218	3.69916	21.2833
Toluene	0	0	7.8793	1.39715	23.8371
Ethylbenzene	0	0	0.429843	0.0229719	1.30134
o-Xylene	0	0	1.44389	0.0875089	4.38005
Octane	0	0	0.602542	0.0650257	1.80812
Triethylene Glycol	0	0	0.127817	5.06036E-08	0.519052
Water	0	0	131.053	0.747061	6284.22

Stream Properties

Property	Units	3	4	5	6	7
Temperature	°F			128.258	110	100.707
Molecular Weight	lb/lbmol			20.4573	50.0844	18.1758
Std Vapor Volumetric Flow	MMSCFD	0	0	0.0686758	0.00419187	3.18444
Std Liquid Volumetric Flow	sgpm	0	0	0.318395	0.0683045	12.7351
Gross Ideal Gas Heating Value	Btu/ft^3			201.46	1854.28	60.2162

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Connections

	8	9	10	11	12
From Block	Gun Barrel	Condensate Tanks	Gun Barrel	Gun Barrel	Cond. Tank
To Block	MIX-101	MIX-101	MIX-103	PW Tanks	MIX-103

Stream Composition

Mole Fraction	8 %	9 %	10 %	11 %	12 %
Carbon Dioxide		4.32281	0.0900804	0.00310898	0.0635597
Hydrogen Sulfide		0	0	0	0
Nitrogen		0.0447685	8.45525E-05	1.16579E-06	0.000173643
Methane		13.5743	0.0553428	0.000369295	0.0961612
Ethane		15.2649	0.218682	0.000310934	0.444283
Propane		21.0347	0.659545	0.000204371	1.89109
Isobutane		4.62684	0.200194	1.60903E-05	1.00017
n-Butane		13.6187	1.31473	0.000102269	4.23939
Isopentane		4.41297	1.17671	2.45416E-05	3.30263
n-Pentane		5.74848	2.28678	1.71397E-05	5.60326
Cyclopentane		0	0	0	0
n-Hexane		2.34511	2.50846	3.92819E-06	7.73982
Cyclohexane		0.923922	5.3823	8.91312E-05	3.81871
i-C6		3.13707	2.60364	1.09382E-05	7.35021
iC7		3.18516	5.60319	4.54146E-06	21.5776
Methylcyclohexane		0.770496	4.96365	1.5589E-05	7.52579
2,2,4-Trimethylpentane		0	0	0	0
Benzene		0.655307	30.1411	0.0144454	1.89166
Toluene		0.433426	33.2928	0.00384573	4.38185
Ethylbenzene		0.0250482	1.64188	4.60769E-05	0.787794
o-Xylene		0.0680782	5.47823	0.000256513	2.55561
Octane		0.855581	2.14837	1.00369E-07	25.6351
Triethylene Glycol		9.21493E-10	8.69614E-06	0.000990603	1.58393E-07
Water		4.95227	0.234229	99.9761	0.0950956

Mass Fraction	8 %	9 %	10 %	11 %	12 %
Carbon Dioxide		3.94505	0.0453166	0.00758897	0.0297343
Hydrogen Sulfide		0	0	0	0
Nitrogen		0.0260063	2.70752E-05	1.81135E-06	5.17074E-05
Methane		4.51575	0.0101487	0.000328596	0.0163984
Ethane		9.51814	0.0751644	0.000518568	0.142007
Propane		19.2341	0.332445	0.000499843	0.886415
Isobutane		5.57656	0.133007	5.1871E-05	0.617942
n-Butane		16.4141	0.873492	0.00032969	2.61924
Isopentane		6.60237	0.970459	9.82087E-05	2.53291
n-Pentane		8.60046	1.88596	6.85883E-05	4.29733
Cyclopentane		0	0	0	0
n-Hexane		4.1907	2.47098	1.87756E-05	7.08995
Cyclohexane		1.61242	5.17787	0.000416055	3.41625
i-C6		5.60592	2.56475	5.22813E-05	6.73306
iC7		6.6183	6.41788	2.524E-05	22.9832
Methylcyclohexane		1.56877	5.57098	8.48957E-05	7.85474
2,2,4-Trimethylpentane		0	0	0	0
Benzene		1.06146	26.9126	0.0625843	1.57069
Toluene		0.828124	35.0648	0.0196534	4.29168
Ethylbenzene		0.055144	1.99252	0.000271321	0.889044
o-Xylene		0.149875	6.64817	0.00151046	2.88407
Octane		2.02664	2.8052	6.35905E-07	31.1271
Triethylene Glycol		2.86962E-09	1.49279E-05	0.00825105	2.52846E-07
Water		1.85006	0.0482349	99.8976	0.0182109

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Mass Flow	8 lb/h	9 lb/h	10 lb/h	11 lb/h	12 lb/h
Carbon Dioxide	0	0.286701	0.0292085	0.477394	1.62127
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0	0.00188997	1.74512E-05	0.000113946	0.00281937
Methane	0	0.328175	0.00654131	0.0206707	0.894127
Ethane	0	0.691717	0.0484468	0.0326212	7.74297
Propane	0	1.39781	0.214275	0.0314433	48.3321
Isobutane	0	0.405268	0.0857288	0.00326301	33.6935
n-Butane	0	1.19287	0.563004	0.0207396	142.815
Isopentane	0	0.479818	0.625504	0.00617794	138.108
n-Pentane	0	0.625026	1.21559	0.00431463	234.314
Cyclopentane	0	0	0	0	0
n-Hexane	0	0.304553	1.59266	0.0011811	386.583
Cyclohexane	0	0.11718	3.33737	0.0261725	186.272
i-C6	0	0.407402	1.65309	0.00328882	367.123
iC7	0	0.480975	4.13661	0.00158775	1253.17
Methylcyclohexane	0	0.114008	3.59074	0.00534047	428.283
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0	0.0771397	17.3464	3.93695	85.6425
Toluene	0	0.0601827	22.6008	1.23632	234.006
Ethylbenzene	0	0.00400751	1.28427	0.0170678	48.4755
o-Xylene	0	0.010892	4.28504	0.0950171	157.255
Octane	0	0.147283	1.80808	4.00024E-05	1697.22
Triethylene Glycol	0	2.08545E-10	9.62167E-06	0.519043	1.37865E-05
Water	0	0.13445	0.0310895	6284.19	0.992956

Stream Properties

Property	Units	8	9	10	11	12
Temperature	°F	95 *	95 *	95	95	95
Molecular Weight	lb/lbmol		48.2237	87.4823	18.0294	94.0742
Std Vapor Volumetric Flow	MMSCFD	0	0.00137253	0.00671023	3.17773	0.527877
Std Liquid Volumetric Flow	sgpm	0	0.0265083	0.157855	12.5773	15.5642
Gross Ideal Gas Heating Value	Btu/ft^3		2558.65	4380.72	51.0929	5084.09

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Connections

	13	14	15	16	17
From Block	PW Tanks	MIX-103	MIX-101	BTEX LIQUIDS 2	FT CON2
To Block	MIX-101	Condensate Tanks	MIX-102	MIX-100	MIX-100

Stream Composition

Mole Fraction	13 %	14 %	15 %	16 %	17 %
Carbon Dioxide		0.0638926	28.9689	0.0214735	
Hydrogen Sulfide		0	0	0	
Nitrogen		0.000172525	0.0173889	5.07026E-07	
Methane		0.0956489	7.98104	0.000909632	
Ethane		0.441451	8.22106	0.0048413	
Propane		1.87563	10.625	0.0182725	
Isobutane		0.990133	1.6612	0.00591003	
n-Butane		4.20268	6.87719	0.0406867	
Isopentane		3.27595	2.62759	0.0379214	
n-Pentane		5.56163	3.90221	0.0742609	
Cyclopentane		0	0	0	
n-Hexane		7.67415	1.46872	0.0816271	
Cyclohexane		3.83833	1.80011	0.175855	
i-C6		7.29063	2.04836	0.0846364	
iC7		21.3771	1.63142	0.182363	
Methylcyclohexane		7.49363	0.79657	0.161608	
2,2,4-Trimethylpentane		0	0	0	
Benzene		2.24626	9.34104	1.18713	
Toluene		4.74474	3.01298	1.13409	
Ethylbenzene		0.798514	0.0448508	0.0536944	
o-Xylene		2.5923	0.168173	0.180365	
Octane		25.3403	0.195709	0.0699542	
Triethylene Glycol		2.6556E-07	6.61139E-08	0.0112875	
Water		0.0968421	8.61044	96.4731	

Mass Fraction	13 %	14 %	15 %	16 %	17 %
Carbon Dioxide		0.0299163	25.5485	0.0461957	
Hydrogen Sulfide		0	0	0	
Nitrogen		5.14196E-05	0.00976166	6.94301E-07	
Methane		0.0163254	2.56577	0.000713327	
Ethane		0.141226	4.95375	0.00711597	
Propane		0.879943	9.38886	0.0393863	
Isobutane		0.612276	1.93486	0.0167913	
n-Butane		2.59884	8.01013	0.115597	
Isopentane		2.51465	3.79904	0.133741	
n-Pentane		4.26916	5.64191	0.261903	
Cyclopentane		0	0	0	
n-Hexane		7.03599	2.53636	0.343851	
Cyclohexane		3.43683	3.03591	0.723453	
i-C6		6.68436	3.53733	0.356527	
iC7		22.7896	3.27589	0.893233	
Methylcyclohexane		7.82806	1.56733	0.775646	
2,2,4-Trimethylpentane		0	0	0	
Benzene		1.86676	14.6217	4.53279	
Toluene		4.6512	5.56319	5.10788	
Ethylbenzene		0.901936	0.0954197	0.278652	
o-Xylene		2.92805	0.357786	0.936023	
Octane		30.7962	0.447995	0.390607	
Triethylene Glycol		4.24293E-07	1.98962E-07	0.0828595	
Water		0.0185617	3.10852	84.957	

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	Tankage	

Mass Flow	13 lb/h	14 lb/h	15 lb/h	16 lb/h	17 lb/h
Carbon Dioxide	0	1.65048	19.5239	0.0712604	0
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0	0.00283682	0.00745976	1.07101E-06	0
Methane	0	0.900669	1.96074	0.00110036	0
Ethane	0	7.79141	3.78561	0.0109769	0
Propane	0	48.5464	7.17488	0.0607564	0
Isobutane	0	33.7792	1.4786	0.0259019	0
n-Butane	0	143.378	6.12127	0.178317	0
Isopentane	0	138.733	2.90319	0.206306	0
n-Pentane	0	235.529	4.31149	0.404006	0
Cyclopentane	0	0	0	0	0
n-Hexane	0	388.175	1.93826	0.530416	0
Cyclohexane	0	189.609	2.32002	1.11598	0
i-C6	0	368.776	2.70319	0.549971	0
iC7	0	1257.3	2.50341	1.37788	0
Methylcyclohexane	0	431.873	1.19774	1.19649	0
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0	102.989	11.1738	6.99218	0
Toluene	0	256.607	4.25133	7.8793	0
Ethylbenzene	0	49.7598	0.0729188	0.429843	0
o-Xylene	0	161.54	0.273417	1.44389	0
Octane	0	1699.03	0.342353	0.602542	0
Triethylene Glycol	0	2.34082E-05	1.52045E-07	0.127817	0
Water	0	1.02405	2.3755	131.053	0

Stream Properties

Property	Units	13	14	15	16	17
Temperature	°F		94.5816	108.398	119.129	
Molecular Weight	lb/lbmol		93.9914	49.9015	20.4573	
Std Vapor Volumetric Flow	MMSCFD	0	0.534588	0.0139474	0.0686758	0
Std Liquid Volumetric Flow	sgpm	0	15.722	0.231411	0.318395	0
Gross Ideal Gas Heating Value	Btu/ft^3		5075.26	1923.63	201.46	

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Connections

	18	19	20	21	
From Block	BTEX COND. VAPORS 2	BTEX LIQUIDS 3	W&B	BTEX COND. VAPORS 3	
To Block	MIX-101	MIX-100	MIX-102	MIX-101	

Stream Composition

Mole Fraction	18 %	19 %	20 %	21 %	
Carbon Dioxide	31.6598	0.0214911	3.877	31.6573	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	0.0144011	5.07614E-07	0.00104858	0.014399	
Methane	7.37069	0.000910954	2.02247	7.37025	
Ethane	7.45216	0.00484982	21.0547	7.4524	
Propane	9.48854	0.0183068	25.3601	9.48945	
Isobutane	1.33745	0.00592139	5.32182	1.33762	
n-Butane	6.14115	0.0407639	16.0342	6.14177	
Isopentane	2.43262	0.0379945	4.8851	2.43293	
n-Pentane	3.70047	0.0744075	6.25781	3.70112	
Cyclopentane	0	0	0	0	
n-Hexane	1.37301	0.0817856	2.64443	1.37319	
Cyclohexane	1.89574	0.176172	0.860604	1.89576	
i-C6	1.92946	0.0847977	3.4664	1.92966	
iC7	1.4618	0.182706	1.00355	1.46191	
Methylcyclohexane	0.799416	0.161898	0.807105	0.799416	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	10.2892	1.18914	0.500042	10.2888	
Toluene	3.29457	1.13605	0.321972	3.29446	
Ethylbenzene	0.0470124	0.0537885	0.0193787	0.0470119	
o-Xylene	0.179088	0.180716	0.0423008	0.179117	
Octane	0.123682	0.0700858	0.863197	0.123692	
Triethylene Glycol	7.32126E-08	0.0112946	3.14236E-09	7.32635E-08	
Water	9.00973	96.4669	4.65679	9.00972	

Mass Fraction	18 %	19 %	20 %	21 %	
Carbon Dioxide	27.8196	0.0462239	3.38792	27.8172	
Hydrogen Sulfide	0	0	0	0	
Nitrogen	0.00805489	6.9496E-07	0.000583255	0.0080536	
Methane	2.36089	0.000714213	0.644235	2.36073	
Ethane	4.47403	0.00712699	12.5707	4.47413	
Propane	8.35395	0.039452	22.2043	8.35467	
Isobutane	1.55209	0.01682	6.14176	1.55227	
n-Butane	7.12671	0.115792	18.5046	7.12736	
Isopentane	3.50429	0.133971	6.99831	3.50471	
n-Pentane	5.33069	0.262365	8.96483	5.33157	
Cyclopentane	0	0	0	0	
n-Hexane	2.3624	0.344446	4.52486	2.36269	
Cyclohexane	3.18551	0.724605	1.43813	3.18551	
i-C6	3.31983	0.357131	5.93133	3.32014	
iC7	2.92456	0.894723	1.99667	2.92476	
Methylcyclohexane	1.56718	0.776874	1.57351	1.56717	
2,2,4-Trimethylpentane	0	0	0	0	
Benzene	16.0471	4.53953	0.775558	16.0462	
Toluene	6.06089	5.11564	0.589046	6.06063	
Ethylbenzene	0.099653	0.279082	0.0408505	0.0996511	
o-Xylene	0.379617	0.937645	0.0891704	0.379673	
Octane	0.282084	0.39126	1.95783	0.282103	
Triethylene Glycol	2.1952E-07	0.0828944	9.36997E-09	2.19671E-07	
Water	3.24078	84.9337	1.66578	3.24075	

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Tankage		

Mass Flow	18 lb/h	19 lb/h	20 lb/h	21 lb/h
Carbon Dioxide	6.41295	0.0711992	0.364327	6.41129
Hydrogen Sulfide	0	0	0	0
Nitrogen	0.0018568	1.07046E-06	6.27215E-05	0.00185619
Methane	0.54423	0.00110011	0.0692791	0.544099
Ethane	1.03135	0.0109778	1.35181	1.03119
Propane	1.92574	0.0607684	2.38779	1.92558
Isobutane	0.357785	0.0259081	0.660467	0.357765
n-Butane	1.64284	0.178356	1.98993	1.64271
Isopentane	0.807805	0.206357	0.752578	0.807763
n-Pentane	1.22882	0.404125	0.964051	1.22882
Cyclopentane	0	0	0	0
n-Hexane	0.544577	0.530554	0.48659	0.544552
Cyclohexane	0.734321	1.11612	0.154652	0.734193
i-C6	0.765284	0.550093	0.637838	0.765223
iC7	0.674167	1.37815	0.214716	0.674097
Methylcyclohexane	0.361265	1.19663	0.169211	0.3612
2,2,4-Trimethylpentane	0	0	0	0
Benzene	3.69916	6.99229	0.0834012	3.69832
Toluene	1.39715	7.87968	0.0633442	1.39685
Ethylbenzene	0.0229719	0.429873	0.00439294	0.0229675
o-Xylene	0.0875089	1.44427	0.00958912	0.0875069
Octane	0.0650257	0.602662	0.210539	0.065019
Triethylene Glycol	5.06036E-08	0.127683	1.00762E-09	5.06295E-08
Water	0.747061	130.824	0.179134	0.746925

Stream Properties

Property	Units	18	19	20	21
Temperature	°F	110	271.987	96.2186	110
Molecular Weight	lb/lbmol	50.0844	20.4616	50.3627	50.085
Std Vapor Volumetric Flow	MMSCFD	0.00419187	0.0685605	0.0019447	0.00419111
Std Liquid Volumetric Flow	sgpm	0.0683045	0.317943	0.0391491	0.0682935
Gross Ideal Gas Heating Value	Btu/ft^3	1854.28	201.728	2691.89	1854.37

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Working & Breathing		

Connections

	1	2	3	4	5
From Block	--	--	--	--	--
To Block	MIX-100	MIX-100	--	--	MIX-100

Stream Composition

Mole Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	4.70161	3.82692	3.82692	0.0234446	4.96315
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.000882249	0.00105744	0.00105744	1.78474E-05	0.000876416
Methane	0.431566	2.10718	2.10718	0.0243718	0.375533
Ethane	0.726658	22.1289	22.1289	0.253248	0.319613
Propane	0.351506	26.6764	26.6764	1.62027	0.0488911
Isobutane	0.0364927	5.59923	5.59923	0.939718	0.00144382
n-Butane	0.168417	16.8684	16.8684	4.06647	0.00643031
Isopentane	0.0569018	5.13916	5.13916	3.25448	0.00059297
n-Pentane	0.0829923	6.58301	6.58301	5.54886	0.000311626
Cyclopentane	0	0	0	0	0
n-Hexane	0.0279903	2.78204	2.78204	7.73103	2.17429E-05
Cyclohexane	0.0394456	0.904598	0.904598	3.87085	0.0003206
i-C6	0.0400179	3.6467	3.6467	7.33258	8.36134E-05
iC7	0.00870658	1.05583	1.05583	21.5908	3.4244E-06
Methylcyclohexane	0.0174844	0.848874	0.848874	7.57015	2.69288E-05
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.26388	0.518048	0.518048	2.26424	0.0508776
Toluene	0.0778941	0.336696	0.336696	4.79441	0.00416271
Ethylbenzene	0.00134227	0.0203574	0.0203574	0.807458	1.79213E-05
o-Xylene	0.00304929	0.0444332	0.0444332	2.62154	6.70899E-05
Octane	0.00242934	0.90829	0.90829	25.6226	5.48771E-08
Triethylene Glycol	6.50313E-08	1.07436E-12	1.07436E-12	2.68629E-07	6.14051E-08
Water	92.9607	0.00387886	0.00387886	0.0634986	94.2276

Mass Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	10.407	3.24072	3.24072	0.0109208	11.2666
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0.00124305	0.000569986	0.000569986	5.29187E-06	0.00126638
Methane	0.348218	0.650455	0.650455	0.00413834	0.310747
Ethane	1.09896	12.8033	12.8033	0.0805995	0.495715
Propane	0.77958	22.6343	22.6343	0.756224	0.111202
Isobutane	0.106679	6.26203	6.26203	0.578106	0.00432857
n-Butane	0.492334	18.8652	18.8652	2.50165	0.019278
Isopentane	0.206485	7.13454	7.13454	2.4853	0.00220673
n-Pentane	0.301162	9.13899	9.13899	4.23741	0.00115971
Cyclopentane	0	0	0	0	0
n-Hexane	0.121318	4.61308	4.61308	7.0516	9.66468E-05
Cyclohexane	0.166968	1.46488	1.46488	3.44808	0.00139173
i-C6	0.173449	6.04682	6.04682	6.68817	0.000371661
iC7	0.043879	2.0357	2.0357	22.8988	1.7699E-05
Methylcyclohexane	0.0863444	1.60375	1.60375	7.86723	0.000136381
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	1.03671	0.77863	0.77863	1.872	0.20499
Toluene	0.360976	0.596929	0.596929	4.67567	0.0197836
Ethylbenzene	0.0071673	0.041586	0.041586	0.907338	9.81386E-05
o-Xylene	0.0162822	0.0907682	0.0907682	2.94581	0.000367389
Octane	0.0139571	1.99638	1.99638	30.9789	3.23336E-07
Triethylene Glycol	4.91187E-07	3.10447E-12	3.10447E-12	4.26985E-07	4.75646E-07
Water	84.2313	0.00134459	0.00134459	0.012108	87.5603

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Working & Breathing		

Mass Flow	1 lb/h	2 lb/h	3 lb/h	4 lb/h	5 lb/h
Carbon Dioxide	0.0108234	0.341744	0.182677	0.598683	0.0117594
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.29279E-06	6.01069E-05	3.21297E-05	0.000290102	1.32177E-06
Methane	0.00036215	0.0685926	0.0366657	0.226865	0.00032434
Ethane	0.00114293	1.35015	0.721715	4.41849	0.000517399
Propane	0.000810771	2.38686	1.27588	41.4564	0.000116066
Isobutane	0.000110948	0.660351	0.352986	31.6919	4.51791E-06
n-Butane	0.000512032	1.9894	1.06342	137.141	2.01213E-05
Isopentane	0.000214746	0.75236	0.402169	136.245	2.30326E-06
n-Pentane	0.000313211	0.963736	0.515158	232.296	1.21044E-06
Cyclopentane	0	0	0	0	0
n-Hexane	0.000126172	0.486464	0.260036	386.571	1.00874E-07
Cyclohexane	0.000173649	0.154477	0.0825744	189.025	1.4526E-06
i-C6	0.000180388	0.637657	0.340855	366.647	3.87918E-07
iC7	4.56346E-05	0.214671	0.114751	1255.32	1.84732E-08
Methylcyclohexane	8.9799E-05	0.169121	0.0904024	431.283	1.42347E-07
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.00107818	0.0821091	0.0438908	102.624	0.000213956
Toluene	0.000375419	0.0629482	0.0336485	256.321	2.06489E-05
Ethylbenzene	7.45407E-06	0.00438538	0.00234417	49.7405	1.02431E-07
o-Xylene	1.69337E-05	0.0095718	0.00511654	161.49	3.8346E-07
Octane	1.45155E-05	0.210525	0.112535	1698.27	3.37479E-10
Triethylene Glycol	5.1084E-10	3.27377E-13	1.74997E-13	2.34074E-05	4.96452E-10
Water	0.0876014	0.000141791	7.57934E-05	0.663764	0.0913903

Stream Properties

Property	Units	1	2	3	4	5
Temperature	°F	100.083	96.6917	96.6917	96.6917	96.926
Molecular Weight	lb/lbmol	19.8823	51.9703	51.9703	94.4783	19.3871
Std Vapor Volumetric Flow	MMSCFD	4.76404E-05	0.00184803	0.000987852	0.528461	4.90327E-05
Std Liquid Volumetric Flow	sgpm	0.000222582	0.0387088	0.0206915	15.5965	0.000217623
Gross Ideal Gas Heating Value	Btu/ft^3	105.241	2828.38	2828.38	5101.64	60.4935

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Working & Breathing		

Connections

	6	7	8		
From Block	--	--	MIX-100		
To Block	--	--	W&B		

Stream Composition

Mole Fraction	6 %	7 %	8 %		
Carbon Dioxide	4.96315	0.00303245	3.877		
Hydrogen Sulfide	0	0	0		
Nitrogen	0.000876416	1.15228E-06	0.00104858		
Methane	0.375533	0.000363506	2.02247		
Ethane	0.319613	0.000306007	21.0547		
Propane	0.0488911	0.00020362	25.3601		
Isobutane	0.00144382	1.60683E-05	5.32182		
n-Butane	0.00643031	0.000102172	16.0342		
Isopentane	0.00059297	2.45328E-05	4.8851		
n-Pentane	0.000311626	1.71351E-05	6.25781		
Cyclopentane	0	0	0		
n-Hexane	2.17429E-05	3.92791E-06	2.64443		
Cyclohexane	0.0003206	8.91277E-05	0.860604		
i-C6	8.36134E-05	1.09371E-05	3.4664		
iC7	3.4244E-06	4.54148E-06	1.00355		
Methylcyclohexane	2.69288E-05	1.55888E-05	0.807105		
2,2,4-Trimethylpentane	0	0	0		
Benzene	0.0508776	0.0144449	0.500042		
Toluene	0.00416271	0.00384572	0.321972		
Ethylbenzene	1.79213E-05	4.60774E-05	0.0193787		
o-Xylene	6.70899E-05	0.000256516	0.0423008		
Octane	5.48771E-08	1.0037E-07	0.863197		
Triethylene Glycol	6.14051E-08	0.000990618	3.14236E-09		
Water	94.2276	99.9762	4.65679		

Mass Fraction	6 %	7 %	8 %		
Carbon Dioxide	11.2666	0.00740216	3.38792		
Hydrogen Sulfide	0	0	0		
Nitrogen	0.00126638	1.79037E-06	0.000583255		
Methane	0.310747	0.000323445	0.644235		
Ethane	0.495715	0.000510352	12.5707		
Propane	0.111202	0.000498006	22.2043		
Isobutane	0.00432857	5.18001E-05	6.14176		
n-Butane	0.019278	0.000329376	18.5046		
Isopentane	0.00220673	9.81737E-05	6.99831		
n-Pentane	0.00115971	6.85702E-05	8.96483		
Cyclopentane	0	0	0		
n-Hexane	9.66468E-05	1.87743E-05	4.52486		
Cyclohexane	0.00139173	0.000416039	1.43813		
i-C6	0.000371661	5.2276E-05	5.93133		
iC7	1.7699E-05	2.52401E-05	1.99667		
Methylcyclohexane	0.000136381	8.48949E-05	1.57351		
2,2,4-Trimethylpentane	0	0	0		
Benzene	0.20499	0.062582	0.775558		
Toluene	0.0197836	0.0196534	0.589046		
Ethylbenzene	9.81386E-05	0.000271323	0.0408505		
o-Xylene	0.000367389	0.00151047	0.0891704		
Octane	3.23336E-07	6.35911E-07	1.95783		
Triethylene Glycol	4.75646E-07	0.00825119	9.36997E-09		
Water	87.5603	99.8979	1.66578		

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	Working & Breathing		

Mass Flow	6 lb/h	7 lb/h	8 lb/h		
Carbon Dioxide	0.0123889	0.465634	0.364327		
Hydrogen Sulfide	0	0	0		
Nitrogen	1.39253E-06	0.000112624	6.27215E-05		
Methane	0.000341703	0.0203464	0.0692791		
Ethane	0.000545096	0.0321038	1.35181		
Propane	0.00012228	0.0313272	2.38779		
Isobutane	4.75977E-06	0.00325849	0.660467		
n-Butane	2.11984E-05	0.0207194	1.98993		
Isopentane	2.42656E-06	0.00617564	0.752578		
n-Pentane	1.27524E-06	0.00431342	0.964051		
Cyclopentane	0	0	0		
n-Hexane	1.06274E-07	0.001181	0.48659		
Cyclohexane	1.53037E-06	0.026171	0.154652		
i-C6	4.08684E-07	0.00328844	0.637838		
iC7	1.94621E-08	0.00158774	0.214716		
Methylcyclohexane	1.49967E-07	0.00534033	0.169211		
2,2,4-Trimethylpentane	0	0	0		
Benzene	0.00022541	3.93673	0.0834012		
Toluene	2.17543E-05	1.2363	0.0633442		
Ethylbenzene	1.07915E-07	0.0170677	0.00439294		
o-Xylene	4.03987E-07	0.0950168	0.00958912		
Octane	3.55545E-10	4.00021E-05	0.210539		
Triethylene Glycol	5.23028E-10	0.519043	1.00762E-09		
Water	0.0962827	6284.1	0.179134		

Stream Properties

Property	Units	6	7	8		
Temperature	°F	96.926	96.926	96.2186		
Molecular Weight	lb/lbmol	19.3871	18.0294	50.3627		
Std Vapor Volumetric Flow	MMSCFD	5.16576E-05	3.17768	0.0019447		
Std Liquid Volumetric Flow	sgpm	0.000229273	12.5771	0.0391491		
Gross Ideal Gas Heating Value	Btu/ft^3	60.4935	51.0927	2691.89		

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Connections

	2	3	4	5	6
From Block	1st Stage Scrubber	1st Stage Scrubber	VLVE-100	1st Stage	FAXR-100
To Block	1st Stage	VLVE-100	MIX-100	FAXR-100	2nd Stage Scrubber

Stream Composition

Mole Fraction	2 %	3 %	4 %	5 %	6 %
Carbon Dioxide	5.36455			5.36455	5.36455
Hydrogen Sulfide	0			0	0
Nitrogen	1.65852			1.65852	1.65852
Methane	71.9882			71.9882	71.9882
Ethane	10.2297			10.2297	10.2297
Propane	5.50387			5.50387	5.50387
Isobutane	0.769834			0.769834	0.769834
n-Butane	1.97711			1.97711	1.97711
Isopentane	0.50976			0.50976	0.50976
n-Pentane	0.621614			0.621614	0.621614
Cyclopentane	0			0	0
n-Hexane	0.205147			0.205147	0.205147
Cyclohexane	0.0798434			0.0798434	0.0798434
i-C6	0.295707			0.295707	0.295707
iC7	0.259407			0.259407	0.259407
Methylcyclohexane	0.0596218			0.0596218	0.0596218
2,2,4-Trimethylpentane	0			0	0
Benzene	0.0489648			0.0489648	0.0489648
Toluene	0.0306351			0.0306351	0.0306351
Ethylbenzene	0.00166168			0.00166168	0.00166168
o-Xylene	0.00442919			0.00442919	0.00442919
Octane	0.0576972			0.0576972	0.0576972
Triethylene Glycol	4.50586E-12			4.50586E-12	4.50586E-12
Water	0.333724			0.333724	0.333724

Mass Fraction	2 %	3 %	4 %	5 %	6 %
Carbon Dioxide	10.13			10.13	10.13
Hydrogen Sulfide	0			0	0
Nitrogen	1.99349			1.99349	1.99349
Methane	49.5519			49.5519	49.5519
Ethane	13.1981			13.1981	13.1981
Propane	10.4134			10.4134	10.4134
Isobutane	1.91985			1.91985	1.91985
n-Butane	4.93061			4.93061	4.93061
Isopentane	1.57806			1.57806	1.57806
n-Pentane	1.92432			1.92432	1.92432
Cyclopentane	0			0	0
n-Hexane	0.758536			0.758536	0.758536
Cyclohexane	0.288317			0.288317	0.288317
i-C6	1.09338			1.09338	1.09338
iC7	1.11528			1.11528	1.11528
Methylcyclohexane	0.251179			0.251179	0.251179
2,2,4-Trimethylpentane	0			0	0
Benzene	0.164108			0.164108	0.164108
Toluene	0.121112			0.121112	0.121112
Ethylbenzene	0.00756931			0.00756931	0.00756931
o-Xylene	0.0201759			0.0201759	0.0201759
Octane	0.282785			0.282785	0.282785
Triethylene Glycol	2.90334E-11			2.90334E-11	2.90334E-11
Water	0.257962			0.257962	0.257962

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Mass Flow	2 lb/h	3 lb/h	4 lb/h	5 lb/h	6 lb/h
Carbon Dioxide	10109.7	0	0	10109.7	10109.7
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1989.51	0	0	1989.51	1989.51
Methane	49453	0	0	49453	49453
Ethane	13171.7	0	0	13171.7	13171.7
Propane	10392.6	0	0	10392.6	10392.6
Isobutane	1916.02	0	0	1916.02	1916.02
n-Butane	4920.77	0	0	4920.77	4920.77
Isopentane	1574.91	0	0	1574.91	1574.91
n-Pentane	1920.48	0	0	1920.48	1920.48
Cyclopentane	0	0	0	0	0
n-Hexane	757.022	0	0	757.022	757.022
Cyclohexane	287.741	0	0	287.741	287.741
i-C6	1091.2	0	0	1091.2	1091.2
iC7	1113.06	0	0	1113.06	1113.06
Methylcyclohexane	250.677	0	0	250.677	250.677
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	163.78	0	0	163.78	163.78
Toluene	120.871	0	0	120.871	120.871
Ethylbenzene	7.5542	0	0	7.5542	7.5542
o-Xylene	20.1356	0	0	20.1356	20.1356
Octane	282.221	0	0	282.221	282.221
Triethylene Glycol	2.89754E-08	0	0	2.89754E-08	2.89754E-08
Water	257.447	0	0	257.447	257.447

Stream Properties

Property	Units	2	3	4	5	6
Temperature	°F	55.4495			198 *	115 *
Molecular Weight	lb/lbmol	23.3062			23.3062	23.3062
Std Vapor Volumetric Flow	MMSCFD	39	0	0	39	39
Std Liquid Volumetric Flow	sgpm	521.238	0	0	521.238	521.238
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36			1233.36	1233.36

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Connections

	7	8	9	10	11
From Block	2nd Stage Scrubber	2nd Stage Scrubber	VLVE-101	2nd Stage	FAXR-101
To Block	2nd Stage	VLVE-101	MIX-100	FAXR-101	3rd Stage Scrubber

Stream Composition

Mole Fraction	7 %	8 %	9 %	10 %	11 %
Carbon Dioxide	5.36455			5.36455	5.36455
Hydrogen Sulfide	0			0	0
Nitrogen	1.65852			1.65852	1.65852
Methane	71.9882			71.9882	71.9882
Ethane	10.2297			10.2297	10.2297
Propane	5.50387			5.50387	5.50387
Isobutane	0.769834			0.769834	0.769834
n-Butane	1.97711			1.97711	1.97711
Isopentane	0.50976			0.50976	0.50976
n-Pentane	0.621614			0.621614	0.621614
Cyclopentane	0			0	0
n-Hexane	0.205147			0.205147	0.205147
Cyclohexane	0.0798434			0.0798434	0.0798434
i-C6	0.295707			0.295707	0.295707
iC7	0.259407			0.259407	0.259407
Methylcyclohexane	0.0596218			0.0596218	0.0596218
2,2,4-Trimethylpentane	0			0	0
Benzene	0.0489648			0.0489648	0.0489648
Toluene	0.0306351			0.0306351	0.0306351
Ethylbenzene	0.00166168			0.00166168	0.00166168
o-Xylene	0.00442919			0.00442919	0.00442919
Octane	0.0576972			0.0576972	0.0576972
Triethylene Glycol	4.50586E-12			4.50586E-12	4.50586E-12
Water	0.333724			0.333724	0.333724

Mass Fraction	7 %	8 %	9 %	10 %	11 %
Carbon Dioxide	10.13			10.13	10.13
Hydrogen Sulfide	0			0	0
Nitrogen	1.99349			1.99349	1.99349
Methane	49.5519			49.5519	49.5519
Ethane	13.1981			13.1981	13.1981
Propane	10.4134			10.4134	10.4134
Isobutane	1.91985			1.91985	1.91985
n-Butane	4.93061			4.93061	4.93061
Isopentane	1.57806			1.57806	1.57806
n-Pentane	1.92432			1.92432	1.92432
Cyclopentane	0			0	0
n-Hexane	0.758536			0.758536	0.758536
Cyclohexane	0.288317			0.288317	0.288317
i-C6	1.09338			1.09338	1.09338
iC7	1.11528			1.11528	1.11528
Methylcyclohexane	0.251179			0.251179	0.251179
2,2,4-Trimethylpentane	0			0	0
Benzene	0.164108			0.164108	0.164108
Toluene	0.121112			0.121112	0.121112
Ethylbenzene	0.00756931			0.00756931	0.00756931
o-Xylene	0.0201759			0.0201759	0.0201759
Octane	0.282785			0.282785	0.282785
Triethylene Glycol	2.90334E-11			2.90334E-11	2.90334E-11
Water	0.257962			0.257962	0.257962

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	3606s & 3516s	

Mass Flow	7 lb/h	8 lb/h	9 lb/h	10 lb/h	11 lb/h
Carbon Dioxide	10109.7	0	0	10109.7	10109.7
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1989.51	0	0	1989.51	1989.51
Methane	49453	0	0	49453	49453
Ethane	13171.7	0	0	13171.7	13171.7
Propane	10392.6	0	0	10392.6	10392.6
Isobutane	1916.02	0	0	1916.02	1916.02
n-Butane	4920.77	0	0	4920.77	4920.77
Isopentane	1574.91	0	0	1574.91	1574.91
n-Pentane	1920.48	0	0	1920.48	1920.48
Cyclopentane	0	0	0	0	0
n-Hexane	757.022	0	0	757.022	757.022
Cyclohexane	287.741	0	0	287.741	287.741
i-C6	1091.2	0	0	1091.2	1091.2
iC7	1113.06	0	0	1113.06	1113.06
Methylcyclohexane	250.677	0	0	250.677	250.677
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	163.78	0	0	163.78	163.78
Toluene	120.871	0	0	120.871	120.871
Ethylbenzene	7.5542	0	0	7.5542	7.5542
o-Xylene	20.1356	0	0	20.1356	20.1356
Octane	282.221	0	0	282.221	282.221
Triethylene Glycol	2.89754E-08	0	0	2.89754E-08	2.89754E-08
Water	257.447	0	0	257.447	257.447

Stream Properties

Property	Units	7	8	9	10	11
Temperature	°F	115			272 *	115 *
Molecular Weight	lb/lbmol	23.3062			23.3062	23.3062
Std Vapor Volumetric Flow	MMSCFD	39	0	0	39	39
Std Liquid Volumetric Flow	sgpm	521.238	0	0	521.238	521.238
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36			1233.36	1233.36

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Connections

	12	13	14	15	16
From Block	3rd Stage Scrubber	3rd Stage Scrubber	VLVE-102	3rd Stage	FAXR-102
To Block	3rd Stage	VLVE-102	MIX-101	FAXR-102	Discharge Filter

Stream Composition

Mole Fraction	12 %	13 %	14 %	15 %	16 %
Carbon Dioxide	5.36455			5.36455	5.36455
Hydrogen Sulfide	0			0	0
Nitrogen	1.65852			1.65852	1.65852
Methane	71.9882			71.9882	71.9882
Ethane	10.2297			10.2297	10.2297
Propane	5.50387			5.50387	5.50387
Isobutane	0.769834			0.769834	0.769834
n-Butane	1.97711			1.97711	1.97711
Isopentane	0.50976			0.50976	0.50976
n-Pentane	0.621614			0.621614	0.621614
Cyclopentane	0			0	0
n-Hexane	0.205147			0.205147	0.205147
Cyclohexane	0.0798434			0.0798434	0.0798434
i-C6	0.295707			0.295707	0.295707
iC7	0.259407			0.259407	0.259407
Methylcyclohexane	0.0596218			0.0596218	0.0596218
2,2,4-Trimethylpentane	0			0	0
Benzene	0.0489648			0.0489648	0.0489648
Toluene	0.0306351			0.0306351	0.0306351
Ethylbenzene	0.00166168			0.00166168	0.00166168
o-Xylene	0.00442919			0.00442919	0.00442919
Octane	0.0576972			0.0576972	0.0576972
Triethylene Glycol	4.50586E-12			4.50586E-12	4.50586E-12
Water	0.333724			0.333724	0.333724

Mass Fraction	12 %	13 %	14 %	15 %	16 %
Carbon Dioxide	10.13			10.13	10.13
Hydrogen Sulfide	0			0	0
Nitrogen	1.99349			1.99349	1.99349
Methane	49.5519			49.5519	49.5519
Ethane	13.1981			13.1981	13.1981
Propane	10.4134			10.4134	10.4134
Isobutane	1.91985			1.91985	1.91985
n-Butane	4.93061			4.93061	4.93061
Isopentane	1.57806			1.57806	1.57806
n-Pentane	1.92432			1.92432	1.92432
Cyclopentane	0			0	0
n-Hexane	0.758536			0.758536	0.758536
Cyclohexane	0.288317			0.288317	0.288317
i-C6	1.09338			1.09338	1.09338
iC7	1.11528			1.11528	1.11528
Methylcyclohexane	0.251179			0.251179	0.251179
2,2,4-Trimethylpentane	0			0	0
Benzene	0.164108			0.164108	0.164108
Toluene	0.121112			0.121112	0.121112
Ethylbenzene	0.00756931			0.00756931	0.00756931
o-Xylene	0.0201759			0.0201759	0.0201759
Octane	0.282785			0.282785	0.282785
Triethylene Glycol	2.90334E-11			2.90334E-11	2.90334E-11
Water	0.257962			0.257962	0.257962

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Mass Flow	12 lb/h	13 lb/h	14 lb/h	15 lb/h	16 lb/h
Carbon Dioxide	10109.7	0	0	10109.7	10109.7
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1989.51	0	0	1989.51	1989.51
Methane	49453	0	0	49453	49453
Ethane	13171.7	0	0	13171.7	13171.7
Propane	10392.6	0	0	10392.6	10392.6
Isobutane	1916.02	0	0	1916.02	1916.02
n-Butane	4920.77	0	0	4920.77	4920.77
Isopentane	1574.91	0	0	1574.91	1574.91
n-Pentane	1920.48	0	0	1920.48	1920.48
Cyclopentane	0	0	0	0	0
n-Hexane	757.022	0	0	757.022	757.022
Cyclohexane	287.741	0	0	287.741	287.741
i-C6	1091.2	0	0	1091.2	1091.2
iC7	1113.06	0	0	1113.06	1113.06
Methylcyclohexane	250.677	0	0	250.677	250.677
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	163.78	0	0	163.78	163.78
Toluene	120.871	0	0	120.871	120.871
Ethylbenzene	7.5542	0	0	7.5542	7.5542
o-Xylene	20.1356	0	0	20.1356	20.1356
Octane	282.221	0	0	282.221	282.221
Triethylene Glycol	2.89754E-08	0	0	2.89754E-08	2.89754E-08
Water	257.447	0	0	257.447	257.447

Stream Properties

Property	Units	12	13	14	15	16
Temperature	°F	115			277 *	100 *
Molecular Weight	lb/lbmol	23.3062			23.3062	23.3062
Std Vapor Volumetric Flow	MMSCFD	39	0	0	39	39
Std Liquid Volumetric Flow	sgpm	521.238	0	0	521.238	521.238
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36			1233.36	1233.36

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Connections

	17	18	19	20	21
From Block	Discharge Filter	Discharge Filter	VLVE-103	MIX-100	MIX-101
To Block	MIX-102	VLVE-103	MIX-101	3606 & 3516 LPS	3606 & 3516 HP DUMPS

Stream Composition

Mole Fraction	17 %	18 %	19 %	20 %	21 %
Carbon Dioxide	5.38962	3.28809	3.28809		3.28809
Hydrogen Sulfide	0	0	0		0
Nitrogen	1.67507	0.287877	0.287877		0.287877
Methane	72.5509	25.38	25.38		25.38
Ethane	10.2346	9.82154	9.82154		9.82154
Propane	5.44735	10.1853	10.1853		10.1853
Isobutane	0.751777	2.26549	2.26549		2.26549
n-Butane	1.91363	7.235	7.235		7.235
Isopentane	0.481895	2.81781	2.81781		2.81781
n-Pentane	0.58089	3.99479	3.99479		3.99479
Cyclopentane	0	0	0		0
n-Hexane	0.177832	2.46767	2.46767		2.46767
Cyclohexane	0.0675962	1.09427	1.09427		1.09427
i-C6	0.262763	3.02446	3.02446		3.02446
iC7	0.210805	4.28507	4.28507		4.28507
Methylcyclohexane	0.0457501	1.20861	1.20861		1.20861
2,2,4-Trimethylpentane	0	0	0		0
Benzene	0.0422653	0.60389	0.60389		0.60389
Toluene	0.0232709	0.640615	0.640615		0.640615
Ethylbenzene	0.00105556	0.0518663	0.0518663		0.0518663
o-Xylene	0.00267243	0.149941	0.149941		0.149941
Octane	0.0380582	1.68439	1.68439		1.68439
Triethylene Glycol	1.197E-15	3.77626E-10	3.77626E-10		3.77626E-10
Water	0.102169	19.5134	19.5134		19.5134

Mass Fraction	17 %	18 %	19 %	20 %	21 %
Carbon Dioxide	10.2732	3.50119	3.50119		3.50119
Hydrogen Sulfide	0	0	0		0
Nitrogen	2.03236	0.195119	0.195119		0.195119
Methane	50.4099	9.8512	9.8512		9.8512
Ethane	13.3289	7.14539	7.14539		7.14539
Propane	10.4036	10.8666	10.8666		10.8666
Isobutane	1.89249	3.18589	3.18589		3.18589
n-Butane	4.81728	10.1744	10.1744		10.1744
Isopentane	1.50586	4.91889	4.91889		4.91889
n-Pentane	1.8152	6.97347	6.97347		6.97347
Cyclopentane	0	0	0		0
n-Hexane	0.663735	5.14513	5.14513		5.14513
Cyclohexane	0.246392	2.2282	2.2282		2.2282
i-C6	0.980728	6.30605	6.30605		6.30605
iC7	0.914871	10.3887	10.3887		10.3887
Methylcyclohexane	0.194556	2.8712	2.8712		2.8712
2,2,4-Trimethylpentane	0	0	0		0
Benzene	0.142989	1.1413	1.1413		1.1413
Toluene	0.0928657	1.42812	1.42812		1.42812
Ethylbenzene	0.00485363	0.133227	0.133227		0.133227
o-Xylene	0.0122882	0.385149	0.385149		0.385149
Octane	0.188289	4.65526	4.65526		4.65526
Triethylene Glycol	7.7855E-15	1.37208E-09	1.37208E-09		1.37208E-09
Water	0.0797188	8.5055	8.5055		8.5055

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Mass Flow	17 lb/h	18 lb/h	19 lb/h	20 lb/h	21 lb/h
Carbon Dioxide	10035.8	73.9182	73.9182	0	73.9182
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1985.4	4.11941	4.11941	0	4.11941
Methane	49245	207.981	207.981	0	207.981
Ethane	13020.9	150.855	150.855	0	150.855
Propane	10163.2	229.42	229.42	0	229.42
Isobutane	1848.75	67.2615	67.2615	0	67.2615
n-Butane	4705.96	214.804	214.804	0	214.804
Isopentane	1471.06	103.849	103.849	0	103.849
n-Pentane	1773.25	147.226	147.226	0	147.226
Cyclopentane	0	0	0	0	0
n-Hexane	648.397	108.625	108.625	0	108.625
Cyclohexane	240.699	47.0423	47.0423	0	47.0423
i-C6	958.065	133.135	133.135	0	133.135
iC7	893.729	219.329	219.329	0	219.329
Methylcyclohexane	190.06	60.6177	60.6177	0	60.6177
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	139.685	24.0955	24.0955	0	24.0955
Toluene	90.7197	30.1508	30.1508	0	30.1508
Ethylbenzene	4.74147	2.81273	2.81273	0	2.81273
o-Xylene	12.0043	8.13138	8.13138	0	8.13138
Octane	183.938	98.2832	98.2832	0	98.2832
Triethylene Glycol	7.60559E-12	2.89678E-08	2.89678E-08	0	2.89678E-08
Water	77.8766	179.57	179.57	0	179.57

Stream Properties

Property	Units	17	18	19	20	21
Temperature	°F	100	100	34.912		34.912
Molecular Weight	lb/lbmol	23.0886	41.3307	41.3307		41.3307
Std Vapor Volumetric Flow	MMSCFD	38.5348	0.465229	0.465229	0	0.465229
Std Liquid Volumetric Flow	sgpm	513.702	7.53622	7.53622	0	7.53622
Gross Ideal Gas Heating Value	Btu/ft^3	1223.47	2052.47	2052.47		2052.47

Warnings

ProMax:ProMax!Project!Flowsheets!3606s & 3516s!PStreams!19
- Warning: The temperature of 34.912 °F is within 10 °F of ice formation.
- Warning: The temperature of 34.912 °F is within 10 °F of hydrate formation.

ProMax:ProMax!Project!Flowsheets!3606s & 3516s!PStreams!21
- Warning: The temperature of 34.912 °F is within 10 °F of ice formation.
- Warning: The temperature of 34.912 °F is within 10 °F of hydrate formation.

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Connections

	22	23	24	26	27
From Block	SPLT-100	SPLT-100	GAS TO COMPRESSION	MIX-102	3616 DISCHARGE
To Block	GAS TO DEHY1	GAS TO DEHY2	SPLT-101	SPLT-100	MIX-102

Stream Composition

Mole Fraction	22 %	23 %	24 %	26 %	27 %
Carbon Dioxide	5.39036	5.39036	5.36455	5.39036	5.39052
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.67181	1.67181	1.65852	1.67181	1.67108
Methane	72.4751	72.4751	71.9882	72.4751	72.4581
Ethane	10.2506	10.2506	10.2297	10.2506	10.2542
Propane	5.47255	5.47255	5.50387	5.47255	5.4782
Isobutane	0.757367	0.757367	0.769834	0.757367	0.758621
n-Butane	1.93094	1.93094	1.97711	1.93094	1.93483
Isopentane	0.487262	0.487262	0.50976	0.487262	0.488466
n-Pentane	0.587933	0.587933	0.621614	0.587933	0.589513
Cyclopentane	0	0	0	0	0
n-Hexane	0.179675	0.179675	0.205147	0.179675	0.180088
Cyclohexane	0.0681669	0.0681669	0.0798434	0.0681669	0.0682949
i-C6	0.265924	0.265924	0.295707	0.265924	0.266633
iC7	0.210435	0.210435	0.259407	0.210435	0.210351
Methylcyclohexane	0.0452513	0.0452513	0.0596218	0.0452513	0.0451395
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.0427249	0.0427249	0.0489648	0.0427249	0.042828
Toluene	0.022992	0.022992	0.0306351	0.022992	0.0229295
Ethylbenzene	0.000978328	0.000978328	0.00166168	0.000978328	0.000961005
o-Xylene	0.00242899	0.00242899	0.00442919	0.00242899	0.00237439
Octane	0.0353391	0.0353391	0.0576972	0.0353391	0.0347293
Triethylene Glycol	0	0	4.50586E-12	0	0
Water	0.102154	0.102154	0.333724	0.102154	0.10215

Mass Fraction	22 %	23 %	24 %	26 %	27 %
Carbon Dioxide	10.2631	10.2631	10.13	10.2631	10.2608
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	2.02612	2.02612	1.99349	2.02612	2.02472
Methane	50.3006	50.3006	49.5519	50.3006	50.2761
Ethane	13.3346	13.3346	13.1981	13.3346	13.3359
Propane	10.4399	10.4399	10.4134	10.4399	10.4481
Isobutane	1.90441	1.90441	1.91985	1.90441	1.90709
n-Butane	4.85539	4.85539	4.93061	4.85539	4.86393
Isopentane	1.52091	1.52091	1.57806	1.52091	1.52428
n-Pentane	1.83514	1.83514	1.92432	1.83514	1.83961
Cyclopentane	0	0	0	0	0
n-Hexane	0.669858	0.669858	0.758536	0.669858	0.67123
Cyclohexane	0.248193	0.248193	0.288317	0.248193	0.248596
i-C6	0.991411	0.991411	1.09338	0.991411	0.993804
iC7	0.912234	0.912234	1.11528	0.912234	0.911643
Methylcyclohexane	0.192218	0.192218	0.251179	0.192218	0.191694
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.144381	0.144381	0.164108	0.144381	0.144693
Toluene	0.0916497	0.0916497	0.121112	0.0916497	0.0913773
Ethylbenzene	0.00449344	0.00449344	0.00756931	0.00449344	0.00441276
o-Xylene	0.0111563	0.0111563	0.0201759	0.0111563	0.0109027
Octane	0.17464	0.17464	0.282785	0.17464	0.171583
Triethylene Glycol	0	0	2.90334E-11	0	0
Water	0.0796174	0.0796174	0.257962	0.0796174	0.0795947

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	TITLE V COMPRESSOR STATION	
Flowsheet:	3606s & 3516s	

Mass Flow	22 lb/h	23 lb/h	24 lb/h	26 lb/h	27 lb/h
Carbon Dioxide	18262.7	18262.7	55021.2	54788	44752.2
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	3605.4	3605.4	10827.7	10816.2	8830.79
Methane	89507.7	89507.7	269142	268523	219278
Ethane	23728.4	23728.4	71685.6	71185.1	58164.2
Propane	18577.4	18577.4	56560.5	55732.2	45569.1
Isobutane	3388.82	3388.82	10427.7	10166.5	8317.71
n-Butane	8639.96	8639.96	26780.8	25919.9	21213.9
Isopentane	2706.4	2706.4	8571.26	8119.19	6648.14
n-Pentane	3265.56	3265.56	10452	9796.67	8023.42
Cyclopentane	0	0	0	0	0
n-Hexane	1191.98	1191.98	4120.01	3575.95	2927.55
Cyclohexane	441.649	441.649	1566	1324.95	1084.25
i-C6	1764.17	1764.17	5938.74	5292.52	4334.45
iC7	1623.28	1623.28	6057.7	4869.84	3976.11
Methylcyclohexane	342.044	342.044	1364.28	1026.13	836.071
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	256.92	256.92	891.356	770.76	631.075
Toluene	163.087	163.087	657.825	489.26	398.54
Ethylbenzene	7.99588	7.99588	41.1129	23.9876	19.2462
o-Xylene	19.8521	19.8521	109.586	59.5563	47.5521
Octane	310.764	310.764	1535.96	932.292	748.354
Triethylene Glycol	0	0	1.57696E-07	0	0
Water	141.676	141.676	1401.13	425.027	347.151

Stream Properties

Property	Units	22	23	24	26	27
Temperature	°F	99.9999	99.9999	55.4495	99.9999	100
Molecular Weight	lb/lbmol	23.1146	23.1146	23.3062	23.1146	23.1205
Std Vapor Volumetric Flow	MMSCFD	70.114	70.114	212.253	210.342	171.807
Std Liquid Volumetric Flow	sgpm	935.183	935.183	2836.78	2805.55	2291.85
Gross Ideal Gas Heating Value	Btu/ft^3	1224.9	1224.9	1233.36	1224.9	1225.23

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Connections

	28	3606 & 3516 INLET	3616 INLET		
From Block	SPLT-100	SPLT-101	SPLT-101		
To Block	GAS TO DEHY3	1st Stage Scrubber	3616 COMP		

Stream Composition

Mole Fraction	28 %	3606 & 3516 INLET %	3616 INLET %		
Carbon Dioxide	5.39036	5.36455	5.36455		
Hydrogen Sulfide	0	0	0		
Nitrogen	1.67181	1.65852	1.65852		
Methane	72.4751	71.9882	71.9882		
Ethane	10.2506	10.2297	10.2297		
Propane	5.47255	5.50387	5.50387		
Isobutane	0.757367	0.769834	0.769834		
n-Butane	1.93094	1.97711	1.97711		
Isopentane	0.487262	0.50976	0.50976		
n-Pentane	0.587933	0.621614	0.621614		
Cyclopentane	0	0	0		
n-Hexane	0.179675	0.205147	0.205147		
Cyclohexane	0.0681669	0.0798434	0.0798434		
i-C6	0.265924	0.295707	0.295707		
iC7	0.210435	0.259407	0.259407		
Methylcyclohexane	0.0452513	0.0596218	0.0596218		
2,2,4-Trimethylpentane	0	0	0		
Benzene	0.0427249	0.0489648	0.0489648		
Toluene	0.022992	0.0306351	0.0306351		
Ethylbenzene	0.000978328	0.00166168	0.00166168		
o-Xylene	0.00242899	0.00442919	0.00442919		
Octane	0.0353391	0.0576972	0.0576972		
Triethylene Glycol	0	4.50586E-12	4.50586E-12		
Water	0.102154	0.333724	0.333724		

Mass Fraction	28 %	3606 & 3516 INLET %	3616 INLET %		
Carbon Dioxide	10.2631	10.13	10.13		
Hydrogen Sulfide	0	0	0		
Nitrogen	2.02612	1.99349	1.99349		
Methane	50.3006	49.5519	49.5519		
Ethane	13.3346	13.1981	13.1981		
Propane	10.4399	10.4134	10.4134		
Isobutane	1.90441	1.91985	1.91985		
n-Butane	4.85539	4.93061	4.93061		
Isopentane	1.52091	1.57806	1.57806		
n-Pentane	1.83514	1.92432	1.92432		
Cyclopentane	0	0	0		
n-Hexane	0.669858	0.758536	0.758536		
Cyclohexane	0.248193	0.288317	0.288317		
i-C6	0.991411	1.09338	1.09338		
iC7	0.912234	1.11528	1.11528		
Methylcyclohexane	0.192218	0.251179	0.251179		
2,2,4-Trimethylpentane	0	0	0		
Benzene	0.144381	0.164108	0.164108		
Toluene	0.0916497	0.121112	0.121112		
Ethylbenzene	0.00449344	0.00756931	0.00756931		
o-Xylene	0.0111563	0.0201759	0.0201759		
Octane	0.17464	0.282785	0.282785		
Triethylene Glycol	0	2.90334E-11	2.90334E-11		

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3606s & 3516s		

Mass Fraction	28 %	3606 & 3516 INLET %	3616 INLET %		
Water	0.0796174	0.257962	0.257962		

Mass Flow	28 lb/h	3606 & 3516 INLET lb/h	3616 INLET lb/h		
Carbon Dioxide	18262.7	10109.7	44911.4		
Hydrogen Sulfide	0	0	0		
Nitrogen	3605.4	1989.51	8838.21		
Methane	89507.7	49453	219689		
Ethane	23728.4	13171.7	58513.9		
Propane	18577.4	10392.6	46167.9		
Isobutane	3388.82	1916.02	8511.69		
n-Butane	8639.96	4920.77	21860		
Isopentane	2706.4	1574.91	6996.35		
n-Pentane	3265.56	1920.48	8531.52		
Cyclopentane	0	0	0		
n-Hexane	1191.98	757.022	3362.99		
Cyclohexane	441.649	287.741	1278.26		
i-C6	1764.17	1091.2	4847.54		
iC7	1623.28	1113.06	4944.64		
Methylcyclohexane	342.044	250.677	1113.61		
2,2,4-Trimethylpentane	0	0	0		
Benzene	256.92	163.78	727.575		
Toluene	163.087	120.871	536.954		
Ethylbenzene	7.99588	7.5542	33.5587		
o-Xylene	19.8521	20.1356	89.4504		
Octane	310.764	282.221	1253.74		
Triethylene Glycol	0	2.89754E-08	1.2872E-07		
Water	141.676	257.447	1143.68		

Stream Properties

Property	Units	28	3606 & 3516 INLET		3616 INLET		
Temperature	°F	99.9999	55.4495		55.4495		
Molecular Weight	lb/lbmol	23.1146	23.3062		23.3062		
Std Vapor Volumetric Flow	MMSCFD	70.114	39	*	173.253		
Std Liquid Volumetric Flow	sgpm	935.183	521.238		2315.54		
Gross Ideal Gas Heating Value	Btu/ft^3	1224.9	1233.36		1233.36		

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Connections

	1	2	3	4	5
From Block	3616 COMP	1st Stage Scrubber	1st Stage Scrubber	1st Stage	C1
To Block	1st Stage Scrubber	1st Stage	VLVE-100	C1	2nd Stage Scrubber

Stream Composition

Mole Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	5.36455	5.36455		5.36455	5.36455
Hydrogen Sulfide	0	0		0	0
Nitrogen	1.65852	1.65852		1.65852	1.65852
Methane	71.9882	71.9882		71.9882	71.9882
Ethane	10.2297	10.2297		10.2297	10.2297
Propane	5.50387	5.50387		5.50387	5.50387
Isobutane	0.769834	0.769834		0.769834	0.769834
n-Butane	1.97711	1.97711		1.97711	1.97711
Isopentane	0.50976	0.50976		0.50976	0.50976
n-Pentane	0.621614	0.621614		0.621614	0.621614
Cyclopentane	0	0		0	0
n-Hexane	0.205147	0.205147		0.205147	0.205147
Cyclohexane	0.0798434	0.0798434		0.0798434	0.0798434
i-C6	0.295707	0.295707		0.295707	0.295707
iC7	0.259407	0.259407		0.259407	0.259407
Methylcyclohexane	0.0596218	0.0596218		0.0596218	0.0596218
2,2,4-Trimethylpentane	0	0		0	0
Benzene	0.0489648	0.0489648		0.0489648	0.0489648
Toluene	0.0306351	0.0306351		0.0306351	0.0306351
Ethylbenzene	0.00166168	0.00166168		0.00166168	0.00166168
o-Xylene	0.00442919	0.00442919		0.00442919	0.00442919
Octane	0.0576972	0.0576972		0.0576972	0.0576972
Triethylene Glycol	4.50586E-12	4.50586E-12		4.50586E-12	4.50586E-12
Water	0.333724	0.333724		0.333724	0.333724

Mass Fraction	1 %	2 %	3 %	4 %	5 %
Carbon Dioxide	10.13	10.13		10.13	10.13
Hydrogen Sulfide	0	0		0	0
Nitrogen	1.99349	1.99349		1.99349	1.99349
Methane	49.5519	49.5519		49.5519	49.5519
Ethane	13.1981	13.1981		13.1981	13.1981
Propane	10.4134	10.4134		10.4134	10.4134
Isobutane	1.91985	1.91985		1.91985	1.91985
n-Butane	4.93061	4.93061		4.93061	4.93061
Isopentane	1.57806	1.57806		1.57806	1.57806
n-Pentane	1.92432	1.92432		1.92432	1.92432
Cyclopentane	0	0		0	0
n-Hexane	0.758536	0.758536		0.758536	0.758536
Cyclohexane	0.288317	0.288317		0.288317	0.288317
i-C6	1.09338	1.09338		1.09338	1.09338
iC7	1.11528	1.11528		1.11528	1.11528
Methylcyclohexane	0.251179	0.251179		0.251179	0.251179
2,2,4-Trimethylpentane	0	0		0	0
Benzene	0.164108	0.164108		0.164108	0.164108
Toluene	0.121112	0.121112		0.121112	0.121112
Ethylbenzene	0.00756931	0.00756931		0.00756931	0.00756931
o-Xylene	0.0201759	0.0201759		0.0201759	0.0201759
Octane	0.282785	0.282785		0.282785	0.282785
Triethylene Glycol	2.90334E-11	2.90334E-11		2.90334E-11	2.90334E-11
Water	0.257962	0.257962		0.257962	0.257962

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Mass Flow	1 lb/h	2 lb/h	3 lb/h	4 lb/h	5 lb/h
Carbon Dioxide	44911.4	44911.4	0	44911.4	44911.4
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	8838.21	8838.21	0	8838.21	8838.21
Methane	219689	219689	0	219689	219689
Ethane	58513.9	58513.9	0	58513.9	58513.9
Propane	46167.9	46167.9	0	46167.9	46167.9
Isobutane	8511.69	8511.69	0	8511.69	8511.69
n-Butane	21860	21860	0	21860	21860
Isopentane	6996.35	6996.35	0	6996.35	6996.35
n-Pentane	8531.52	8531.52	0	8531.52	8531.52
Cyclopentane	0	0	0	0	0
n-Hexane	3362.99	3362.99	0	3362.99	3362.99
Cyclohexane	1278.26	1278.26	0	1278.26	1278.26
i-C6	4847.54	4847.54	0	4847.54	4847.54
iC7	4944.64	4944.64	0	4944.64	4944.64
Methylcyclohexane	1113.61	1113.61	0	1113.61	1113.61
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	727.575	727.575	0	727.575	727.575
Toluene	536.954	536.954	0	536.954	536.954
Ethylbenzene	33.5587	33.5587	0	33.5587	33.5587
o-Xylene	89.4504	89.4504	0	89.4504	89.4504
Octane	1253.74	1253.74	0	1253.74	1253.74
Triethylene Glycol	1.2872E-07	1.2872E-07	0	1.2872E-07	1.2872E-07
Water	1143.68	1143.68	0	1143.68	1143.68

Stream Properties

Property	Units	1	2	3	4	5
Temperature	°F	55.4495	55.4495		228 *	115 *
Molecular Weight	lb/lbmol	23.3062	23.3062		23.3062	23.3062
Std Vapor Volumetric Flow	MMSCFD	173.253	173.253	0	173.253	173.253
Std Liquid Volumetric Flow	sgpm	2315.54	2315.54	0	2315.54	2315.54
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36	1233.36		1233.36	1233.36

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Connections

	6	7	8	9	10
From Block	2nd Stage Scrubber	2nd Stage Scrubber	3rd Stage Scrubber	4th Stage Scrubber	Discharge Scrubber
To Block	2nd Stage	VLVE-101	VLVE-102	VLVE-103	VLVE-104

Stream Composition

Mole Fraction	6 %	7 %	8 %	9 %	10 %
Carbon Dioxide	5.36455			2.07465	2.58897
Hydrogen Sulfide	0			0	0
Nitrogen	1.65852			0.127968	0.225445
Methane	71.9882			13.7314	19.8305
Ethane	10.2297			7.0994	7.6662
Propane	5.50387			8.94473	7.9608
Isobutane	0.769834			2.31809	1.77405
n-Butane	1.97711			7.87535	5.67308
Isopentane	0.50976			3.58516	2.21168
n-Pentane	0.621614			5.29103	3.13656
Cyclopentane	0			0	0
n-Hexane	0.205147			4.00759	1.92954
Cyclohexane	0.0798434			1.84671	0.852472
i-C6	0.295707			4.65823	2.37083
iC7	0.259407			7.92473	3.29843
Methylcyclohexane	0.0596218			2.34778	0.918582
2,2,4-Trimethylpentane	0			0	0
Benzene	0.0489648			0.979945	0.471591
Toluene	0.0306351			1.24969	0.485238
Ethylbenzene	0.00166168			0.116955	0.0362498
o-Xylene	0.00442919			0.344905	0.10227
Octane	0.0576972			3.84294	1.18244
Triethylene Glycol	4.50586E-12			8.94692E-10	0
Water	0.333724			21.6328	37.285

Mass Fraction	6 %	7 %	8 %	9 %	10 %
Carbon Dioxide	10.13			1.77216	3.16086
Hydrogen Sulfide	0			0	0
Nitrogen	1.99349			0.0695794	0.175202
Methane	49.5519			4.27561	8.82544
Ethane	13.1981			4.14336	6.39485
Propane	10.4134			7.65551	9.7383
Isobutane	1.91985			2.61507	2.86049
n-Butane	4.93061			8.8843	9.14728
Isopentane	1.57806			5.02052	4.42672
n-Pentane	1.92432			7.40936	6.27789
Cyclopentane	0			0	0
n-Hexane	0.758536			6.70313	4.61284
Cyclohexane	0.288317			3.01657	1.99028
i-C6	1.09338			7.79141	5.66779
iC7	1.11528			15.4125	9.16882
Methylcyclohexane	0.251179			4.47423	2.50207
2,2,4-Trimethylpentane	0			0	0
Benzene	0.164108			1.4857	1.02191
Toluene	0.121112			2.23489	1.2403
Ethylbenzene	0.00756931			0.240997	0.106762
o-Xylene	0.0201759			0.71071	0.301203
Octane	0.282785			8.5202	3.747
Triethylene Glycol	2.90334E-11			2.60782E-09	0
Water	0.257962			7.56423	18.634

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Mass Flow	6 lb/h	7 lb/h	8 lb/h	9 lb/h	10 lb/h
Carbon Dioxide	44911.4	0	0	87.4065	71.8287
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	8838.21	0	0	3.4318	3.98136
Methane	219689	0	0	210.882	200.553
Ethane	58513.9	0	0	204.359	145.319
Propane	46167.9	0	0	377.586	221.297
Isobutane	8511.69	0	0	128.981	65.0029
n-Butane	21860	0	0	438.192	207.867
Isopentane	6996.35	0	0	247.622	100.595
n-Pentane	8531.52	0	0	365.445	142.661
Cyclopentane	0	0	0	0	0
n-Hexane	3362.99	0	0	330.612	104.824
Cyclohexane	1278.26	0	0	148.783	45.2279
i-C6	4847.54	0	0	384.288	128.797
iC7	4944.64	0	0	760.175	208.356
Methylcyclohexane	1113.61	0	0	220.678	56.858
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	727.575	0	0	73.2776	23.2224
Toluene	536.954	0	0	110.229	28.1851
Ethylbenzene	33.5587	0	0	11.8865	2.42611
o-Xylene	89.4504	0	0	35.0537	6.84465
Octane	1253.74	0	0	420.234	85.1483
Triethylene Glycol	1.2872E-07	0	0	1.28623E-07	0
Water	1143.68	0	0	373.083	423.447

Stream Properties

Property	Units	6	7	8	9	10
Temperature	°F	115			115	100
Molecular Weight	lb/lbmol	23.3062			51.5215	36.047
Std Vapor Volumetric Flow	MMSCFD	173.253	0	0	0.871881	0.574154
Std Liquid Volumetric Flow	sgpm	2315.54	0	0	15.967	7.73055
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36			2593.88	1602.72

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Connections

	11	12	13	14	15
From Block	VLVE-100	VLVE-101	VLVE-102	VLVE-103	VLVE-104
To Block	MIX-101	MIX-101	MIX-100	MIX-100	MIX-100

Stream Composition

Mole Fraction	11 %	12 %	13 %	14 %	15 %
Carbon Dioxide				2.07465	2.58897
Hydrogen Sulfide				0	0
Nitrogen				0.127968	0.225445
Methane				13.7314	19.8305
Ethane				7.0994	7.6662
Propane				8.94473	7.9608
Isobutane				2.31809	1.77405
n-Butane				7.87535	5.67308
Isopentane				3.58516	2.21168
n-Pentane				5.29103	3.13656
Cyclopentane				0	0
n-Hexane				4.00759	1.92954
Cyclohexane				1.84671	0.852472
i-C6				4.65823	2.37083
iC7				7.92473	3.29843
Methylcyclohexane				2.34778	0.918582
2,2,4-Trimethylpentane				0	0
Benzene				0.979945	0.471591
Toluene				1.24969	0.485238
Ethylbenzene				0.116955	0.0362498
o-Xylene				0.344905	0.10227
Octane				3.84294	1.18244
Triethylene Glycol				8.94692E-10	0
Water				21.6328	37.285

Mass Fraction	11 %	12 %	13 %	14 %	15 %
Carbon Dioxide				1.77216	3.16086
Hydrogen Sulfide				0	0
Nitrogen				0.0695794	0.175202
Methane				4.27561	8.82544
Ethane				4.14336	6.39485
Propane				7.65551	9.7383
Isobutane				2.61507	2.86049
n-Butane				8.8843	9.14728
Isopentane				5.02052	4.42672
n-Pentane				7.40936	6.27789
Cyclopentane				0	0
n-Hexane				6.70313	4.61284
Cyclohexane				3.01657	1.99028
i-C6				7.79141	5.66779
iC7				15.4125	9.16882
Methylcyclohexane				4.47423	2.50207
2,2,4-Trimethylpentane				0	0
Benzene				1.4857	1.02191
Toluene				2.23489	1.2403
Ethylbenzene				0.240997	0.106762
o-Xylene				0.71071	0.301203
Octane				8.5202	3.747
Triethylene Glycol				2.60782E-09	0
Water				7.56423	18.634

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Mass Flow	11 lb/h	12 lb/h	13 lb/h	14 lb/h	15 lb/h
Carbon Dioxide	0	0	0	87.4065	71.8287
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	0	0	0	3.4318	3.98136
Methane	0	0	0	210.882	200.553
Ethane	0	0	0	204.359	145.319
Propane	0	0	0	377.586	221.297
Isobutane	0	0	0	128.981	65.0029
n-Butane	0	0	0	438.192	207.867
Isopentane	0	0	0	247.622	100.595
n-Pentane	0	0	0	365.445	142.661
Cyclopentane	0	0	0	0	0
n-Hexane	0	0	0	330.612	104.824
Cyclohexane	0	0	0	148.783	45.2279
i-C6	0	0	0	384.288	128.797
iC7	0	0	0	760.175	208.356
Methylcyclohexane	0	0	0	220.678	56.858
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0	0	0	73.2776	23.2224
Toluene	0	0	0	110.229	28.1851
Ethylbenzene	0	0	0	11.8865	2.42611
o-Xylene	0	0	0	35.0537	6.84465
Octane	0	0	0	420.234	85.1483
Triethylene Glycol	0	0	0	1.28623E-07	0
Water	0	0	0	373.083	423.447

Stream Properties

Property	Units	11	12	13	14	15
Temperature	°F				74.7039	42.7656
Molecular Weight	lb/lbmol				51.5215	36.047
Std Vapor Volumetric Flow	MMSCFD	0	0	0	0.871881	0.574154
Std Liquid Volumetric Flow	sgpm	0	0	0	15.967	7.73055
Gross Ideal Gas Heating Value	Btu/ft^3				2593.88	1602.72

Warnings

ProMax:ProMax!Project!Flowsheets!3616s!PStreams!15

Warning: The temperature of 42.7656 °F is within 10 °F of hydrate formation.

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Connections

	16	17	18	19	20
From Block	2nd Stage	3rd Stage	4th Stage	C2	3rd Stage Scrubber
To Block	C2	C3	C4	3rd Stage Scrubber	3rd Stage

Stream Composition

Mole Fraction	16 %	17 %	18 %	19 %	20 %
Carbon Dioxide	5.36455	5.36455	5.38119	5.36455	5.36455
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.65852	1.65852	1.66626	1.65852	1.65852
Methane	71.9882	71.9882	72.2829	71.9882	71.9882
Ethane	10.2297	10.2297	10.2455	10.2297	10.2297
Propane	5.50387	5.50387	5.48647	5.50387	5.50387
Isobutane	0.769834	0.769834	0.762003	0.769834	0.769834
n-Butane	1.97711	1.97711	1.94728	1.97711	1.97711
Isopentane	0.50976	0.50976	0.494205	0.50976	0.50976
n-Pentane	0.621614	0.621614	0.597997	0.621614	0.621614
Cyclopentane	0	0	0	0	0
n-Hexane	0.205147	0.205147	0.185915	0.205147	0.205147
Cyclohexane	0.0798434	0.0798434	0.0709068	0.0798434	0.0798434
i-C6	0.295707	0.295707	0.273642	0.295707	0.295707
iC7	0.259407	0.259407	0.220637	0.259407	0.259407
Methylcyclohexane	0.0596218	0.0596218	0.0480487	0.0596218	0.0596218
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.0489648	0.0489648	0.0442561	0.0489648	0.0489648
Toluene	0.0306351	0.0306351	0.0244693	0.0306351	0.0306351
Ethylbenzene	0.00166168	0.00166168	0.00107854	0.00166168	0.00166168
o-Xylene	0.00442919	0.00442919	0.00270711	0.00442919	0.00442919
Octane	0.0576972	0.0576972	0.038552	0.0576972	0.0576972
Triethylene Glycol	4.50586E-12	4.50586E-12	3.42721E-15	4.50586E-12	4.50586E-12
Water	0.333724	0.333724	0.225996	0.333724	0.333724

Mass Fraction	16 %	17 %	18 %	19 %	20 %
Carbon Dioxide	10.13	10.13	10.224	10.13	10.13
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.99349	1.99349	2.01514	1.99349	1.99349
Methane	49.5519	49.5519	50.0612	49.5519	49.5519
Ethane	13.1981	13.1981	13.2999	13.1981	13.1981
Propane	10.4134	10.4134	10.4444	10.4134	10.4134
Isobutane	1.91985	1.91985	1.91203	1.91985	1.91985
n-Butane	4.93061	4.93061	4.88613	4.93061	4.93061
Isopentane	1.57806	1.57806	1.53933	1.57806	1.57806
n-Pentane	1.92432	1.92432	1.86261	1.92432	1.92432
Cyclopentane	0	0	0	0	0
n-Hexane	0.758536	0.758536	0.69166	0.758536	0.758536
Cyclohexane	0.288317	0.288317	0.257624	0.288317	0.288317
i-C6	1.09338	1.09338	1.01803	1.09338	1.09338
iC7	1.11528	1.11528	0.954442	1.11528	1.11528
Methylcyclohexane	0.251179	0.251179	0.20367	0.251179	0.251179
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.164108	0.164108	0.14924	0.164108	0.164108
Toluene	0.121112	0.121112	0.0973325	0.121112	0.121112
Ethylbenzene	0.00756931	0.00756931	0.00494326	0.00756931	0.00756931
o-Xylene	0.0201759	0.0201759	0.0124074	0.0201759	0.0201759
Octane	0.282785	0.282785	0.190115	0.282785	0.282785
Triethylene Glycol	2.90334E-11	2.90334E-11	2.22192E-14	2.90334E-11	2.90334E-11
Water	0.257962	0.257962	0.175767	0.257962	0.257962

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Mass Flow	16 lb/h	17 lb/h	18 lb/h	19 lb/h	20 lb/h
Carbon Dioxide	44911.4	44911.4	44824	44911.4	44911.4
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	8838.21	8838.21	8834.77	8838.21	8838.21
Methane	219689	219689	219479	219689	219689
Ethane	58513.9	58513.9	58309.6	58513.9	58513.9
Propane	46167.9	46167.9	45790.3	46167.9	46167.9
Isobutane	8511.69	8511.69	8382.71	8511.69	8511.69
n-Butane	21860	21860	21421.8	21860	21860
Isopentane	6996.35	6996.35	6748.73	6996.35	6996.35
n-Pentane	8531.52	8531.52	8166.08	8531.52	8531.52
Cyclopentane	0	0	0	0	0
n-Hexane	3362.99	3362.99	3032.38	3362.99	3362.99
Cyclohexane	1278.26	1278.26	1129.48	1278.26	1278.26
i-C6	4847.54	4847.54	4463.25	4847.54	4847.54
iC7	4944.64	4944.64	4184.47	4944.64	4944.64
Methylcyclohexane	1113.61	1113.61	892.929	1113.61	1113.61
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	727.575	727.575	654.298	727.575	727.575
Toluene	536.954	536.954	426.725	536.954	536.954
Ethylbenzene	33.5587	33.5587	21.6723	33.5587	33.5587
o-Xylene	89.4504	89.4504	54.3967	89.4504	89.4504
Octane	1253.74	1253.74	833.502	1253.74	1253.74
Triethylene Glycol	1.2872E-07	1.2872E-07	9.74133E-11	1.2872E-07	1.2872E-07
Water	1143.68	1143.68	770.598	1143.68	1143.68

Stream Properties

Property	Units	16	17	18	19	20
Temperature	°F	257 *	232 *	210 *	115 *	115
Molecular Weight	lb/lbmol	23.3062	23.3062	23.1635	23.3062	23.3062
Std Vapor Volumetric Flow	MMSCFD	173.253	173.253	172.381	173.253	173.253
Std Liquid Volumetric Flow	sgpm	2315.54	2315.54	2299.58	2315.54	2315.54
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36	1233.36	1226.48	1233.36	1233.36

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Connections

	21	22	23	24	25
From Block	C3	4th Stage Scrubber	C4	Discharge Scrubber	MIX-100
To Block	4th Stage Scrubber	4th Stage	Discharge Scrubber	3616 DISCHARGE	RCYL-1

Stream Composition

Mole Fraction	21 %	22 %	23 %	24 %	25 %
Carbon Dioxide	5.36455	5.38119	5.38119	5.39052	2.27886
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.65852	1.66626	1.66626	1.67108	0.166672
Methane	71.9882	72.2829	72.2829	72.4581	16.1531
Ethane	10.2297	10.2455	10.2455	10.2542	7.32445
Propane	5.50387	5.48647	5.48647	5.4782	8.55406
Isobutane	0.769834	0.762003	0.762003	0.758621	2.10208
n-Butane	1.97711	1.94728	1.94728	1.93483	7.00093
Isopentane	0.50976	0.494205	0.494205	0.488466	3.03981
n-Pentane	0.621614	0.597997	0.597997	0.589513	4.43559
Cyclopentane	0	0	0	0	0
n-Hexane	0.205147	0.185915	0.185915	0.180088	3.18249
Cyclohexane	0.0798434	0.0709068	0.0709068	0.0682949	1.45194
i-C6	0.295707	0.273642	0.273642	0.266633	3.75001
iC7	0.259407	0.220637	0.220637	0.210351	6.08784
Methylcyclohexane	0.0596218	0.0480487	0.0480487	0.0451395	1.78031
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.0489648	0.0442561	0.0442561	0.042828	0.778101
Toluene	0.0306351	0.0244693	0.0244693	0.0229295	0.946163
Ethylbenzene	0.00166168	0.00107854	0.00107854	0.000961005	0.0849107
o-Xylene	0.00442919	0.00270711	0.00270711	0.00237439	0.248566
Octane	0.0576972	0.038552	0.038552	0.0347293	2.78658
Triethylene Glycol	4.50586E-12	3.42721E-15	3.42721E-15	0	5.39451E-10
Water	0.333724	0.225996	0.225996	0.10215	27.8476

Mass Fraction	21 %	22 %	23 %	24 %	25 %
Carbon Dioxide	10.13	10.224	10.224	10.2608	2.21017
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	1.99349	2.01514	2.01514	2.02472	0.102894
Methane	49.5519	50.0612	50.0612	50.2761	5.71069
Ethane	13.1981	13.2999	13.2999	13.3359	4.85351
Propane	10.4134	10.4444	10.4444	10.4481	8.31245
Isobutane	1.91985	1.91203	1.91203	1.90709	2.69248
n-Butane	4.93061	4.88613	4.88613	4.86393	8.96725
Isopentane	1.57806	1.53933	1.53933	1.52428	4.83323
n-Pentane	1.92432	1.86261	1.86261	1.83961	7.05248
Cyclopentane	0	0	0	0	0
n-Hexane	0.758536	0.69166	0.69166	0.67123	6.04382
Cyclohexane	0.288317	0.257624	0.257624	0.248596	2.69286
i-C6	1.09338	1.01803	1.01803	0.993804	7.12159
iC7	1.11528	0.954442	0.954442	0.911643	13.4431
Methylcyclohexane	0.251179	0.20367	0.20367	0.191694	3.85218
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	0.164108	0.14924	0.14924	0.144693	1.33941
Toluene	0.121112	0.0973325	0.0973325	0.0913773	1.92118
Ethylbenzene	0.00756931	0.00494326	0.00494326	0.00441276	0.198658
o-Xylene	0.0201759	0.0124074	0.0124074	0.0109027	0.581546
Octane	0.282785	0.190115	0.190115	0.171583	7.01467
Triethylene Glycol	2.90334E-11	2.22192E-14	2.22192E-14	0	1.78528E-09
Water	0.257962	0.175767	0.175767	0.0795947	11.0558

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Mass Flow	21 lb/h	22 lb/h	23 lb/h	24 lb/h	25 lb/h
Carbon Dioxide	44911.4	44824	44824	44752.2	159.235
Hydrogen Sulfide	0	0	0	0	0
Nitrogen	8838.21	8834.77	8834.77	8830.79	7.41315
Methane	219689	219479	219479	219278	411.435
Ethane	58513.9	58309.6	58309.6	58164.2	349.678
Propane	46167.9	45790.3	45790.3	45569.1	598.883
Isobutane	8511.69	8382.71	8382.71	8317.71	193.984
n-Butane	21860	21421.8	21421.8	21213.9	646.059
Isopentane	6996.35	6748.73	6748.73	6648.14	348.217
n-Pentane	8531.52	8166.08	8166.08	8023.42	508.106
Cyclopentane	0	0	0	0	0
n-Hexane	3362.99	3032.38	3032.38	2927.55	435.436
Cyclohexane	1278.26	1129.48	1129.48	1084.25	194.011
i-C6	4847.54	4463.25	4463.25	4334.45	513.085
iC7	4944.64	4184.47	4184.47	3976.11	968.531
Methylcyclohexane	1113.61	892.929	892.929	836.071	277.536
2,2,4-Trimethylpentane	0	0	0	0	0
Benzene	727.575	654.298	654.298	631.075	96.5
Toluene	536.954	426.725	426.725	398.54	138.414
Ethylbenzene	33.5587	21.6723	21.6723	19.2462	14.3126
o-Xylene	89.4504	54.3967	54.3967	47.5521	41.8983
Octane	1253.74	833.502	833.502	748.354	505.382
Triethylene Glycol	1.2872E-07	9.74133E-11	9.74133E-11	0	1.28623E-07
Water	1143.68	770.598	770.598	347.151	796.53

Stream Properties

Property	Units	21	22	23	24	25
Temperature	°F	115 *	115	100 *	100	63.7768
Molecular Weight	lb/lbmol	23.3062	23.1635	23.1635	23.1205	45.3773
Std Vapor Volumetric Flow	MMSCFD	173.253	172.381	172.381	171.807	1.44604
Std Liquid Volumetric Flow	sgpm	2315.54	2299.58	2299.58	2291.85	23.6975
Gross Ideal Gas Heating Value	Btu/ft^3	1233.36	1226.48	1226.48	1225.23	2200.33

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Connections

	26	27			
From Block	RCYL-1	MIX-101			
To Block	3616 HP DUMPS	3616 LPS			

Stream Composition

Mole Fraction	26 %	27 %			
Carbon Dioxide	2.27884				
Hydrogen Sulfide	0				
Nitrogen	0.166668				
Methane	16.1528				
Ethane	7.32439				
Propane	8.554				
Isobutane	2.10206				
n-Butane	7.00088				
Isopentane	3.0398				
n-Pentane	4.43559				
Cyclopentane	0				
n-Hexane	3.18264				
Cyclohexane	1.45203				
i-C6	3.75012				
iC7	6.08835				
Methylcyclohexane	1.78008				
2,2,4-Trimethylpentane	0				
Benzene	0.778129				
Toluene	0.946159				
Ethylbenzene	0.0849141				
o-Xylene	0.248583				
Octane	2.7866				
Triethylene Glycol	5.39383E-10				
Water	27.8473				

Mass Fraction	26 %	27 %			
Carbon Dioxide	2.21012				
Hydrogen Sulfide	0				
Nitrogen	0.102891				
Methane	5.71053				
Ethane	4.85342				
Propane	8.31231				
Isobutane	2.69243				
n-Butane	8.96709				
Isopentane	4.83316				
n-Pentane	7.0524				
Cyclopentane	0				
n-Hexane	6.04404				
Cyclohexane	2.693				
i-C6	7.12173				
iC7	13.4441				
Methylcyclohexane	3.85165				
2,2,4-Trimethylpentane	0				
Benzene	1.33945				
Toluene	1.92115				
Ethylbenzene	0.198664				
o-Xylene	0.58158				
Octane	7.01466				
Triethylene Glycol	1.78503E-09				
Water	11.0556				

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:	
Location:	TITLE V COMPRESSOR STATION		
Flowsheet:	3616s		

Mass Flow	26 lb/h	27 lb/h			
Carbon Dioxide	159.247	0			
Hydrogen Sulfide	0	0			
Nitrogen	7.41361	0			
Methane	411.463	0			
Ethane	349.705	0			
Propane	598.929	0			
Isobutane	193.999	0			
n-Butane	646.109	0			
Isopentane	348.246	0			
n-Pentane	508.149	0			
Cyclopentane	0	0			
n-Hexane	435.493	0			
Cyclohexane	194.04	0			
i-C6	513.144	0			
iC7	968.695	0			
Methylcyclohexane	277.524	0			
2,2,4-Trimethylpentane	0	0			
Benzene	96.5116	0			
Toluene	138.426	0			
Ethylbenzene	14.3144	0			
o-Xylene	41.9048	0			
Octane	505.429	0			
Triethylene Glycol	1.28618E-07	0			
Water	796.592	0			

Stream Properties

Property	Units	26	27			
Temperature	°F	63.7833				
Molecular Weight	lb/lbmol	45.3778				
Std Vapor Volumetric Flow	MMSCFD	1.44616	0			
Std Liquid Volumetric Flow	sgpm	23.6997	0			
Gross Ideal Gas Heating Value	Btu/ft^3	2200.36				

Remarks

Section 8

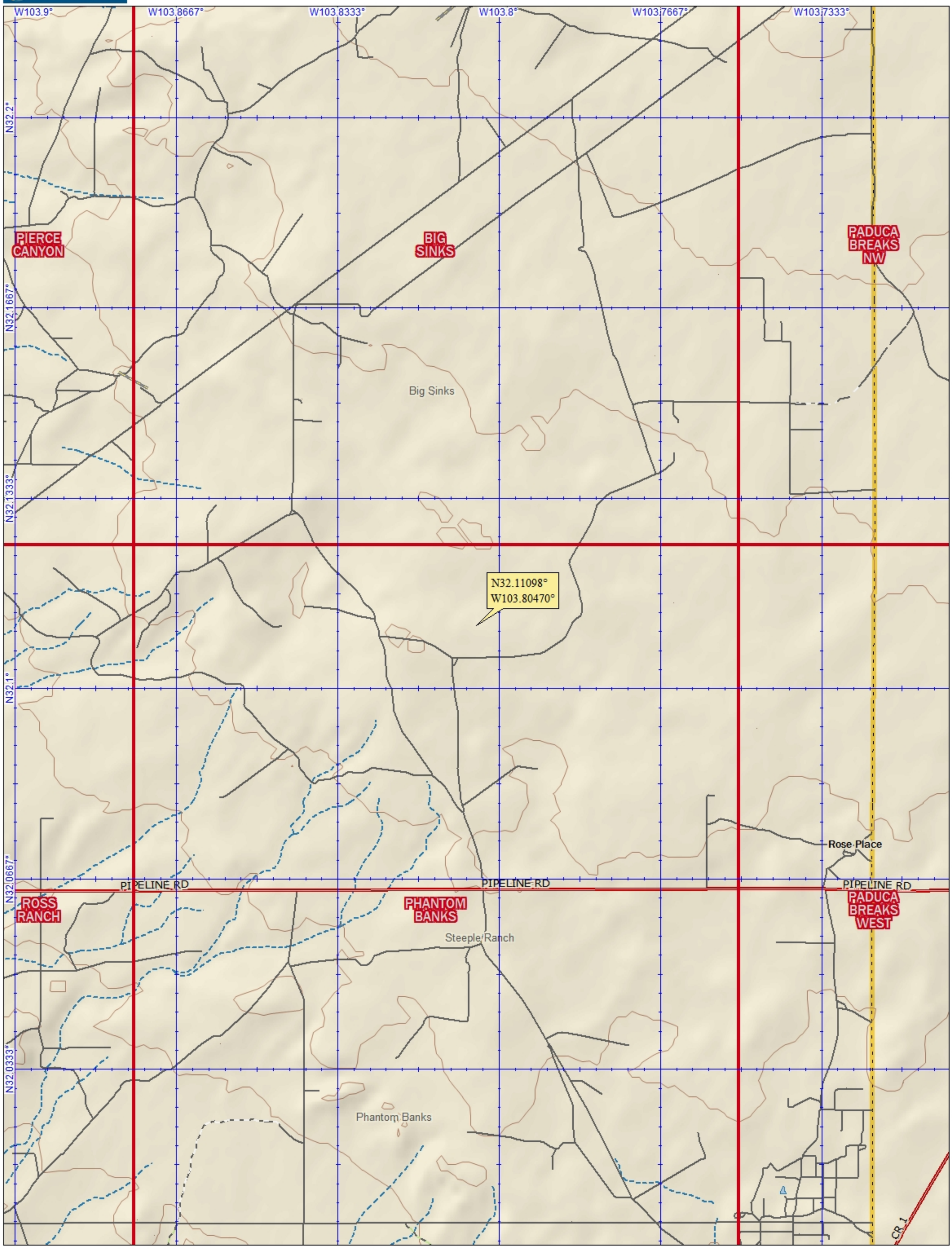
Map(s)

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 site location map and aerial image illustrating the property boundary and surrounding access roads is provided.

DeLorme Topo USA® 7.0



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MN (7.4° E)

0 ½ 1 1½ 2 2½ mi

Data Zoom 11-0

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 – this application is being submitted pursuant to 20.2.70 NMAC.

Legend

- Railroads
- Water
- Geographic
- Section
- Subdivision
- Parcel

Maverick CS with Surrounding Properties

Web Print: 10/02/2017

0 3,299 6,597 Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Property Record Card

Eddy Assessor

STATE OF NEW MEXICO
310 OLD SANTA FE TRAIL
SANTA FE, NM 87504

Account: R092030
Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)
Acres: 0.000

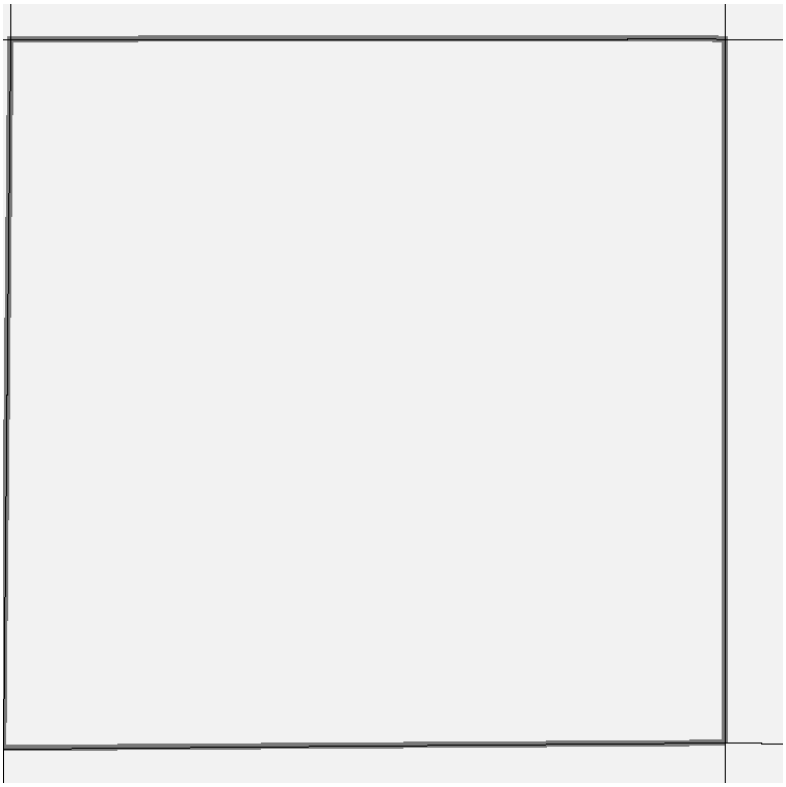
Parcel: 4-183-147-265-265
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,907	N/A
Total	**$2,907**	**$2,907**

Legal Description

Quarter: NE S: 16 T: 25S R: 31E Quarter: NW S: 16 T: 25S R: 31E Quarter: SW S: 16 T: 25S R: 31E Quarter: SE S: 16 T: 25S R: 31E ALL MAP# 386-16 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	153_4_5 - Grazing E NM - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,907	$969	NA	NA
Total		**$2,907**	**$969**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092047

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-182-147-264-265

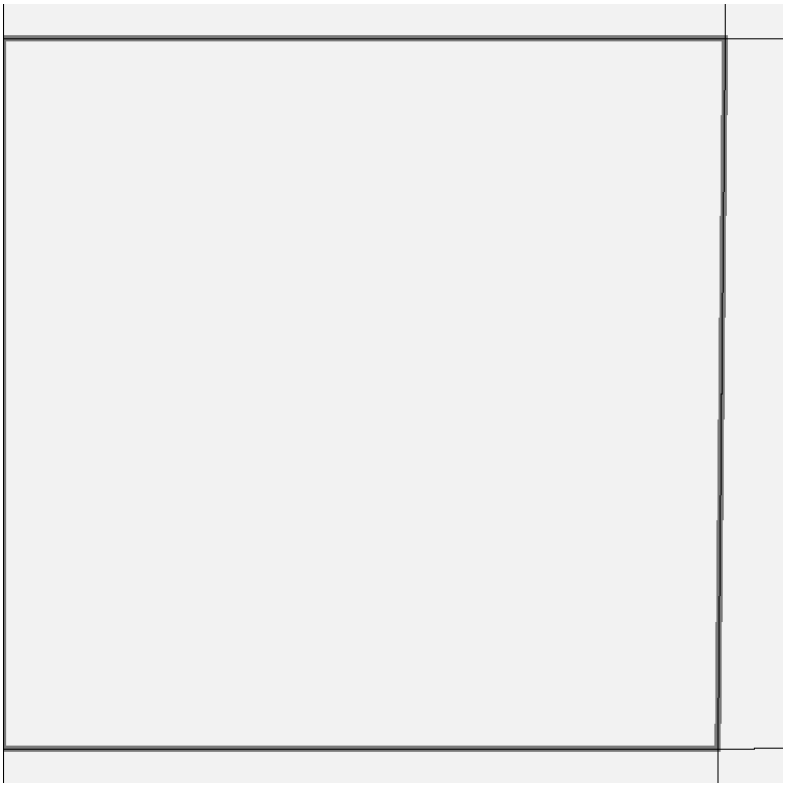
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,904	N/A
Total	**$2,904**	**$2,904**

Legal Description

Quarter: NE S: 17 T: 25S R: 31E Quarter: NW S: 17 T: 25S R: 31E Quarter: SW S: 17 T: 25S R: 31E Quarter: SE S: 17 T: 25S R: 31E ALL MAP# 386-17 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,904	$968	NA	NA
Total		**$2,904**	**$968**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092048

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-181-147-266-268

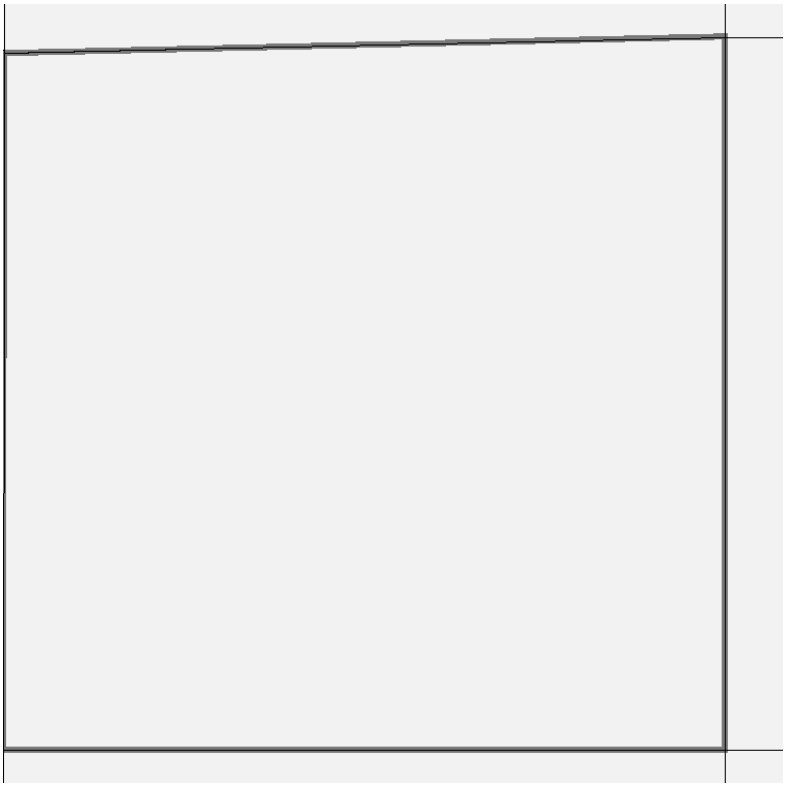
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,907	N/A
Total	**$2,907**	**$2,907**

Legal Description

Quarter: NE S: 18 T: 25S R: 31E Quarter: NW S: 18 T: 25S R: 31E Quarter: SW S: 18 T: 25S R: 31E Quarter: SE S: 18 T: 25S R: 31E ALL MAP# 386-18 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,907	$969	NA	NA
Total		**$2,907**	**$969**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092049

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-181-148-267-266

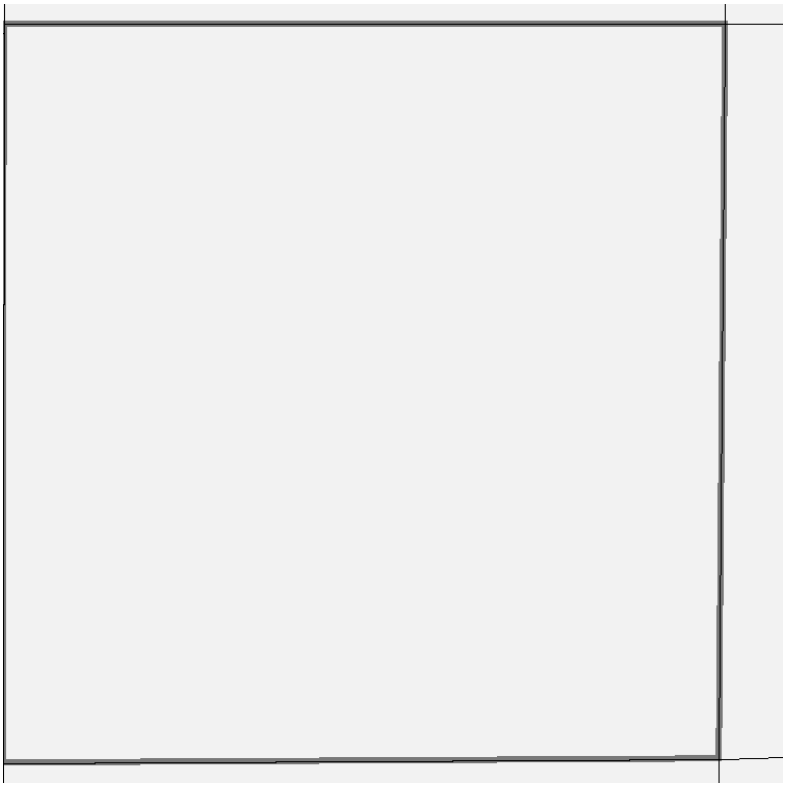
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,925	N/A
Total	**$2,925**	**$2,925**

Legal Description

Quarter: NE S: 19 T: 25S R: 31E Quarter: NW S: 19 T: 25S R: 31E Quarter: SW S: 19 T: 25S R: 31E Quarter: SE S: 19 T: 25S R: 31E ALL MAP# 386-19 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,925	$975	NA	NA
Total		**$2,925**	**$975**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092050

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-182-148-265-265

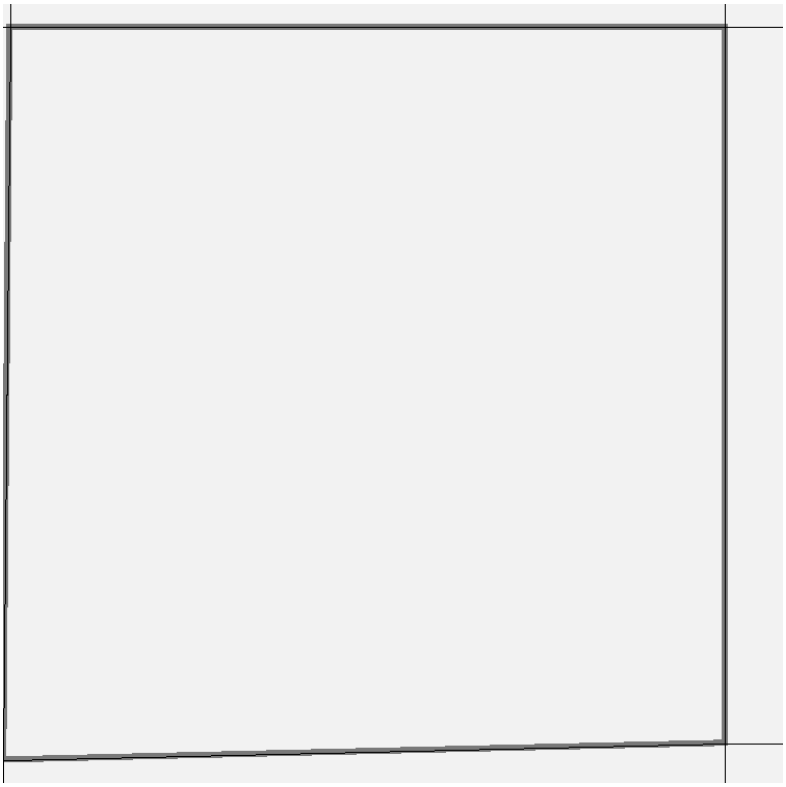
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,910	N/A
Total	**$2,910**	**$2,910**

Legal Description

Quarter: NE S: 20 T: 25S R: 31E Quarter: NW S: 20 T: 25S R: 31E Quarter: SW S: 20 T: 25S R: 31E Quarter: SE S: 20 T: 25S R: 31E ALL MAP# 386-20 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,910	$970	NA	NA
Total		**$2,910**	**$970**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092051

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-183-148-265-265

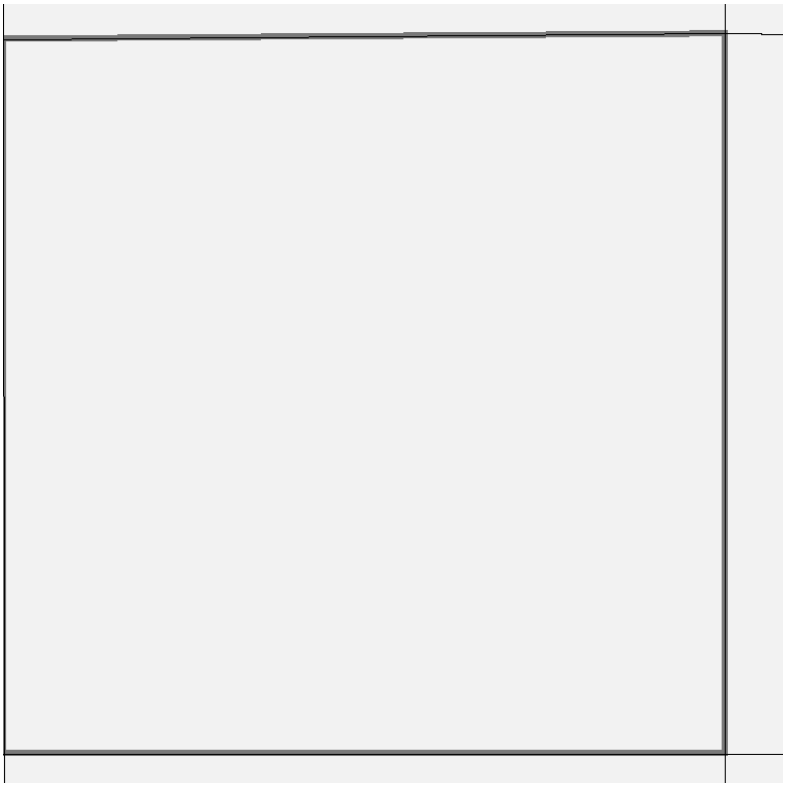
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,910	N/A
Total	**$2,910**	**$2,910**

Legal Description

Quarter: NE S: 21 T: 25S R: 31E Quarter: NW S: 21 T: 25S R: 31E Quarter: SW S: 21 T: 25S R: 31E Quarter: SE S: 21 T: 25S R: 31E ALL MAP# 386-21 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,910	$970	NA	NA
Total		**$2,910**	**$970**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092058

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-183-149-265-265

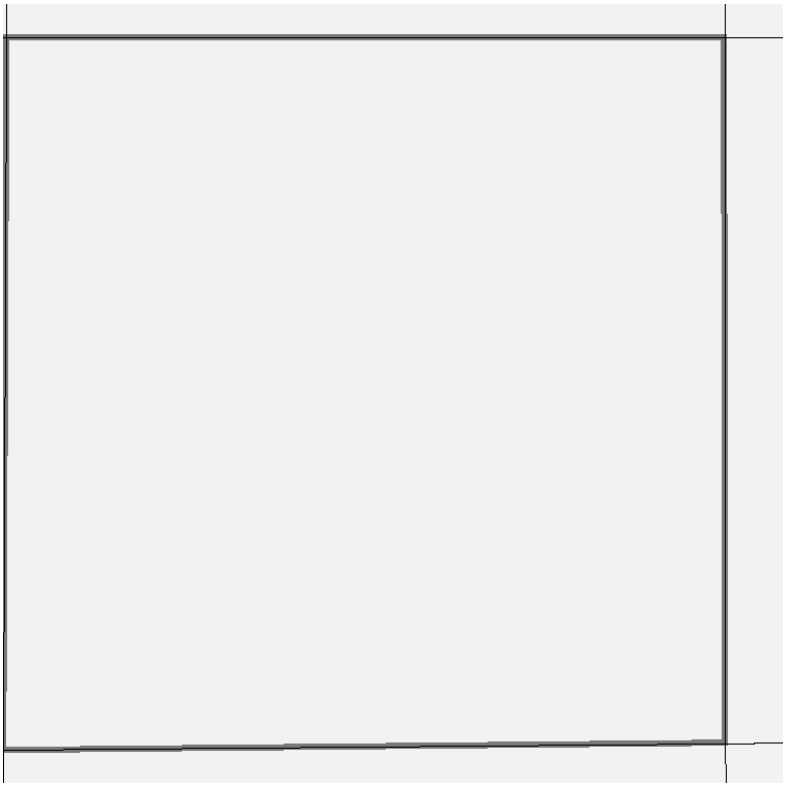
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,913	N/A
Total	**$2,913**	**$2,913**

Legal Description

Quarter: NW S: 28 T: 25S R: 31E Quarter: SW S: 28 T: 25S R: 31E Quarter: SE S: 28 T: 25S R: 31E ALL MAP# 386-28 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,913	$971	NA	NA
Total		**$2,913**	**$971**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092059

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-182-149-265-265

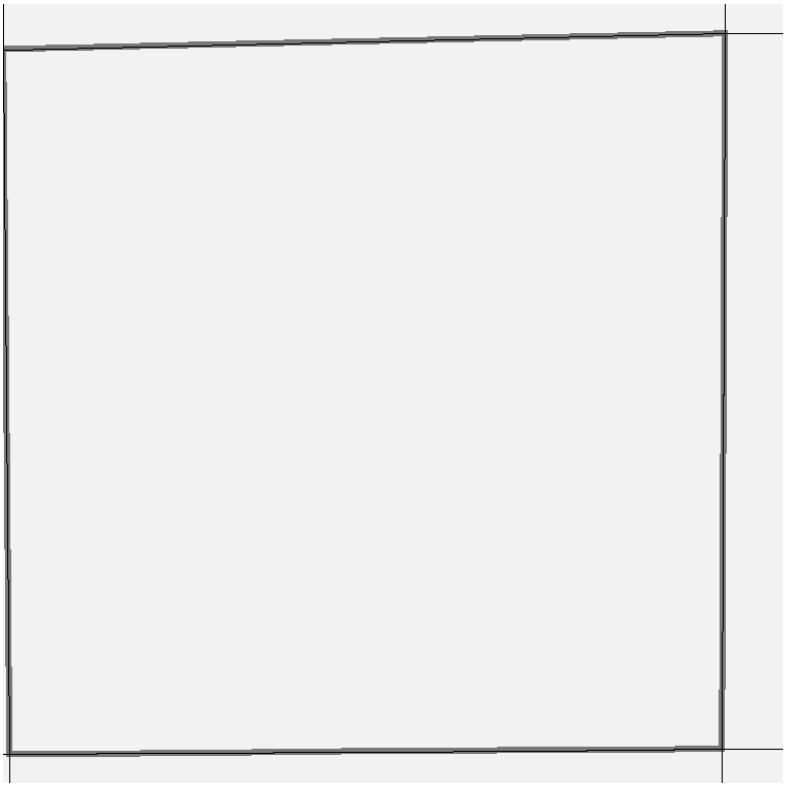
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,913	N/A
Total	**$2,913**	**$2,913**

Legal Description

Quarter: NE S: 29 T: 25S R: 31E Quarter: NW S: 29 T: 25S R: 31E Quarter: SW S: 29 T: 25S R: 31E Quarter: SE S: 29 T: 25S R: 31E ALL MAP# 386-29 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,913	$971	NA	NA
Total		**$2,913**	**$971**	**NA**	**NA**

Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

Account: R092060

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential)

Acres: 0.000

Parcel: 4-181-149-266-265

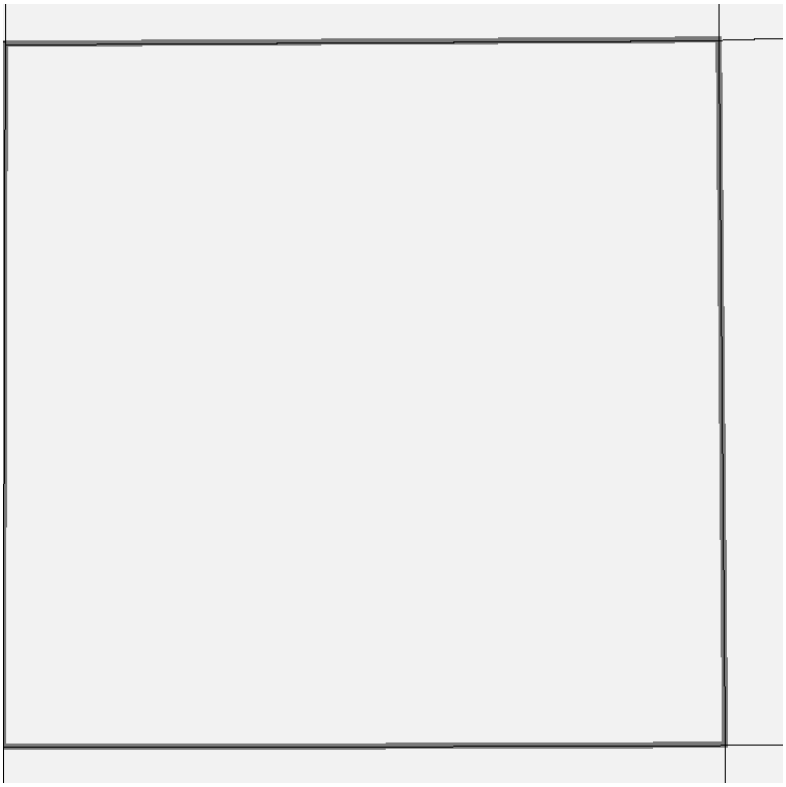
Situs Address:

Value Summary

Value By:	Market	Override
Land (1)	$2,919	N/A
Total	**$2,919**	**$2,919**

Legal Description

Quarter: NE S: 30 T: 25S R: 31E Quarter: NW S: 30 T: 25S R: 31E Quarter: SW S: 30 T: 25S R: 31E Quarter: SE S: 30 T: 25S R: 31E ALL MAP# 386-30 LOC CARLSBAD EXEMPT



Land Occurrence 1

Property Code	9200 - EXEMPT NON-RESIDENTIAL LAND	Land Code	141_4_5 - Grazing E Federal - 4.5

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
9200	EXEMPT NON-RESIDENTIAL LAND	$2,919	$973	NA	NA
Total		**$2,919**	**$973**	**NA**	**NA**

October 2, 2018

Certified Mail 91 7108 2133 3936 7829 6114

State of New Mexico Land Office
310 Old Santa Fe Trail
Santa Fe, New Mexico, 87501

RE: NSR Permit Application
Maverick Compressor Station
XTO Energy Inc.

Dear State Official,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Maverick Compressor Station near your property in Eddy County, NM. A public notice will be published in the Carlsbad Current-Argus newspaper, at the proposed site location, and three other locations in Carlsbad, NM. A copy of the notice is attached. Please contact John McMichael at (832) 625-0108 or john_mcmichael@xtoenergy.com should you have any questions.

Sincerely,

Ethan Boor
Environmental Engineer

Attachment: Public Notice

October 2, 2018

Certified Mail 91 7108 2133 3936 7829 6107

Eddy County
101 W. Greene St.
Suite 110
Carlsbad, New Mexico, 88220

RE: NSR Permit Application
Maverick Compressor Station
XTO Energy Inc.

Dear County Manager,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Maverick Compressor Station in Eddy County, NM. A public notice will be published in the Carlsbad Current-Argus newspaper, at the proposed site location, and three other locations in Carlsbad, NM. A copy of the notice is attached. Please contact John McMichael at (832) 625-0108 or john_mcmichael@xtoenergy.com should you have any questions.

Sincerely,

Ethan Boor
Environmental Engineer

Attachment: Public Notice

XTO ENERGY

October 2, 2018

Certified Mail 91 7108 2133 3936 7829 6091

Bureau of Land Management
620 E. Greene St.
Carlsbad, New Mexico, 88220-6292

RE: NSR Permit Application
Maverick Compressor Station
XTO Energy Inc.

Dear Federal Official,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Maverick Compressor Station on your property in Eddy County, NM. A public notice will be published in the Carlsbad Current-Argus newspaper, at the proposed site location, and three other locations in Carlsbad, NM. A copy of the notice is attached. Please contact John McMichael at (832) 625-0108 or john_mcmichael@xtoenergy.com should you have any questions.

Sincerely,

Ethan Boor
Environmental Engineer

Attachment: Public Notice

October 2, 2018

Certified Mail 91 7108 2133 3936 7829 6084

Lea County
100 N. Main Avenue
Suite 4
Lovington, New Mexico, 88260

RE: NSR Permit Application
Maverick Compressor Station
XTO Energy Inc.

Dear County Manager,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Maverick Compressor Station in Eddy County, NM. The proposed site is within 10 miles of Lea County. A public notice will be published in the Carlsbad Current-Argus newspaper, at the proposed site location, and three other locations in Carlsbad, NM. A copy of the notice is attached. Please contact John McMichael at (832) 625-0108 or john_mcmichael@xtoenergy.com should you have any questions.

Sincerely,

Ethan Boor
Environmental Engineer

Attachment: Public Notice

October 1, 2018

KATK 92.1 FM
(575) 887-7000

Re: Public Service Announcement

As part of the air quality permitting process in New Mexico, applicants for certain air permits must attempt to provide notice to the public of the proposed permit action via public service announcement (PSA). The announcement is attached. Will you air the PSA? Thank you.

Evan Tullos
PEI
(865) 850-2007

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Maverick Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 26, 2018. XTO Energy, Inc. is planning to replace several engines, add new engines, add a flare, and add more dehydration capacity.

The exact location for the facility known as the Maverick Compressor Station will be latitude 32 deg, 06 min, 39 sec and longitude -103 deg, 48 min, 17 sec. The approximate location of this facility is 4.4 miles southeast of intersection of Pipeline Rd. 1 and Twin Wells Rd. in Eddy County.

The notice was posted at the facility and three other public locations in Carlsbad such as the library, post office, and grocery store. If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816
(505) 476-4300

CLOSE

Transmission Status

Your transmission has completed.

DOC Identifier : 85365776
Fax Number : 5758877000
Recipient : KATK FM
Status Classification : "Success"
Status Outcome : "Success"
Last Attempt Date : 10/01/2018
Last Attempt Time : 15:21:44
Pages Scheduled : 3
Pages Sent : 3
Baud Rate : 19200
Duration (in seconds) : 50
Number of Retries : 1
Remote CSID : "15758877000"

Cover page

Public Service Announcement_Maverick.docx

NOTICE OF AIR QUALITY PERMIT APPLICATION

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Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
PM_{10}	6	20
$PM_{2.5}$	6	20
Sulfur Dioxide (SO_2)	7	25
Nitrogen Oxides (NO_x)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAPs)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO_2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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Attención

Este es un aviso de la Agencia de Calidad de Aire del Departamento de Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor de comunicarse con la oficina de Calidad de Aire al teléfono 505-476-5557.

Notice of Non-Discrimination

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General Posting of Notices – Certification

Maverick Compressor Station

I, Bryan Jacob Foust, the undersigned, certify that on 10.5.18, a true and correct copy of the attached Public Notice was posted in the following publicly accessible and conspicuous places in Carlsbad, Eddy County, State of New Mexico on the following dates:

1. Facility entrance -
2. Albertson's
3. Carlsbad Post office
4. Carlsbad Public library

Signed this 5th day of October, 2018.

Signature

10.5.18
Date

Bryan Jacob Foust
Printed Name

XTO · EHS
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Clovis goalie Hannah Howell (55) prevents Carlsbad's Alexa Dugan (4) from scoring in the first half of Tuesday's match. MATTHEW ASHER/CURRENT-ARGUS

Soccer

Continued from Page 1B

make another diving save just like the first one during the first overtime period.

"Those were game-winning saves," Carlsbad head coach Misty Long said of Oliver's performance. "That's Patti. She makes the saves when she needs to. Sometimes as a goalkeeper you kind of get lost in a game because you don't have a lot of action. Then all of the sudden the action comes at you late in the game. She absolutely did what she needed to do."

Clovis head coach Traci Sievers had nothing but compliments for Oliver's performance, saying Oliver "was incredible with some amazing saves."

Carlsbad spent the majority of the first half on the attack forcing goalie Hannah Howell to block, redirect or simply get in the way of any incoming shots.

After the first half, Sievers made the switch to Hanna Nussbaumer as her goalie, but not because of anything Howell did wrong.

"We went probably four weeks without a varsity keeper because both of them were out," Sievers said. "They both came back within a day of each other. So we're splitting halves. Our senior (Hannah Howell) starts and then Hanna (Nussbaumer) finishes us off."

The duo finished with 17 total saves.

Long said issues with her team's performance in the second half are things the team can fix during practice.

"I think they pressured us a lot more and out-worked us to the ball," Long said. "They did a hell of a job, especially in the second half and overtime. They brought the intensity to us. In reality we didn't adjust the level of our play to them. They adjusted to us and we didn't match it at times."

Both coaches agreed it was a well-played game and will have their hands full making the necessary adjustments for the rematch on Oct. 16 in Clovis.

"The intensity from start to finish was great," Siever said. "I think both teams played as hard as they could."

Coming into district play, all four members of the Class 5, District 4 (Clovis, Carlsbad, Hobbs and Roswell) had won at least 60 percent of their games.

A combined 35-14-3 record (67 percent) by the district means whoever comes out winning the district should be in a good position for the postseason.

Carlsbad travels to Roswell on Saturday and returns to Caveman Stadium to host Hobbs next Tuesday.

Matthew Asher can be reached at 575-628-5524, Masher@currentargus.com or @Caveman_Masher on Twitter.

Quarterbacks

Continued from Page 1B

which was Cole Beasley's output last week.

5. Baker Mayfield, Browns: His receivers didn't help his case with several drops, but Mayfield still had an up-and-down first career start in a loss against the Raiders. It doesn't get any easier with the stingy Ravens defense that frustrated the Steelers coming into town.

Three trending up

1. Mitchell Trubisky, Bears: Coach Matt Nagy got creative in scheming players open, and Trubisky took advantage with dramatic improvement in his deep ball accuracy for a 354-yard, six-touchdown showing against the Buccaneers.

The Bears have their bye, but the second-year quarterback will have to prove in a Week 6 tilt against the Dolphins that he can sustain this progress.

2. Joe Flacco, Ravens: Healthy this season and armed with a bolstered receiving corps creating more opportunities, Flacco is on pace to reach career highs in yards (currently 1,252), touchdowns (eight), and passer rating (96.9). After carving up the Steelers on Sunday night, Baltimore is tied for first in the AFC North at 3-1.

3. Andy Dalton, Bengals: The other tied team in Baltimore's division, the Bengals are getting a huge boost from Dalton. With the emergence of receiver Tyler Boyd, Cincy has a reliable target to pair with A.J. Green. Dalton (who went 29-of-41 for 337 yards, three touchdowns and one interception against the Falcons) is carrying a team that has struggled with injuries and defensive lapses.

Three trending down

1. Eli Manning, Giants: He missed open targets, especially receiver Odell Beckham Jr., and seemed tentative in pockets that were mostly clean. Rather than checking it down, he averaged 6.2 yards per attempt in a loss against the Saints, it might be time to take chances down the field.

2. Ryan Fitzpatrick, Buccaneers: Well, #FitzMagic was fun while it lasted. Struggles with accuracy and carelessness with the ball in a blowout loss against the Bears ended Fitzpatrick's stint as a starter with the Bucs. Jameis Winston will start Week 6 after Tampa's bye.

3. Case Keenum, Broncos: Tied for second-most interceptions in the NFL with six, Keenum, who threw seven all of last season, does not look like the answer for Denver. A misfire to a wide-open Demaryius Thomas streaking down the right sideline on what should have been the go-ahead score in the final minute sums up his time with the Broncos so far.

Season rankings

1. Patrick Mahomes (last week: 1), Chiefs: When Mahomes, a righty, is completing left-handed passes on a game-winning drive on the road as Broncos linebacker Von Miller chases him, you know things are going well.

2. Brees (2): The Saints' rushing game led the charge in a victory against the Giants, but Brees stands pat.

3. Jared Goff (NR), Rams: With impressive accuracy and downfield passing production, Goff (72.4 % completion rate, 1,406 yards, 11 TDs, 2 picks) is looking every bit like the franchise quarterback L.A. expected him to be when it selected him with the No. 1 pick in 2016.

4. Matt Ryan (NR), Falcons: He posted back-to-back games in which he threw at least 350 passing yards and three touchdowns with no interceptions. But, according to ESPN, he became the first player to put up those stats in consecutive games and lose.

5. Philip Rivers (NR), Chargers: Whether it's to receivers, running backs or tight ends, Rivers is simply spreading the ball (25 completions, 250 yards, three touchdowns and one pick in the victory against the 49ers to eight different targets).

Dropped: Fitzpatrick (3), Aaron Rodgers (4), Ryan Tannehill (5)

Coaches

Continued from Page 1B

compensation increasing by $1.175 million. Meyer also is benefiting from upgraded contract terms, while Harbaugh is getting a previously negotiated raise, and Fisher has a new employer that lured him from Florida State with a 10-year, $75 million deal.

When USA TODAY first did this survey in 2006, there were 42 coaches making at least $1 million and one making more than $3 million.

This season, there are 44 coaches making at least $3 million, including 13 at $5 million or more.

And those figures don't take into account other potential liabilities for the schools.

The new tax law passed late last year has non-profit organizations, including many universities, facing a 21% excise tax on pay above $1 million for their most highly compensated employees. Coaches' rising pay also has led to schools taking on the prospects of heftier severance costs if they decide to fire their coach for not winning enough.

While potentially subject to being offset by a coach's subsequent income, this buyout amount would be $10 million or more this season for at least 30 schools, and because of another change in the tax law pertaining to these buyout payments, the excise tax also could apply to them.

Michigan head coach Jim Harbaugh is making $7.5 million this season. QUINN HARRIS/USA TODAY SPORTS

NOTICE OF AIR QUALITY PERMIT APPLICATION

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Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
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$PM_{2.5}$	6	20
Sulfur Dioxide (SO_2)	7	25
Nitrogen Oxides (NO_x)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAP_s)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO_2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Attención

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Notice of Non-Discrimination

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TX-00012830-01

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Tiger Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 26, 2018. XTO Energy, Inc. is planning to replace several engines, add new engines, add a flare, and add more dehydration capacity.

The exact location for the facility known as the Tiger Compressor Station will be latitude 32 deg. 07 min, 06 sec and longitude -103 deg. 54 min, 23 sec. The approximate location of this facility is 0.5 miles south of intersection of Pipeline Rd. 1 and Rock Dove Rd. in Eddy County.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
PM_{10}	6	20
$PM_{2.5}$	6	20
Sulfur Dioxide (SO_2)	7	25
Nitrogen Oxides (NO_x)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAP_s)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO_2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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TX-00012830-01

Legal Notices 152	Legal Notices 152	Legal Notices 152
Nitrogen Oxides (NOx)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAPs)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO2e	n/a	240,000

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October 3, 2018

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Eagle Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 26, 2018. XTO Energy, Inc. is planning to replace several engines, add new engines, add a flare, and add more dehydration capacity.

The exact location for the facility known as the Eagle Compressor Station will be latitude 32 deg, 06 min, 42 sec and longitude -103 deg, 51 min, 16 sec. The approximate location of this facility is 1.5 miles southwest of intersection of Buck Jackson Rd. and Rock Dove Rd. in Eddy County.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
PM 10	6	20
PM 2.5	6	20
Sulfur Dioxide (SO2)	7	25
Nitrogen Oxides (NOx)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAPs)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Attención

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October 3, 2018

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Maverick Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 26, 2018. XTO Energy, Inc. is planning to replace several engines, add new engines, add a flare, and add more dehydration capacity.

The exact location for the facility known as the Maverick Compressor Station will be latitude 32 deg, 06 min, 39 sec and longitude -103 deg, 48 min, 17 sec. The approximate location of this facility is 4.4 miles southeast of intersection of Pipeline Rd. 1 and Twin Wells Rd. in Eddy County.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
PM 10	6	20
PM 2.5	6	20
Sulfur Dioxide (SO2)	7	25
Nitrogen Oxides (NOx)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAPs)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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October 3, 2018

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Tiger Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 26, 2018. XTO Energy, Inc. is planning to replace several engines, add new engines, add a flare, and add more dehydration capacity.

The exact location for the facility known as the Tiger Compressor Station will be latitude 32 deg, 07 min, 06 sec and longitude -103 deg, 54 min, 23 sec. The approximate location of this facility is 0.5 miles south of intersection of Pipeline Rd. 1 and Rock Dove Rd. in Eddy County.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
PM 10	6	20
PM 2.5	6	20
Sulfur Dioxide (SO2)	7	25
Nitrogen Oxides (NOx)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAPs)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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October 3, 2018

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 26, 2018. XTO Energy, Inc. is planning to replace several engines, add new engines, add a flare, and add more dehydration capacity.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 2 miles northeast of intersection of McDonald Rd. and Twin Wells Rd. in Eddy County.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	6	20
PM 10	6	20
PM 2.5	6	20
Sulfur Dioxide (SO2)	7	25
Nitrogen Oxides (NOx)	40	175
Carbon Monoxide (CO)	60	249
Volatile Organic Compounds (VOC)	100	249
Total sum of all Hazardous Air Pollutants (HAPs)	10	22
Toxic Air Pollutant (TAP)	0	0
Green House Gas Emissions as Total CO2e	n/a	240,000

The standard and maximum operating schedule of the facility will be 24 hours per day, 7 days a week and a maximum of 52 weeks per year. The owner and/or operator of the Facility is: XTO Energy, Inc.; 22777 Springwoods Village Pkwy; Spring, Texas 77389.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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October 3, 2018

FIFTH JUDICIAL DISTRICT COURT
COUNTY OF EDDY
STATE OF NEW MEXICO
IN THE MATTER OF THE APPLICATION OF KENNETH DOUGLAS MURRAY FOR CHANGE OF LEGAL NAME
No. D-503-CV-2018-01533

NOTICE OF HEARING

The Application of Kenneth Douglas Murray for Change of Legal Name will be heard by the Honorable Lisa B. Riley on the 29th day of October, 2018 at 11:30 a.m. at the Eddy County Courthouse, 102 N. Canal, Carlsbad, NM 88220.

LARA LAW FIRM, LLC
/s/ Roxanne R. Lara
310 N. Canyon
Carlsbad, NM 88220
(575)628-8248
(575)628-0016 Fax
roxanne@laralaw-nm.com
Attorney for Applicant
Sep. 26, Oct. 3, 2018

EDDY COUNTY, NEW MEXICO

REQUEST FOR SEALED PROPOSALS

The Eddy County Board of Commissioners is requesting formal sealed bids for the following:

RFP 18-04 - FEMA RELATED SERVICES FOR THE COUNTY OF EDDY

Deadline for submission is October 24, 2018 at 2:00 PM Mountain Time

Eddy County is seeking an appropriate firm to assist Eddy County in securing reimbursements from FEMA resulting from the flooding event of September, 2014. This will include the submission of all necessary forms, applications, memos, and all other relevant information to be able to receive reimbursements from FEMA. In addition, this company will assist Eddy County with the preparation of any enhancement projects that Eddy County identifies.

Offerors must refer to the Request for Bids (RFB) packet for all details and requirements. The RFB may be obtained through the County's website, www.co.eddy.nm.us, under "Bid Opportunities", or by contacting the Procurement Manager, Katie Gomez at kgomez@co.eddy.nm.us or by phone at 575-887-9511 ext. 2501.

Run date: October 3, 2018 #1263805

Legal Notices 152	Legal Notices 152

RESOLUTION NO. 2018-53

A RESOLUTION FINDING THE BUILDINGS OR STRUCTURES AT THE PROPERTY COMMONLY KNOWN AS 412 TAMPICO STREET TO BE RUINED, DAMAGED, AND DILAPIDATED AND FINDING THE PREMISES TO BE COVERED WITH RUINS, RUBBISH, WRECKAGE, WEEDS, DEBRIS; REQUIRING THE REMOVAL OF THE BUILDINGS, STRUCTURES, RUINS, RUBBISH, WRECKAGE, WEEDS, DEBRIS

WHEREAS, the records of the Eddy County Assessor=s Office show Annie Johnson c/o Robert Vargas to be the owners of or to have an interest in the property commonly known as 412 Tampico Street, Carlsbad, Eddy County, New Mexico and more particularly described as Lot 4, Block 7, New San Jose Subdivision, Carlsbad, Eddy County, New Mexico,

hereinafter referred to as the AProperty@.

WHEREAS, the residence on the Property is dilapidated and has not been properly maintained, the foundation is cracking and shows signs of structural failure, there are holes in the walls which has allowed water to enter and damage the interior, the porch is in danger of collapsing; and

WHEREAS, the structure is unsecured and unsafe and a fire hazard to the surrounding area; and

WHEREAS, the Property was found to have large amounts of ruins, rubbish, wreckage, and debris scattered on it; and

WHEREAS, by City Code Enforcement Officer, the Fire Marshal, and the City Building Inspector have inspected the Property; and

WHEREAS, the structure was found to be ruined, damaged, and dilapidated, and the Property contained ruins, rubbish, wreckage, weeds and debris; and

WHEREAS, the specific violations, under Code of Ordinances of the City of Carlsbad, include, but are not limited to those listed on the attached Exhibit AA;@ and

WHEREAS, the specific Building Code violations include, but are not limited to those listed on the attached Exhibit AB;@ and

WHEREAS, the specific violations, under Fire Code violations of the City of Carlsbad, include, but are not limited to those listed on the attached Exhibit AC;@ and

WHEREAS, the structure, ruins, rubbish, wreckage, weeds, and debris are a menace to the public comfort, health, peace, and safety and require removal forthwith;

NOW THEREFORE, BE IT RESOLVED by the Governing Body of the City of Carlsbad, Eddy County, New Mexico that:

1.A copy of this Resolution shall be served on the record owners, occupant, or agent in charge of the premises. Such service shall be in person if such a person can be found within the City of Carlsbad, New Mexico after a reasonable search.

2.If the record owners, occupant, or agent in charge of the premises cannot be located within the City of Carlsbad, New Mexico, notice shall be by posting at the premises and by publishing this Resolution one time in a newspaper in general circulation in the City of Carlsbad.

3.Within ten days of either the receipt of a copy of this Resolution or the posting and publishing of this Resolution, the owners, occupant, or agent in charge of the premises shall commence removing the buildings, structures, ruins, rubbish, wreckage, weeds, and debris from the premises; or the owners, occupant, or agent in charge shall file a written objection with the Carlsbad Municipal Clerk at 101 N. Halagueno, Carlsbad, New Mexico 88220 and request a hearing before the City Council.

4.If a written objection is filed as required, the City Council shall proceed as directed by Chapter 22, Article II of the Code of Ordinances, City of Carlsbad, New Mexico.

5.The removal of the buildings, structures, ruins, rubbish, wreckage, weeds, and debris, shall begin immediately, and proceed properly and with diligence, and shall be completed in a timely manner, BUT IN NO CASE SHALL SUCH WORK TAKE LONGER THAN:

A.Ten days to remove all ruins, rubbish, wreckage, weeds, debris; and

B.Thirty days to remove structures.

6.Any removal of the structures, ruins, rubbish, wreckage, weeds, and debris shall leave the premises from which the materials have been removed in a clean, level, and safe condition, suitable for further occupancy or construction and with all excavations filled.

7.If the owners, occupant, or agent in charge do not commence the removal of the stated items, and if no written objection is filed as required, or if the removal of the stated items is not completed in a timely manner, the City may remove the structures, ruins, rubbish, wreckage, weeds, and debris, at the cost and expense of the owners.

8.The reasonable cost of such a removal shall constitute a lien against the structures, wreckage, rubbish, weeds, and debris, so removed and against the lots or parcel of land from which it was removed.

9.The City Clerk shall make out, sign, attest, file, and record in the office of the Eddy County Clerk=s Office, a claim of lien upon the described premises.

10.The lien shall bear interest at the rate of twelve percent (12%) per annum from the date of filing until paid, together with reasonable attorney's fees for the foreclosure of the same. The lien shall be foreclosed in any manner approved by an applicable state lien foreclosure law.

INTRODUCED, PASSED, ADOPTED, AND APPROVED this 25th day September of 2018.

/s/Dale Janway
DALE JANWAY, MAYOR
ATTEST:
/s/Nadine Mireles , CITY CLERK

A copy of the Resolution with its exhibits, are available to all interested persons during normal and regular business hours at the Municipal Building, 101 N. Halagueno St, Carlsbad, NM. Copies of the Resolution will be available at a fee of fifty (50) cents per page.

Pub: October 3, 2018

Section 10

Written Description of the Routine Operations of the Facility

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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.

Field gas flows into two inlet slug catchers. The site uses natural gas engines to compress the field gas to 1200-1300 psig, including nine (9) Caterpillar 3616TA engines (ENG1-ENG9) and two (2) Caterpillar 3516J engines (ENG11-ENG12). The Caterpillar engines are equipped with oxidation catalysts to reduce CO, VOC, and formaldehyde emissions.

The high-pressure gas is then dehydrated using triethylene glycol dehydration units (DEHY1-DEHY3), each handling up to 80 MMscfd each. The systems are equipped with flash tanks and condensers. Flash tank vapors are recycled in the dehydration system. The glycol still vent vapors are routed to condensers. Uncondensed vapors are controlled by the vapor combustor (VC1). Dehydrated gas is then transferred to a sales pipeline.

Low pressure liquids generated anywhere in the system are routed to a low pressure three phase separator (LPS). Vapors from the LPS are controlled by a VRU and routed to compression. When the LPS VRU is not operational, vapors from the LPS are routed to the flare system (FL1 – FL3). From the LPS, oil at approximately 15 psig is dumped to four (4) oil storage tanks (OT1-OT4), which are controlled by the flare system (FL1 – FL3). Water from the LPS flows to redundant skim tanks (SKT1/SKT2). The skim tanks are arranged as a redundant system in which one unit can be used if another is down for unforeseen circumstances. Water is then dumped to two (2) water tanks (WT1-WT2).

Any residual oil flows from the skim tanks into the oil storage tanks. The oil from the oil storage tanks are then pumped back into the high pressure three phase separator (HPS), to be transferred offsite via pipeline. Vapors from the water storage tanks and skim tanks are also controlled by the flare system (FL1 – FL3). Oil can be trucked offsite or pumped offsite via pipeline, water is transferred offsite via pipeline to saltwater disposal (SWD).

High pressure liquids generated anywhere in the system are routed to high pressure three phase separator (HPS). Vapors from the high pressure separator are routed back to the inlet slug catchers. From the HPS, liquid hydrocarbons at approximately 400 psig are transferred offsite via pipeline pipeline. Water from the HPS is transferred offsite via pipeline to SWD.

The flare system (FL1 – FL3) is also used to flare gas in the event of an emergency.

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)**:**
See Table 2A

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

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

☑ **Yes** ☐ **No**

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

☑ **Yes** ☐ **No**

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

☑ **Yes** ☐ **No**

C. Make a determination:

☑ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☐ **a minor PSD source before and after this modification (if so, delete C and D below).**
- ☐ **a major PSD source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

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

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

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

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

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

Not applicable – this application is being submitted pursuant to 20.2.70 NMAC. A PSD determination was included in the application to modify NSR Permit 7565-M1.

Section 13

Determination of State & Federal Air Quality Regulations

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

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

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

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

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

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

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

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

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

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	No	N/A	20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Per 20.2.3.9 NMAC exemption, the requirements of this part are not applicable requirements under 20.2.70 NMAC, as defined by the part.
20.2.7 NMAC	Excess Emissions	Yes	Facility	This facility is subject to emissions limit from NSR Permit 7565-M1. Therefore, this regulation applies.
20.2.23 NMAC	Fugitive Dust Control	No	N/A	Sources exempt from 20.2.23 NMAC are activities and facilities subject to a permit issued pursuant to the NM Air Quality Control Act, the Mining Act, or the Surface Mining Act (20.2.23.108.B NMAC. **20.2.23.108 APPLICABILITY:** **B.** The following fugitive dust sources are exempt from this part: **(3)** operations issued permits pursuant to the state of New Mexico Air Quality Control Act, Mining Act or Surface Mining Act [20.2.23.108 NMAC - N, 01/01/2019]
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	None of the equipment has a heat input greater than 1,000,000 million British Thermal Units per year per unit.
20.2.34 NMAC	Oil Burning Equipment: NO_2	No	N/A	None of the external combustion equipment at the facility burns oil.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	This facility is not a gas processing plant.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	**These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.**
20.2.38 NMAC	Hydrocarbon Storage Facility	Yes	OT1-OT4	The site uses a flare to comply with 20.2.38 NMAC.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	This regulation could apply to sulfur recovery plants that are not part of petroleum or natural gas processing facilities. This facility is not a sulfur recovery plant as defined. This regulation does not apply.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	FL1-3, RB1-3, ENG1-9, ENG11-12, HTR1	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your equipment is subject to another state regulation that limits particulate matter such as 20.2.19 NMAC (see 20.2.61.109 NMAC).
20.2.70 NMAC	Operating Permits	Yes	Facility	If subject, this would normally apply to the entire facility. Applies if your facility's potential to emit (PTE) is 100 tpy or more of any regulated air pollutant other than HAPs; and/or a HAPs PTE of 10 tpy or more for a single HAP or 25 or more tpy for combined HAPs. This application is for a Title V permit, which will make the site a Part 70 source.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	This permit application requests a Part 70 source.
20.2.72 NMAC	Construction Permits	Yes	Facility	Could apply if your facility's potential emission rate (PER) is greater than 10 pph or greater than 25 tpy for any pollutant subject to a state or federal ambient air quality

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
				standard (does not include VOCs or HAPs). This facility complies with NSR Permit 7565-M1.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	All facilities that are a Title V Major Source as defined at 20.2.70.7.R NMAC, are subject to Emissions Inventory Reporting. Therefore, this regulation applies.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	Facility	The facility is not a major PSD source.
20.2.75 NMAC	Construction Permit Fees	No	Facility	This regulation applies if you are submitting an application pursuant to 20.2.72, 20.2.73, 20.2.74, and/or 20.2.79 NMAC. This application is being submitted pursuant to 20.2.70 NMAC. This regulation does not apply.
20.2.77 NMAC	New Source Performance	Yes	Facility	See regulatory discussion in Federal Regulations Citation section.
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	There are no affected sources.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	The facility is not located in a nonattainment area.
20.2.80 NMAC	Stack Heights	No	N/A	This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. This regulation does not apply as all stacks at the facility follow good engineering practice (GEP).
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	DEHY1-3, ENG1-9, ENG11-12	This is a stationary source subject to the requirements of 40 CFR Part 63. This regulation therefore applies. See regulatory discussion in Federal Regulations Citation section.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	Facility	This applies if you are subject to 20.2.70, 20.2.72, 20.2.74, and/or 20.2.79 NMAC. This regulation defines national ambient air quality standards. The facility meets all applicable national ambient air quality standards for NOx, CO, SO_2, H_2S, PM_{10}, and $PM_{2.5}$ under this regulation.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Units subject to 40 CFR 60	See discussion of 40 CFR 60 Subparts below.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	N/A	The facility does not operate any electric utility steam generating units.
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	No	N/A	The facility does not operate any electric utility steam generating units.
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for **Storage Vessels for Petroleum Liquids** for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and **Prior** to July 23, 1984	No	N/A	The hydrocarbons are stored prior to custody transfer.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for **Volatile Organic Liquid Storage Vessels** (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984	No	N/A	The hydrocarbons are stored prior to custody transfer.
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	No	N/A	The site does not operate any affected sources.
NSPS 40 CFR 60,	Leaks of VOC from **Onshore**	No	N/A	The site is being constructed after 8/23/2011.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
Subpart KKK	**Gas Plants**			
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**: SO_2 Emissions	No	N/A	The facility does not operate a sweetening unit.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No	N/A	The site will be constructed after 9/18/15. See NSPS OOOOa discussion below.
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	Yes	FUG	The storage tanks were constructed after the applicability date of the rule; however, XTO is requesting emissions be limited by permit to less than 6 tpy. The regulation is applicable to the storage tanks but the tanks are not affected sources. The site uses low-bleed pneumatic controllers. The site is subject to leak monitoring from fugitive components.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No	N/A	**The facility does not operate any affected sources.**
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	TBD	ENG1-9, ENG11-12	**All engines are subject to the limitations in Table 1 per 40 CFR 60.4233(e). A determination of applicability will be made for each engine to be used at the site.**
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	The facility does not operate any affected sources.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	The facility does not operate any affected sources.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	This is not a MSW landfill.
NESHAP 40 CFR 61 Subpart A	General Provisions	See below	See below	See regulatory discussion below.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No	N/A	This facility does not 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	N/A	The facility does not have equipment that operates in volatile hazardous air pollutant (VHAP) service [40 CFR Part 61.240].
MACT 40 CFR 63, Subpart A	General Provisions	No	N/A	See regulatory discussion below.
MACT 40 CFR 63.760 Subpart HH	**Oil and Natural Gas Production Facilities**	Yes	DEHY1-3	As a major source of HAP, sources subject to HH include storage vessels with flash emissions, fugitive components, and compressors in VHAP service ((see §63.760(b)(1)(ii), (iii), and (iv)). Fugitives and compressors are exempt per §63.769(b) since they are subject to NSPS OOOO. Storage vessels use a closed vent system connected to a combustor to comply with §63.766(b).The dehydrators process more than 3 mmscfd; however, since benzene emissions are less than 1 tpy, there are no applicable requirements. (See §63.764(E)(1))
MACT 40 CFR 63 Subpart HHH	Natural Gas Transmission and Storage Facilities	No	N/A	This regulation does not apply as the plant is not a natural gas transmission and storage facility as defined by the subpart (§63.1270(a)).
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	The facility is not a major source of HAP as defined in §63.7575 “Major source for oil and natural gas production facilities”. Therefore, MACT 40 CFR 63 Subpart DDDDD 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	N/A	There are no affected sources.
MACT 40 CFR 63 Subpart YYYY	Turbine MACT	No	N/A	There are no affected sources.
MACT 40 CFR 63 Subpart	National Emissions Standards for	TBD	ENG1-9, ENG11-12	All engines comply with NSPS JJJJ to comply with NESHAP ZZZZ per 60.6590(c)(1). A determination of applicability will be made for each engine to be used at the site.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
ZZZZ	Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)			
MACT 40 CFR 63 Subpart JJJJJJ	Boilers and Process Heaters	No	N/A	The units are exempt per §63.1195(e) since they burn natural gas.
40 CFR 64	**Compliance Assurance Monitoring**	No	N/A	The facility is not subject to CAM.
40 CFR 68	**Chemical Accident Prevention**	No	N/A	The facility will not store more than the regulated quantity of regulated substances.
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	No	N/A	The facility does not have any units subject to the Acid Rain regulations.
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	No	N/A	The facility does not have any units subject to the Acid Rain regulations.
Title IV-Acid Rain 40 CFR 75	**Continuous Emissions Monitoring**	No	N/A	The facility does not have any units subject to the Acid Rain regulations.
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission Reduction Program**	No	N/A	The facility does not have any units subject to the Acid Rain regulations.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	No	N/A	The regulation is not applicable per §40 CFR Part 82.1(a) because the facility does not service, maintain or repair class I or class II appliances.

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.

Emissions during startups, shutdowns, maintenance and emergencies (ESDs) will be minimized through the site-specific Startup, Shutdown, and Malfunction Plan (SSMP) as required by 40 CFR §63.6(e)(3), 20.2.70.300.D.5(g) NMAC, 20.2.72.203.A.5 NMAC, and 20.2.7.14.A NMAC.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

XTO is not proposing any alternative 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.

Unit Serial No.	Test Description	Test Date
ENG1, ENG2, ENG3, ENG5, ENG11, ENG12	Tested as required by 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ for NOx, CO, VOC, and HCHO	9/14/20-9/17/20
ENG6, ENG4	Tested as required by 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ for NOx, CO, VOC, and HCHO	12/7/20

Section 18

Addendum for Streamline Applications

Do not print this section unless this is a streamline application.

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.

This section is not applicable since this is not a Streamline Permit Application.

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Who Must Use this Attachment:

* Any major source as defined in 20.2.70 NMAC.
* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
* Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See http://www.env.nm.gov/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
* Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.

This is a Title V application subject to the requirements below.

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 facility does not meet the applicability requirements of 40 CFR 64.2. Specifically, no sources at the facility are controlled major sources of regulated pollutants, and enhanced monitoring requirements are not applicable to this facility at this time. XTO Energy will submit the necessary statement indicating compliance status should this requirement becomes applicable.

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 sources operated at the Maverick Compressor Station currently meet the applicable requirements as detailed in Section 13 of this Title V application.

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.

As determined in Sections 13 and 19.2, XTO Energy believes the Maverick Compressor Station is in compliance with each requirement applicable to the facility. XTO Energy states that the site will continue to be operated in compliance with applicable requirements set at the submission of this application.

In addition, XTO will meet additional applicable requirements that become effective during the permit term in a timely manner or on such a time schedule as expressly required by the applicable requirement. In the event that XTO should discover new information affecting the compliance status of the facility, XTO will make appropriate notifications and/or take corrective actions as appropriate.

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.

XTO Energy Inc. requests the Department schedule compliance reporting to start either July 1 or January 1 in order to align with other federal reporting programs. Annual compliance certification is requested to be completed annually for the period January 1 through December 31.

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).

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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.)

Not applicable - XTO Energy does not service, maintain, or repair any equipment containing refrigerants.

19.6 - Compliance Plan and Schedule

Applications for sources, which are not in compliance with all applicable requirements at the time the permit application is submitted to the department, must include a proposed compliance plan as part of the permit application package. This plan shall include the information requested below:

A. Description of Compliance Status: (20.2.70.300.D.11.a NMAC)
A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

B. Compliance plan: (20.2.70.300.D.11.B NMAC)
A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

C. Compliance schedule: (20.2.70.300D.11.c NMAC)
A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

D. Schedule of Certified Progress Reports: (20.2.70.300.D.11.d NMAC)
A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

E. Acid Rain Sources: (20.2.70.300.D.11.e NMAC)
If your source is an acid rain source as defined by EPA, the following applies to you. For the portion of your acid rain source subject to the acid rain provisions of title IV of the federal Act, the compliance plan must also include any additional requirements under the acid rain provisions of title IV of the federal Act. Some requirements of title IV regarding the schedule and methods the source will use to achieve compliance with the acid rain emissions limitations may supersede the requirements of title V and 20.2.70 NMAC. You will need to consult with the Air Quality Bureau permitting staff concerning how to properly meet this requirement.

NOTE: The Acid Rain program has additional forms. See http://www.env.nm.gov/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

XTO Energy states that the Maverick Compressor Station is in compliance with all applicable requirements at the time of this application. Therefore, no compliance plan, compliance schedules, or compliance reports are required.

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.

Maverick CS is below the material thresholds for RMP.

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.)

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this item here.

The facility is approximately 6 miles north of the Texas border.

19.9 - Responsible Official

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

Rick Cannon
Production Manager - NM Delaware Basin
ExxonMobil Oil & Gas, Unconventional
Work 57: 5-988-7138
3104 E Greene Street
Carlsbad, NM 88220

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.

N/A – no other relevant information is provided.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

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

EPA Background Information for MSW Landfill Air Quality Regulations:
https://www3.epa.gov/airtoxics/landfill/landflpg.html

NM Solid Waste Bureau Website: https://www.env.nm.gov/swb/

This is not a landfill application.

Section 22: Certification

Company Name: XTO Energy Inc.

I, RICHARD CANNON, 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 22 day of JUNE, 2021, upon my oath or affirmation, before a notary of the State of Texas.

*Signature

6/22/21
Date

RICHARD CANNON
Printed Name

NM PRODUCTION MANAGER
Title

Scribed and sworn before me on this 22 day of June, 2021.

My authorization as a notary of the State of Texas expires on the 4 day of August, 2022.

Notary's Signature

6/22/2021
Date

Kimberly McQuillen
Notary's Printed Name

Kimberly Sue McQuillen
Notary Public, State of Texas
My Comm. Exp. 8/4/22
Notary ID 12990808-2

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