XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

EDDY COUNTY, NEW MEXICO

NSR PERMIT APPLICATION

PREPARED FOR:

T.J. TOLE

ENVIRONMENTAL ENGINEER

XTO ENERGY INC.

11/21/2019

CORRAL CANYON TANK BATTERY

NSR PERMIT APPLICATION

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Tab 1
UA1 Form - Company and Facility Information

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.: 1284 in the amount of $500

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

☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.

☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html).

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.219.D.1.a 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.):	Updating Permit/NOI #: 6275
1	Facility Name: Corral Canyon Tank Battery	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits): 211111	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): See Section 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.344, 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.344, Spring, TX 77389	
4	Bill To (Company): XTO Energy Inc.	Phone/Fax: (832) 624-4426
a	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.344, Spring, TX 77389	E-mail: raymond_tole@xtoenergy.com
5	☐ Preparer: ☑ Consultant: Evan Tullos	Phone/Fax: (865) 850-2007
a	Mailing Address: 5 Cardinal Court; Edwardsville, IL 620205	E-mail: etullos@pei-tx.com
6	Plant Operator Contact: Raymond (TJ) Tole	Phone/Fax: (832) 624-4426
a	Address: 22777 Springwoods Village Parkway, W4.6B.344, Spring, TX 77389	E-mail: raymond_tole@xtoenergy.com
7	Air Permit Contact: Raymond (TJ) Tole	Title: Environmental Engineer
a	E-mail: raymond_tole@xtoenergy.com	Phone/Fax: (832) 624-4426
b	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.344, 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: 6275
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: 1,438 barrels of oil/condensate	Daily: 34,512 barrels of oil/condensate	Annually: 12,596,880 barrels of oil/condensate
b	Proposed	Hourly: 1,063 barrels of oil/condensate	Daily: 25,500 barrels of oil/condensate	Annually: 9,307,496 barrels of oil/condensate
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: 1,438 barrels of oil/condensate	Daily: 34,512 barrels of oil/condensate	Annually: 9,314,800 barrels of oil/condensate
b	Proposed	Hourly: 1,063 barrels of oil/condensate	Daily: 25,500 barrels of oil/condensate	Annually: 9,307,496 barrels of oil/condensate

Section 1-D: Facility Location Information

1	Section: 5	Range: 29E	Township: 25S	County: Eddy	Elevation (ft): 2949
2	UTM Zone: ☐ 12 or ☑ 13			Datum: ☐ NAD 27 ☑ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 594370			UTM N (in meters, to nearest 10 meters): 3557850	
b	**AND** Latitude (deg., min., sec.): 32º 09' 11"			Longitude (deg., min., sec.): -103º 59' 57"	
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): Drive 12.5 miles on US-285S to left on Whitehorn Rd. Drive 4.0 miles to left on Pipeline Road Number 1. Drive 1.8 miles to left turn. Drive 3.5 miles to left turn. Drive 2.2 miles to site on left.				
5	The facility is 6.7 (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				
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: Carlsbad Caverns - 35.36, Texas - 16.95				
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): 35.36				
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: Facility is operating.					
4	Month and year of anticipated construction completion: Construction is not required.					
5	Month and year of anticipated startup of new or modified facility: Facility is operating.					
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):		Phone:
a	A. R.O. Title:	A. R.O. e-mail:	
b	A. R. O. Address:		
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:		
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.):		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:		
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_____

Email_____

Phone number _____

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

4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.

5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.

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

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

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

1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible

format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

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

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Tab 2
UA2 Form - Application Tables

Table 2-A: Regulated Emission Sources

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

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
CORRAL CANYON EXPANSION SITE EQUIPMENT												
FUG1	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
HPF1	High Pressure Flare	Tornado	N/A	N/A	> 60 MMSCFD	> 60 MMSCFD	2017 2017	N/A HPF1	31000205	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TL1	Oil Truck Loading Rack	N/A	N/A	N/A	N/A	N/A	N/A N/A	LPF1 LPF1	40400250	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
LPF1	Low Pressure Flare	Tornado	N/A	N/A	2 MMSCFD	2 MMSCFD	2018 2018	N/A LPF1	31000205	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
HTR1	Heater Treater: 4.0 MMBtu/hr	Smith	N/A	N/A	4.0 MMBtu/hr	4.0 MMBtu/hr	2018 2018	N/A HTR1	31000404	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
HTR2	Heater Treater: 4.0 MMBtu/hr	Smith	N/A	N/A	4.0 MMBtu/hr	4.0 MMBtu/hr	2018 2018	N/A HTR2	31000404	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
BC1	Electric Booster Compressor	TOPS	N/A	N/A	>150 HP[5]	>150 HP[5]	TBD TBD	N/A HPF	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
BC2	Electric Booster Compressor	TOPS	N/A	N/A	>150 HP[5]	>150 HP[5]	TBD TBD	N/A HPF	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
VRT1	Vapor Recovery Tower (VRT)	UMC	N/A	N/A	20,000 BOPD[5]	20,500 BOPD[5]	TBD TBD	VRU1 LPF1	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
VRU1	Vapor Recovery Unit for VRT	TOPS	N/A	N/A	>100 HP[5]	>100 HP[5]	TBD TBD	LPF1 LPF1	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
VRT2	Vapor Recovery Tower (VRT)	TOPS	N/A	N/A	20,000 BOPD[5]	20,500 BOPD[5]	TBD TBD	VRU2 LPF1	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
VRU2	Vapor Recovery Unit for VRT	TOPS	N/A	N/A	>100 HP[5]	>100 HP[5]	TBD TBD	N/A LPF1	N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK1	Oil/ Condensate Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	VRU3 LPF1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK2	Oil/ Condensate Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	VRU3 LPF1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK3	Oil/ Condensate Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	VRU3 LPF1	40400311	☐ 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.
TK4	Oil/ Condensate Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	VRU3 LPF1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK5	Oil/ Condensate Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	VRU3 LPF1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK6	Oil/ Condensate Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	VRU3 LPF1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
VRU3	Vapor Recovery Unit for Oil Tanks	TOPS	N/A	N/A	N/A	N/A	Unknown 2018	LPF1 LPF1	N/A	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
SKTK1	Skim Tank	Unknown	N/A	N/A	1000 BBLS	1000 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
SKTK2	Skim Tank	Unknown	N/A	N/A	1000 BBLS	1000 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK1	Produced Water Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK2	Produced Water Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK3	Produced Water Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK4	Produced Water Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK5	Produced Water Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK6	Produced Water Tank	Unknown	N/A	N/A	750 BBLS	750 BBLS	2018 2018	LPF1 LPF1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
GLC1	Electric Gas Lift Compression	TOPS	N/A	N/A	N/A	N/A	2018 2018	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
GLC2	Electric Gas Lift Compression	TOPS	N/A	N/A	N/A	N/A	2018 2018	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
ROAD	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
SSM	Startup, Shutdown, Maintenance	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

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.
EQUIPMENT TO BE REMOVED												
LPF2	Low Pressure Flare	Tornado	N/A	N/A	2 MMSCFD	2 MMSCFD	2018 2018	N/A LPF2	31000205	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
GLC2-1	Electric Gas Lift Compression	N/A	N/A	N/A	N/A	N/A	2018 2018	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
GLC2-2	Electric Gas Lift Compression	N/A	N/A	N/A	N/A	N/A	2018 2018	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
LPF-OLD1	Low Pressure Flare	Tornado	N/A	N/A	2 MMSCFD	2 MMSCFD	2015 2015	N/A LPF-OLD1	31000216	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
HTR-OLD1	Heater Treater: 2.0 MMBtu/hr	N/A	N/A	N/A	2.0 MMBtu/hr	2.0 MMBtu/hr	2015 2015	N/A HTR-OLD1	31000404	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
BC1-OLD	Electric Booster Compressor	Quincy	N/A	Unknown	>150 HP[5]	>150 HP[5]	2015 2015	N/A BC1-OLD	N/A	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
VRT-OLD1	Vapor Recovery Tower (VRT)	Unknown	N/A	N/A	20500 BOPD	20500 BOPD	2015 2015	VRU-OLD1 LPF-OLD1	N/A	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
VRTVRU-OLD1	Vapor Recovery Unit for VRT	Quincy	N/A	240NG	>100 HP[5]	>100 HP[5]	2015 2015	LPF-OLD1 VRTVRU-OLD1	N/A	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK1-OLD	Oil/ Condensate Tank	Petrosmith	N/A	10719	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400311	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK2-OLD	Oil/ Condensate Tank	Petrosmith	N/A	9609	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400311	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK3-OLD	Oil/ Condensate Tank	Petrosmith	N/A	10715	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400311	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
SKTK1-OLD	Water Skim Tank	Petrosmith	N/A	N/A	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400315	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PTWK1-OLD	Produced Water Tank	Petrosmith	N/A	10713	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400315	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PTWK2-OLD	Produced Water Tank	Petrosmith	N/A	10712	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400315	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PTWK3-OLD	Produced Water Tank	Petrosmith	N/A	9606	1000 BBLS	1000 BBLS	2014 2015	LPF-OLD1 LPF-OLD1	40400315	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
ETK1-OLD	Emergency Blowdown Tank	Petrosmith	N/A	11422	210 BBLS	210 BBLS	2012 2015	N/A ETK1-OLD	40400311	☐ 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.
ETK-1	Emergency Blowdown Tank	Unknown	N/A	N/A	210 BBLS	210 BBLS	2018 2018	N/A ETK-1	40400311	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
HPF2	High Pressure Flare	Tornado	N/A	N/A	> 60 MMSCFD	> 60 MMSCFD	TBD TBD	N/A HPF2	31000205	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK7	Produced Water Tank	TBD	TBD	TBD	750 BBLS	750 BBLS	TBD TBD	LPF2 LPF2	40400315	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PWTK8	Produced Water Tank	TBD	TBD	TBD	750 BBLS	750 BBLS	TBD TBD	LPF2 LPF2	40400315	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK7	Oil/ Condensate Tank	TBD	TBD	TBD	750 BBLS	750 BBLS	TBD TBD	LPF2 LPF2	40400311	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK8	Oil/ Condensate Tank	TBD	TBD	TBD	750 BBLS	750 BBLS	TBD TBD	LPF2 LPF2	40400311	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
HTR3	HEATER TREATER: 4.0 MMBTU/HR BURNER	TBD	TBD	TBD	4.0 MMBtu/hr	4.0 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
HPF1-OLD	High Pressure Flare	Tornado	N/A	N/A	30 MMSCFD	30 MMSCFD	NA 2015	N/A HPF1-OLD	31000216	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
BC2-OLD	Electric Booster Compressor	Quincy	N/A	Unknown	75 MSCFD	75 MSCFD	2016 2016	N/A BC2-OLD	N/A	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
HTR-OLD2	Auxiliary Heaters < 4 MMBtu/hr	Varies	N/A	Varies	< 4 MMBtu/hr	< 4 MMBtu/hr	Varies Unknown	N/A HTR-OLD2	31000404	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TL1-OLD	Oil Truck Loading Rack	N/A	N/A	N/A	N/A	N/A	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

[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

[5] The capacities are listed for illustrative purposes only and not meant to be enforceable since these are not specific points of emissions. The daily requested permitted capacity will be split between VRT1 and VRT2.

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. Serial No.	Max Capacity Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
	Not applicable						☐ 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. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
VRU1	Vapor Recovery Unit	2018	VOC/HAP	VRT1	98%	Eng. Estimate
VRU2	Vapor Recovery Unit	2018	VOC/HAP	VRT2	98%	Eng. Estimate
VRU3	Vapor Recovery Unit	2018	VOC/HAP	TK1-TK6	98%	Eng. Estimate
LPF1	Low Pressure Flare	2015	VOC/HAP	VRT1-VRT2, TK1-TK6, SKTK1-SKTK2, PWTK1-PWTK6, TL1	98%	Manufacturer
HPF1	High Pressure Flare	2017	VOC/HAP	Inlet Gas, Treater Gas	98%	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)

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

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

Unit No.	NOx		CO		VOC		SOx		PM[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
FUG1	---	---	---	---	2.46	10.79	---	---	---	---	---	---	---	---	---	---	---	---
HTR1	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.04	0.19	0.04	0.19	---	---	---	---
HTR2	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.04	0.19	0.04	0.19	---	---	---	---
TL1	---	---	---	---	60.76	221.56	---	---	---	---	---	---	---	---	---	---	---	---
ROAD	---	---	---	---	---	---	---	---	0.19	0.67	0.19	0.67	0.04	0.10	---	---	---	---
VRT1-VRT2	---	---	---	---	2971.77	13016.34	---	---	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---
TK1	---	---	---	---	69.84	305.92	---	---	---	---	---	---	---	---	---	---	---	---
TK2	---	---	---	---	69.84	305.92	---	---	---	---	---	---	---	---	---	---	---	---
TK3	---	---	---	---	69.84	305.92	---	---	---	---	---	---	---	---	---	---	---	---
TK4	---	---	---	---	69.84	305.92	---	---	---	---	---	---	---	---	---	---	---	---
TK5	---	---	---	---	69.84	305.92	---	---	---	---	---	---	---	---	---	---	---	---
TK6	---	---	---	---	69.84	305.92	---	---	---	---	---	---	---	---	---	---	---	---
SKTK1	---	---	---	---	18.48	80.92	---	---	---	---	---	---	---	---	---	---	---	---
SKTK2	---	---	---	---	18.48	80.92	---	---	---	---	---	---	---	---	---	---	---	---
PWTK1	---	---	---	---	0.13	0.55	---	---	---	---	---	---	---	---	---	---	---	---
PWTK2	---	---	---	---	0.13	0.55	---	---	---	---	---	---	---	---	---	---	---	---
PWTK3	---	---	---	---	0.13	0.55	---	---	---	---	---	---	---	---	---	---	---	---
PWTK4	---	---	---	---	0.13	0.55	---	---	---	---	---	---	---	---	---	---	---	---
PWTK5	---	---	---	---	0.13	0.55	---	---	---	---	---	---	---	---	---	---	---	---
PWTK6	---	---	---	---	0.13	0.55	---	---	---	---	---	---	---	---	---	---	---	---
HPF1	0.08	0.34	0.15	0.67	0.16	0.69	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	---	---	---	---
LPF1	0.04	0.17	0.08	0.33	0.08	0.34	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	---	---	---	---
Totals	1.24	5.41	1.17	5.13	3492.06	15250.65	0.01	0.03	0.28	1.06	0.28	1.06	0.13	0.49				

[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 PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-E: Requested Allowable Emissions

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

Unit No.	NOx		CO		VOC		SOx		PM[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
FUG1	---	---	---	---	2.46	10.79	---	---	---	---	---	---	---	---	---	---	---	---
HTR1	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.04	0.19	0.04	0.19	---	---	---	---
HTR2	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.04	0.19	0.04	0.19	---	---	---	---
TL1	---	---	---	---	0.79	2.88	---	---	---	---	---	---	---	---	---	---	---	---
ROAD	---	---	---	---	---	---	---	---	0.19	0.67	0.19	0.67	0.04	0.10	---	---	---	---
VRT1-VRT2	Emissions represented at LPF1.																	
TK1	Emissions represented at LPF1.																	
TK2	Emissions represented at LPF1.																	
TK3	Emissions represented at LPF1.																	
TK4	Emissions represented at LPF1.																	
TK5	Emissions represented at LPF1.																	
TK6	Emissions represented at LPF1.																	
SKTK1	Emissions represented at LPF1.																	
SKTK2	Emissions represented at LPF1.																	
PWTK1	Emissions represented at LPF1.																	
PWTK2	Emissions represented at LPF1.																	
PWTK3	Emissions represented at LPF1.																	
PWTK4	Emissions represented at LPF1.																	
PWTK5	Emissions represented at LPF2.																	
PWTK6	Emissions represented at LPF2.																	
HPF1	491.84	54.00	981.90	107.80	1016.95	115.21	3.93	0.44	19.30	2.05	19.30	2.05	19.30	2.05	---	---	---	---
LPF1	16.19	7.57	32.32	15.11	86.61	32.27	0.18	0.17	0.35	0.21	0.35	0.21	0.35	0.21	---	---	---	---
SSM	---	---	---	---	---	10.00	---	---	---	---	---	---	---	---	---	---	---	---
Totals	509.15	66.47	1015.15	127.03	1106.88	171.42	4.12	0.63	19.93	3.30	19.93	3.30	19.78	2.73	---	---	---	---

[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 PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

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 lir 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		PM[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
SSM	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Totals	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-

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

[2] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

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

☑ 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		PM		PM10		PM2.5		□ H_2S or □ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
HTR1	HTR1	H	N	20	1000	24.7	Unknown	Unknown	31.5	1.00
HTR2	HTR2	H	N	20	1000	24.7	Unknown	Unknown	31.5	1.00
HPF1	HPF1	H	N	145	1832	6.7	Unknown	Unknown	65.6	0.50
LPF1	LPF1	H	N	40	1832	3.3	Unknown	Unknown	65.6	0.50

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		n-Hexane ☑ HAP or ☐ TAP		Benzene ☑ HAP or ☐ TAP		Toluene ☑ 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
FUG1	FUG1	0.1	0.6	0.0	0.1	0.0	0.1	0.0	0.1										
HTR1	HTR1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
HTR2	HTR2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
TL-OIL	TL-OIL	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0										
VRT1-VRT2	VRT1-VRT2	Emissions represented at LPF1.																	
SKTK1-SKTK2	SKTK1-SKTK2	Emissions represented at LPF1.																	
PWTK1-PWTK6	PWTK1-PWTK6	Emissions represented at LPF1.																	
HPF1	HPF1	30.3	3.5	15.8	1.8	7.2	0.8	4.5	0.5										
LPF1	LPF1	3.7	1.5	1.9	0.7	0.9	0.3	0.6	0.2										
Totals:		34.1	5.8	17.7	2.7	8.0	1.2	5.1	0.8										

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
HTR1	Natural Gas	Field Gas	1387.0	2883.8	25.3	0	0
HTR2	Natural Gas	Field Gas	1387.0	2883.8	25.3	0	0
HPF1	Natural Gas	Field Gas	1387.0	400.0	3.5	0	0
LPF1	Natural Gas	Field Gas	1387.0	200.0	1.8	0	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)
TK1	40400311	Oil/Condensate	Oil/Condensate	6.5	50.7	95.5	9.7	112.1	11.9
TK2	40400311	Oil/Condensate	Oil/Condensate	6.5	50.7	95.5	9.7	112.1	11.9
TK3	40400311	Oil/Condensate	Oil/Condensate	6.5	50.7	95.5	9.7	112.1	11.9
TK4	40400311	Oil/Condensate	Oil/Condensate	6.5	50.7	95.5	9.7	112.1	11.9
TK5	40400311	Oil/Condensate	Oil/Condensate	6.5	50.7	95.5	9.7	112.1	11.9
TK6	40400311	Oil/Condensate	Oil/Condensate	6.5	50.7	95.5	9.7	112.1	11.9
SKTK1	40400315	Produced Water	Produced Water-99%/Oil-1%	8.3	22.7	88.1	0.7	104.7	1.1
SKTK2	40400315	Produced Water	Produced Water-99%/Oil-1%	8.3	22.7	88.1	0.7	104.7	1.1
PWTK1	40400315	Produced Water	Produced Water	8.3	18.1	88.1	0.7	104.7	1.1
PWTK2	40400315	Produced Water	Produced Water	8.3	18.1	88.1	0.7	104.7	1.1
PWTK3	40400315	Produced Water	Produced Water	8.3	18.1	88.1	0.7	104.7	1.1
PWTK4	40400315	Produced Water	Produced Water	8.3	18.1	88.1	0.7	104.7	1.1
PWTK5	40400315	Produced Water	Produced Water	8.3	18.1	88.1	0.7	104.7	1.1
PWTK6	40400315	Produced Water	Produced Water	8.3	18.1	88.1	0.7	104.7	1.1

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			
TK1	2018	Oil/Condensate	N/A	FX	750	119	4.6	7.3	MG	MG	Good	65,152,474	2068.3
TK2	2018	Oil/Condensate	N/A	FX	750	119	4.6	7.3	MG	MG	Good	65,152,474	2068.3
TK3	2018	Oil/Condensate	N/A	FX	750	119	4.6	7.3	MG	MG	Good	65,152,474	2068.3
TK4	2018	Oil/Condensate	N/A	FX	750	119	4.6	7.3	MG	MG	Good	65,152,474	2068.3
TK5	2018	Oil/Condensate	N/A	FX	750	119	4.6	7.3	MG	MG	Good	65,152,474	2068.3
TK6	2018	Oil/Condensate	N/A	FX	750	119	4.6	7.3	MG	MG	Good	65,152,474	2068.3
SKTK1	2018	Produced Water	N/A	FX	1,000	159	6.4	4.9	MG	MG	Good	459,904,455	10950.1
SKTK2	2018	Produced Water	N/A	FX	1,000	159	6.4	4.9	MG	MG	Good	459,904,455	10950.11
PWTK1	2018	Produced Water	N/A	FX	750	119	4.6	7.3	MG	MG	Good	153,300,000	4866.7
PWTK2	2018	Produced Water	N/A	FX	750	119	4.6	7.3	MG	MG	Good	153,300,000	4866.7
PWTK3	2018	Produced Water	N/A	FX	750	119	4.6	7.3	MG	MG	Good	153,300,000	4866.7
PWTK4	2018	Produced Water	N/A	FX	750	119	4.6	7.3	MG	MG	Good	153,300,000	4866.7
PWTK5	2018	Produced Water	N/A	FX	750	119	4.6	7.3	MG	MG	Good	153,300,000	4866.7
PWTK6	2015	Produced Water	N/A	FX	750	119	4.6	7.3	MG	MG	Good	153,300,000	4866.7

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)**
Natural Gas	Natural Gas	Gas	60.9 MMscfd	Natural Gas	Natural Gas	Gas	60.9 MMscfd
Oil/Condensate	Oil/Condensate	Liquid	25500 BOPD	Oil/Condensate	Oil/Condensate	Liquid	25500 BOPD
Produced Water	Produced Water	Liquid	60000 BWPD	Produced Water	Produced Water	Liquid	60000 BWPD

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
	Not applicable								

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
	Not applicable							

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]						XTO Energy Inc.			Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
FUG1	**mass GHG**	16.9	0.0	12.2											29	
	CO_2e	16.9	0.0	305.6												322
HTR1	**mass GHG**	2049.8	0.0	0.0											2050	
	CO_2e	2049.8	1.2	1.0												2052
HTR2	**mass GHG**	2049.8	0.0	0.0											2050	
	CO_2e	2049.8	1.2	1.0												2052
HPF1	**mass GHG**	39257.1	0.0	131.3											39388	
	CO_2e	39257.1	0.0	3283.3												42540
LPF1	**mass GHG**	360.9	0.0	2.3											363	
	CO_2e	360.9	0.0	57.6												418
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG														43880	
	CO_2e															47385

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

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

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

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

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

Tab 3
Section 3 - Application Summary

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.

XTO Energy is planning modification of the Corral Canyon Tank Battery in Eddy County, NM. The facility is operated under NSR Permit 6275. This is a New Source Review (NSR) permit application being submitted in accordance with 20.2.72.219.D.1.a NMAC.

This is a typical oil and gas battery that collects oil and water from field production for temporary storage. Oil and water flow into the site from surrounding well sites. Water and gas are separated from the incoming oil and sold via pipeline. Oil and water are temporarily stored in tanks prior to being shipped offsite via pipeline or truck. Electric compressors are used to boost produced gas to sales line pressure.

Routine SSM emissions are included with the regular emissions of the facility.

The following changes, which include shutting down the old portion of the site, are being made to the current permit with this application:

1. Remove two electric drive gas lift compressors
2. Remove two heaters (HTR-OLD2, HTR3)
3. Remove two high pressure flares (HPF-OLD1, HPF2)
4. Adjust booster compressor and VRU downtime hours
5. Remove low pressure flare (LPF2)
6. Remove booster compressor (BC-OLD2)
7. Remove two oil tanks (TK7, TK8)
8. Remove two water tanks (PWTK7, PWTK8)
9. Remove two emergency blowdown tanks (ETK1, ETK-OLD1)
10. Updated oil, water, and gas production and flaring rates

Tab 4
Section 4 - Process Flow Sheet

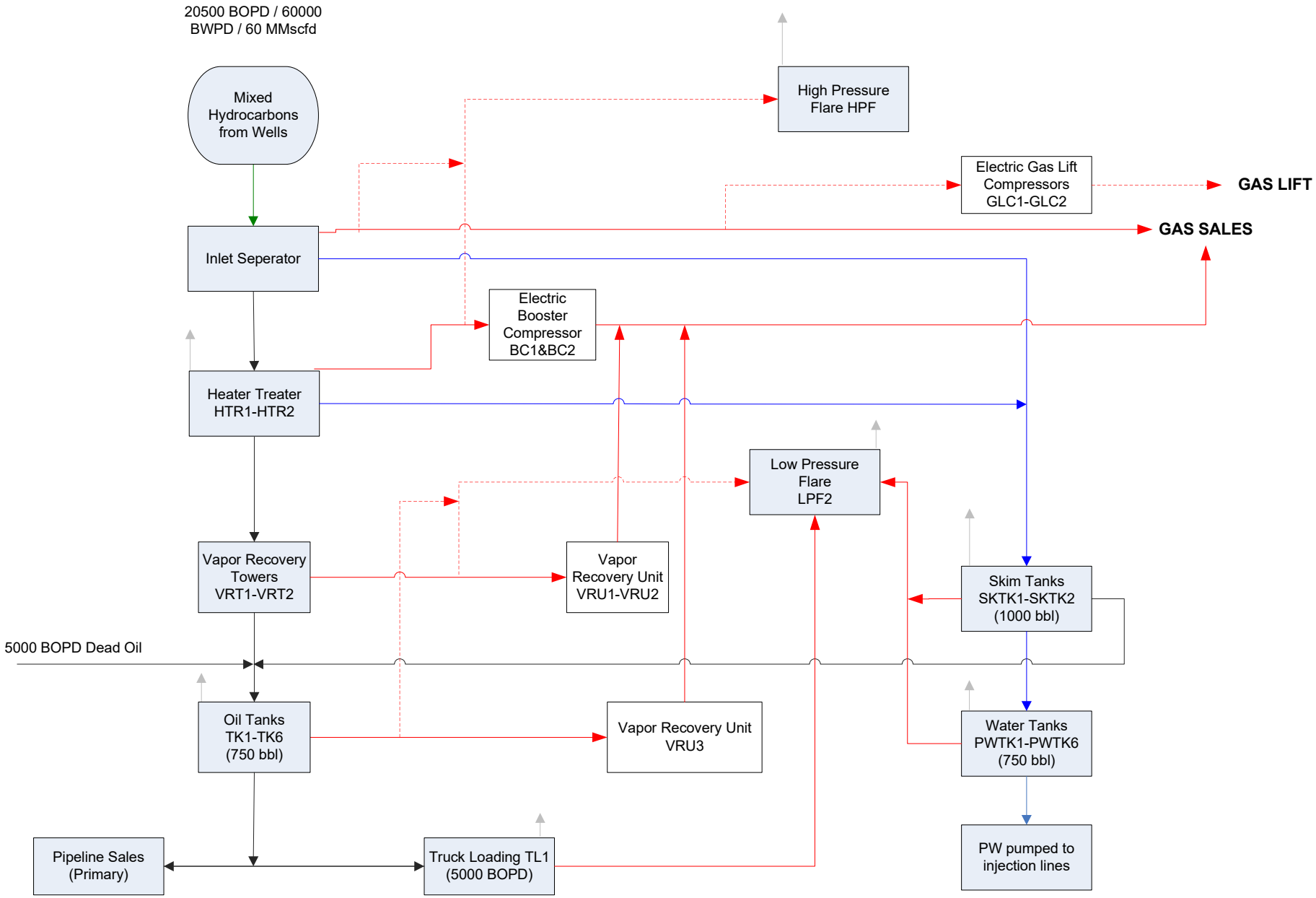
Section 4

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 included.

XTO Energy Inc.
Corral Canyon Expansion Tank Battery
Process Flow Diagram



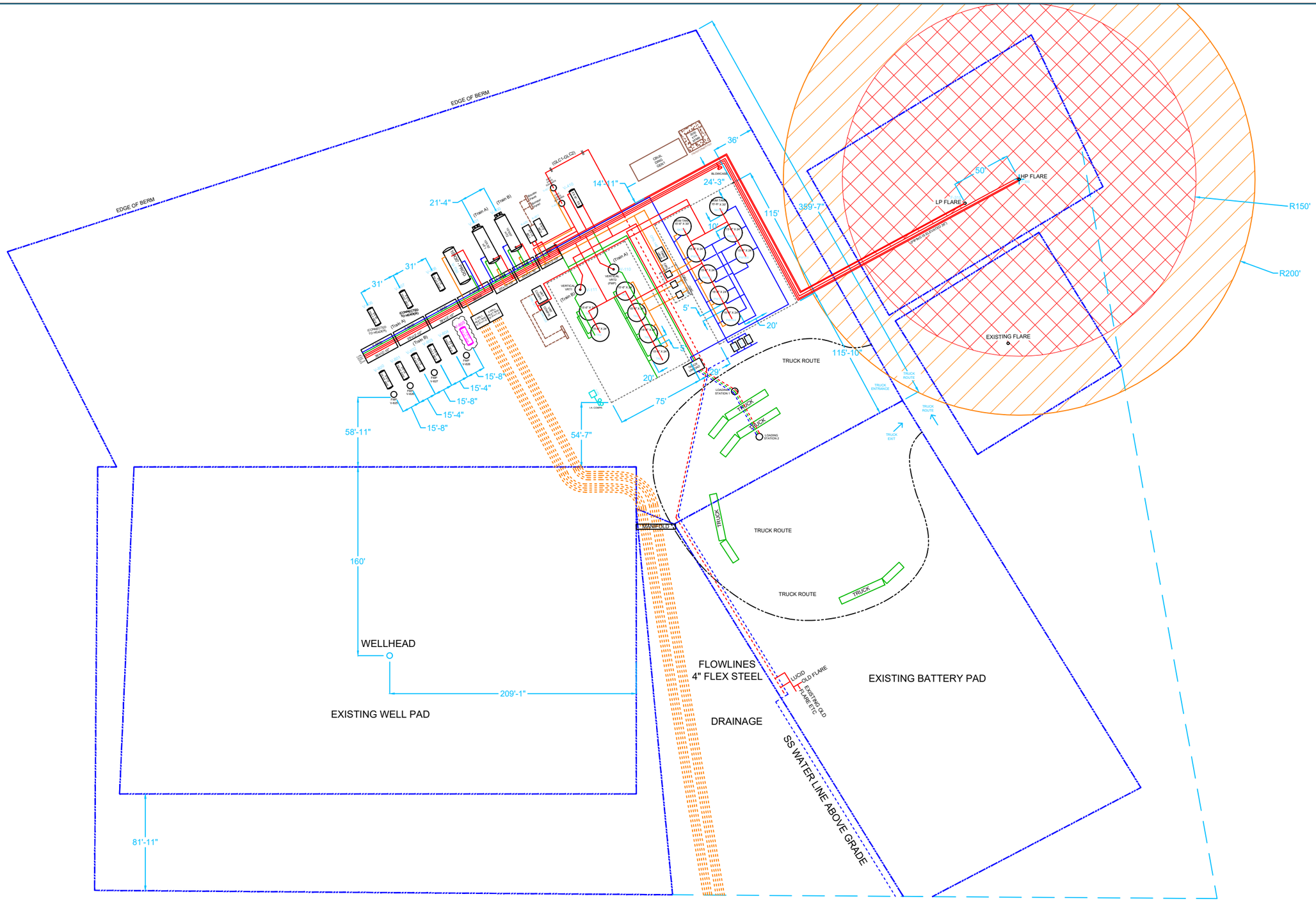
Tab 5
Section 5 - Plot Plan Drawn To Scale

Section 5

Plot Plan Drawn To Scale

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

A plot plan for the facility is included.



NOTES:
1) TRAIN 2 FED./STATE (TRUNK B)
TRAIN 1 FED. ONLY (TRUNK A)

ISSUED FOR CONSTRUCTION

DATE:_____

SIGN :_____

Revision	Description of Change	Date	By
0	ISSUED FOR REVIEW	07/23/18	JSF
1	ISSUED FOR CONSTRUCTION	11/07/18	JSF
2	RELOCATING EQUIPMENT UPDATE	02/18/19	JSF
3	CONSTRUCTION UPDATES	04/02/19	JSF

XTO ENERGY

CORRAL CANYON EXP.
TANK BATTERY
COUNTY

PLOT PLAN

XTO - DB - CC20 - 0TBAT - PLOT - 000 - 0116 - 3

Company	Division	Field	Facility	Doc Type	Equip	Doc #	Revision

Tab 6
Section 6 - All Calculations

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.

Gas Lift Compressor (GLC1, GLC2)
The gas lift compressors are not emission points. They are electric. If not in use, gas is routed to the sales line (see below).

Heater Treaters (HTR1, HTR2)
Emission rates for NOx, CO, VOC, and PM were calculated using AP-42 factors for external natural gas combustion sources, Table 1.4-1 and 1.4-2. PM_{10} and $PM_{2.5}$ emissions are set equal to PM emissions as a conservative measure. SO_2 emissions were calculated based on the units' fuel consumption and a maximum sulfur content of 5 gr/100 scf. Hazardous Air Pollutants (HAPs) were calculated using AP-42 factors.

Electric Booster Compressors (BC1, BC2)
The booster compressors are not emission points; however, when a compressor shuts down for maintenance, gas from the heater treaters is routed to HPF1. See HPF1 for more details on calculations.

High Pressure Flare (HPF1)
The flare uses a continuously lit pilot. Emission rates for NO_x and CO are calculated using factors from TNRCC. H_2S, SO_2 and VOC emissions were calculated based on the gas analysis. The pilot was conservatively assumed to use 400 scf/hr of pilot/purge gas.

HPF1 controls gas from the heater treaters when the booster compressors are down. BC1/BC2 downtime is estimated to be 876 hours per year. During normal operation, the boosters collects 100% of the gas using a closed system. During downtime, all of the gas is routed to the flare with a control efficiency of 98%. The mass flow and composition of gas generated by the heater treaters was modeled using Promax.

The high pressure flare is also used to flare inlet gas. As a conservative estimate, approximately 60.9 mmscfd of inlet gas flaring was included. A value of 210 hours per year was chosen for illustrative purposes to estimate annual rates. The number of hours is not intended to be enforceable. Emission rates for NO_x and CO are calculated using factors from TNRCC. H_2S, SO_2 and VOC emissions were calculated based on the gas analysis.

Low Pressure Flare (LPF1)
The flare uses a continuously lit pilot. Emission rates for NO_x and CO are calculated using factors from TNRCC. H_2S, SO_2 and VOC emissions were calculated based on the gas analysis. The pilots were conservatively assumed to use 200 scf/hr of pilot/purge gas.

The low pressure flare is used to control the VRT vapors that are not captured by the VRU during normal operation, all vapors from the VRT during VRU downtime, all vapors from the storage tanks not captured by the VRT, and truck loading vapors. The mass flow of gas generated included flashing, working, and breathing losses from the oil and water storage tanks. Hourly rates assumed zero capture by the VRU. Emission rates for NO_x and CO are calculated using factors from TNRCC. H_2S, SO_2 and VOC emissions were calculated based on the gas analysis. A VOC control efficiency of 98% was used.

Vapor Recovery Towers (VRT1/VRT2)
The VRT is a piece of process equipment, not an emission point. The mass flow of gas generated at the VRT was modeled using Promax. Gas from the VRT is routed to sales through a vapor recovery unit (VRU1-VRU2). The VRUs collect 98% of the gas generated at the VRT during normal operation, with any remaining gas in the closed vent system routed to the low pressure flares. XTO elected not to assume the 100% collection efficiency used by the AQB in the application forms. VRU1-VRU2 downtime is estimated to be 1,752 hours per year, during which time vapors are routed directly to LPF1. Any emissions resulting from combustion of gas generated at the VRTs are represented at the low pressure flare.

Oil Storage Tanks (TK1-TK6)

Flashing and working/breathing emissions from the oil storage tanks were estimated using Promax, assuming an oil flow of 20,500 BOPD produced oil from surrounding wells. Another 5,000 BOPD of dead oil can also flow into the site. Both sets of oil tanks are controlled using a VRU/Flare closed vent system. TK1-TK-6 use VRU3 and LPF1.

Water Skim Tank (SKTK1-SKTK2)
Water skim tank flash and working/breathing emissions were estimated using Promax. The water flow used in the calculations was 60,000 BWPD. LPF1 is used to control emissions from the water tanks.

Water Run Tanks (PWTK1-PWTK6)
Water run tank working/breathing emissions were estimated using Promax. Flash emissions are not expected downstream from the skim tanks. LPF1 is used to control emissions from the water tanks. Water is piped offsite for disposal.

Fugitives (FUG1)
Fugitives for the facility were calculated in EPA/API average emission factors.

Vapor Recovery Units (VRU1/VRU2 and VRU3)
The vapor recovery units are not control devices, as demonstrated by the cost-benefit analysis in Section 5.

Truck Loading (TL1)
Truck loading of oil is calculated using the calculation method from AP-42 Section 5.2. The liquid properties were obtained from Promax. A collection efficiency of 98.7% was used for DOT trucks and a control efficiency of 98% was used for flares.

Section 6.a

Green House Gas Emissions

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.
CORRAL CANYON TANK BATTERY
FACILITY EMISSIONS SUMMARY

EMISSIONS SUMMARY TABLE

EMISSION SOURCE DESCRIPTION	FACILITY IDENTIFICATION NUMBER (FIN)	UNIT NUMBER	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10\ \&\ 2.5}$		HAPs		CO_2e
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
11.1 L PSI GENERATOR ENGINE	ENG1	ENG1	0.59	2.59	1.18	5.18	0.53	2.33	0.03	0.13	0.03	0.12	0.13	0.55	1443
FUGITIVE EMISSIONS: EQUIPMENT LEAKS	FUG1	FUG1	---	---	---	---	2.46	10.79	---	---	---	---	0.13	0.59	320
HEATER TREATER: 4.0 MMBTU/HR	HTR1	HTR1	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.01	0.03	2052
HEATER TREATER: 4.0 MMBTU/HR	HTR2	HTR2	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.01	0.03	2052
TRUCK LOADING - OIL (UNCOLLECTED VAPORS)	TL1	TL1	---	---	---	---	0.79	2.88	---	---	---	---	0.03	0.12	---
ROAD EMISSIONS	ROAD	ROAD	---	---	---	---	---	---	---	---	0.19	0.67	---	---	---
VAPOR RECOVERY TOWERS	VRT1-VRT2	LPF1	Emissions Represented at LPF1.												
OIL STORAGE TANK	TK1	LPF1	Emissions Represented at LPF1.												
OIL STORAGE TANK	TK2	LPF1	Emissions Represented at LPF1.												
OIL STORAGE TANK	TK3	LPF1	Emissions Represented at LPF1.												
OIL STORAGE TANK	TK4	LPF1	Emissions Represented at LPF1.												
OIL STORAGE TANK	TK5	LPF1	Emissions Represented at LPF1.												
OIL STORAGE TANK	TK6	LPF1	Emissions Represented at LPF1.												
SKIM TANKS	SKTK1	LPF1	Emissions Represented at LPF1.												
SKIM TANKS	SKTK2	LPF1	Emissions Represented at LPF1.												
PRODUCED WATER TANK	PWTK1	LPF1	Emissions Represented at LPF1.												
PRODUCED WATER TANK	PWTK2	LPF1	Emissions Represented at LPF1.												
PRODUCED WATER TANK	PWTK3	LPF1	Emissions Represented at LPF1.												
PRODUCED WATER TANK	PWTK4	LPF1	Emissions Represented at LPF1.												
PRODUCED WATER TANK	PWTK5	LPF1	Emissions Represented at LPF1.												
PRODUCED WATER TANK	PWTK6	LPF1	Emissions Represented at LPF1.												
HIGH PRESSURE FLARE	HPF1	HPF1	491.84	54.00	981.90	107.80	1016.95	115.21	3.93	0.44	19.30	2.05	30.27	3.50	42540
LOW PRESSURE FLARE	LPF1	LPF1	13.09	19.80	26.14	39.52	69.29	97.58	0.15	0.28	0.29	0.46	3.04	4.42	489
SSM/MALFUNCTIONS	SSM/MF	SSM/MF	---	---	---	---	---	10.00	---	---	---	---	---	---	---

TOTAL FACILITY WIDE EMISSIONS	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10\ \&\ 2.5}$		HAPs		CO_2e
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
	506.64	**81.29**	**1010.16**	**156.62**	**1090.08**	**239.06**	**4.12**	**0.87**	**19.90**	**3.67**	**33.62**	**9.25**	**48896**

[1]**Hourly emissions during normal operations do not include emissions from the VRT or oil tanks during normal operation as they cannot occur at the same time as VRU downtime.**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

FACILITY EMISSIONS SUMMARY - UNCONTROLLED EMISSIONS DURING NORMAL OPERATION

EMISSIONS SUMMARY TABLE

EMISSION SOURCE DESCRIPTION	FACILITY IDENTIFICATION NUMBER (FIN)	UNIT NUMBER	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10 \& 2.5}$		HAPs	
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
11.1 L PSI GENERATOR ENGINE	ENG1	ENG1	0.59	2.59	1.18	5.18	0.53	2.33	0.03	0.13	0.03	0.12	0.13	0.55
FUGITIVE EMISSIONS: EQUIPMENT LEAKS	FUG1	FUG1	---	---	---	---	2.46	10.79	---	---	---	---	0.13	0.59
HEATER TREATER: 4.0 MMBTU/HR	HTR1	HTR1	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.01	0.03
HEATER TREATER: 4.0 MMBTU/HR	HTR2	HTR2	0.56	2.45	0.47	2.06	0.03	0.13	0.00	0.01	0.04	0.19	0.01	0.03
TRUCK LOADING - OIL (UNCOLLECTED VAPORS)	TL-OIL	TL-OIL	---	---	---	---	60.76	221.56	---	---	---	---	2.62	9.55
ROAD EMISSIONS	ROAD	ROAD	---	---	---	---	---	---	---	---	0.19	0.67	---	---
VAPOR RECOVERY TOWERS	VRT1-VRT2	VRT1-VRT2	---	---	---	---	2971.77	13016.34	---	---	---	---	124.89	547.00
OIL STORAGE TANK	TK1	TK1	---	---	---	---	69.84	305.92	---	---	---	---	2.94	12.89
OIL STORAGE TANK	TK2	TK2	---	---	---	---	69.84	305.92	---	---	---	---	2.94	12.89
OIL STORAGE TANK	TK3	TK3	---	---	---	---	69.84	305.92	---	---	---	---	2.94	12.89
OIL STORAGE TANK	TK4	TK4	---	---	---	---	69.84	305.92	---	---	---	---	2.94	12.89
OIL STORAGE TANK	TK5	TK5	---	---	---	---	69.84	305.92	---	---	---	---	2.94	12.89
OIL STORAGE TANK	TK6	TK6	---	---	---	---	69.84	305.92	---	---	---	---	2.94	12.89
SKIM TANK	SKTK1	SKTK1	---	---	---	---	18.48	80.92	---	---	---	---	1.83	8.03
SKIM TANK	SKTK2	SKTK2	---	---	---	---	18.48	80.92	---	---	---	---	1.83	8.03
PRODUCED WATER TANK	PWTK1	LPF1	---	---	---	---	0.13	0.55	---	---	---	---	0.01	0.05
PRODUCED WATER TANK	PWTK2	LPF1	---	---	---	---	0.13	0.55	---	---	---	---	0.01	0.05
PRODUCED WATER TANK	PWTK3	LPF1	---	---	---	---	0.13	0.55	---	---	---	---	0.01	0.05
PRODUCED WATER TANK	PWTK4	LPF1	---	---	---	---	0.13	0.55	---	---	---	---	0.01	0.05
PRODUCED WATER TANK	PWTK5	LPF1	---	---	---	---	0.13	0.55	---	---	---	---	0.01	0.05
PRODUCED WATER TANK	PWTK6	LPF1	---	---	---	---	0.13	0.55	---	---	---	---	0.01	0.05
HIGH PRESSURE FLARE	HPF	HPF	0.08	0.34	0.15	0.67	0.16	0.69	0.00	0.00	0.00	0.01	0.00	0.02
LOW PRESSURE FLARE	LPF1	LPF1	0.04	0.17	0.08	0.33	0.08	0.34	0.00	0.00	0.00	0.01	0.00	0.01

TOTAL FACILITY WIDE EMISSIONS	NOx		CO		VOC (INCLUDES HAPs)		SO_2		$PM_{10 \& 2.5}$		HAPs	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
	1.83	**8.00**	**2.35**	**10.30**	**3492.59**	**15252.98**	**0.04**	**0.16**	**0.31**	**1.19**	**149.19**	**651.53**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
COMPRESSOR ENGINES

Controlled Emissions Calculations - Compressor Engines

					Manufacturer's Data g/hp-hr				AP-42 Factors lb/MMBtu			lb/hr								tpy							
Source ID	Unit Description	Yearly Operating Hours	Rated HP	MMbtu/hp-hr[1] (HHV)	NO_x[2]	CO[2]	VOC[2]	HCHO	SO_2[3]	$PM_{10\ \&\ 2.5}$[4]	Aceta-ldehyde	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	Aceta-ldehyde	HAPs	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	Aceta-ldehyde	HAPs
ENG1	11.1 L PSI GENERATOR ENGINE	8760	268	0.01050	1.00	2.00	0.90	0.200	0.01030	0.01006	0.00279	0.59	1.18	0.53	0.12	0.03	0.03	0.01	0.13	2.59	5.18	2.33	0.52	0.13	0.12	0.03	0.55

[2]Emission factors are based on NSPS Subpart JJJJ limitations for the engine size

[3]SO_2 Emissions were calculated based on 5 gr S/100 scf

[4]PM Emission Factor = Sum of all PM factors in AP-42.

Total Emissions Per Pollutant (TPY)	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	Aceta-ldehyde	HAPs
	2.59	**5.18**	**2.33**	**0.52**	**0.13**	**0.12**	**0.03**	**0.55**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
COMPRESSOR ENGINES

Uncontrolled Emissions Calculations - Compressor Engines

					Manufacturer's Data g/hp-hr				AP-42 Factors lb/MMBtu			lb/hr								tpy							
Source ID	Unit Description	Yearly Operating Hours	Rated HP	MMbtu/hp-hr	NOx	CO	VOC[1]	HCHO	SO_2[2]	$PM_{10\ \&\ 2.5}$[3]	Aceta-ldehyde	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	Aceta-ldehyde	HAPs	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	Aceta-ldehyde	HAPs
ENG1	11.1 L PSI GENERATOR ENGINE	8760	268	0.01050	1.00	2.00	0.90	0.20	0.01030	0.01006	0.00279	0.59	1.18	0.53	0.12	0.03	0.03	0.01	0.13	2.59	5.18	2.33	0.52	0.13	0.12	0.03	0.55

[1]Emission Factor Includes HCHO

[2]SO_2 Emissions were calculated based on 5 gr S/100 scf

[3]PM Emission Factor = Sum of all PM factors in AP-42.

Total Emissions Per Pollutant (TPY)	NOx	CO	VOC	HCHO	SO_2	$PM_{10\ \&\ 2.5}$	Aceta-ldehyde	HAPs
	2.59	**5.18**	**2.33**	**0.52**	**0.13**	**0.12**	**0.03**	**0.55**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
COMPRESSOR ENGINES

Greenhouse Gas Calculations - Compressor Engines

					40 CFR 98 Factors[2] lb/MMBtu			lb/hr					tpy					
Source ID	Unit Description	Yearly Operating 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	11.1 L PSI GENERATOR ENGINE	8760	268	0.010496012	107	0.002205	0.0002205	301.5680	0.0062	0.16	0.0006	0.18	1320.87	0.03	0.68	0.00	0.81	1322.36

Total Emissions (TPY)	Total CO2e
	1322.36

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

BURNER CALCULATIONS

CRITERIA & REGULATED POLLUTANTS

				AP-42 Factors[1] lb/MMSCF					lb/hr					tpy				
Source ID	Fuel Gas (BTU/SCF)	Operating Hours	Burner Rating (MMBTU/Hr)[2]	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	1387.0	8760	4.00	136	114	7.5	0.82	10.3	0.56	0.47	0.03	0.00	0.04	2.45	2.06	0.13	0.01	0.19
HTR2	1387.0	8760	4.00	136	114	7.5	0.82	10.3	0.56	0.47	0.03	0.00	0.04	2.45	2.06	0.13	0.01	0.19

[1]**Factors are adjusted for Site Fuel Heating Value: Example Calculation - Nox Factor = 100 * 1348.4 / 1020 = 132 lb/MMSCF. AP-42 Table 1.4-1, 1.4-2, & 1.4-3.**
70% burner efficiency.

Total (tpy)	NOx	CO	VOC	SO_2	$PM_{10\ \&\ 2.5}$
	4.91	**4.12**	**0.27**	**0.03**	**0.37**

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	Diclorobenz	Benzene	Toluene	N-Hexane	HCHO	Dicloro-benzene	Benzene	Toluene	N-Hexane	HCHO	Dicloro-benzene
HTR1	1387.0	8760	4.00	0.002856	0.004623	2.448	0.101989	0.001632	0.000008	0.000013	0.007059	0.000294	0.000005	0.000036	0.000058	0.030918	0.001288	0.000021
HTR2	1387.0	8760	4.00	0.002856	0.004623	2.448	0.101989	0.001632	0.000008	0.000013	0.007059	0.000294	0.000005	0.000036	0.000058	0.030918	0.001288	0.000021

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

****Burners - 70% Efficiency**

[1]**Factors are adjusted for Site Fuel Heating Value: Example Calculation - Nox Factor = 100 * 1348.4 / 1020 = 132 lb/MMSCF**

Total Individual HAPS (tpy)	Benzene	Toluene	Hexane	HCHO	Diclorobenz.
	0.000072	**0.000117**	**0.061835**	**0.002576**	**0.000041**

Total Combined HAPS (tpy)	**0.06464**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

BURNER CALCULATIONS - GHG EMISSIONS

CRITERIA & REGULATED POLLUTANTS

				40 CFR 98 Factors lb/MMBtu			lb/hr			Tons / Year		
Source ID	Fuel Gas (BTU/SCF)	Operating Hours	Burner Rating (MMBTU/Hr)	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
HTR1	1387.0	8760	4.00	117	0.00	0.00	467.989	0.009	0.001	2049.793	0.039	0.004
HTR2	1387.0	8760	4.00	117	0.00	0.00	467.989	0.009	0.001	2049.793	0.039	0.004
							Total Emissions (Tons/Year)			**4099.585**	**0.077**	**0.008**

***40 CFR 98 Emission Factors. Global warming potential of 25 for CH4 and 2**

Conversion to CO2e						
Source	CO_2	**CH4**	**CH4 → CO2e**	**N2O**	**N2O → CO2e**	**Total CO2e**
HTR1	2049.793	**0.039**	**0.966**	**0.004**	**1.151**	**2051.910**
HTR2	2049.793	**0.039**	**0.966**	**0.004**	**1.151**	**2051.910**
Total	4099.585	**0.039**	**0.966**	**0.004**	**1.151**	**4101.702**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

AUXH - EXHAUST STACK FLOW & FUEL CONSUMPTION RATES

Exhaust Stack and Fuel Consumption Data

Source Name	HTR2 and HTR3
Burner Rating (btu/hr)	4000000
Heating Value (btu/scf)	1387
3" eclipse air mixer: (Air/Gas Ratio)[1]	5/1
Stack Temperature (°F)	1000
Stack Diameter (ft)	1
Stack Height (ft)	20
Fuel Consumption (scf/hr)	2884
Fuel Consumption (scf/day)	69212
Fuel Consumption (mmscf/year)	25.262
Air Injection Rate (scf/hr)	28838.2
Total exhaust flow rate @ STP (scf/hr)	31722.1
Total exhaust flow rate @ STP (scf/sec)	8.8
Total exhaust flow rate @ 1000 °F (acf/hr)	89065.8
Total exhaust flow rate @ 1000 °F (acf/sec)	24.7
Exhaust Stack Exit Velocity @ STP (ft/sec)	11.219
Exhaust Stack Exit Velocity @ 1000 °F (ft/sec)	31.501

[1]Air/Gas Ratio is based on the Manufacturer's Data of XTO's typical burner installations

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
FUEL GAS ANALYSIS - PROMAX RESULTS

Conversion of Mole Percent to Weight Percent

Component	Mole %	Weight %
Carbon Dioxide	0.1764	0.3293
Nitrogen	0.9094	1.0808
Methane	69.2643	47.1415
Ethane	14.8437	18.9358
Propane	8.2352	15.4060
Isobutane	1.1059	2.7269
n-Butane	2.7098	6.6819
Isopentane	0.6031	1.8459
n-Pentane	0.6456	1.9760
n-Hexane	0.1357	0.4962
Cyclohexane	0.0232	0.0829
i-C6	0.2154	0.7874
i-C7	0.2693	1.1448
Methylcyclohexane	0.0075	0.0311
Octane	0.0671	0.3253
Nonane	0.0103	0.0562
Benzene	0.0680	0.2252
Toluene	0.0363	0.1420
Ethylbenzene	0.0017	0.0078
o-Xylene	0.0077	0.0349
H2S	0.0009	0.0013
Water	0.6554	0.5009
2,2,4 Trimethylpentane	0.0082	0.0396
Decanes Plus	0.0000	0.0001
Total	100.00	100.0000

MOLECULAR WEIGHT	23.57
SATURATED BTU	1387.0
NMHC	50.95
VOCs (NMNEHC)	32.01
HAPs	0.95
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

COMBINED HP & LP FLARING - TOTAL EMISSIONS SUMMARY

Flare Emissions Summary Table

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
High Pressure Flaring	491.84	54.00	981.90	107.80	1016.95	115.21	3.93	0.44	19.30	2.05	30.27	3.50
Low Pressure Flaring	13.09	19.80	26.14	39.52	69.29	97.58	0.15	0.28	0.29	0.46	3.04	4.42
Total Emissions	**504.93**	**73.79**	**1008.04**	**147.32**	**1086.24**	**212.80**	**4.08**	**0.71**	**19.59**	**2.50**	**33.31**	**7.92**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

HP FLARING - TOTAL EMISSIONS SUMMARY

Flare Emissions Summary Table

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
Pilot Fuel & Purge Gas	0.08	0.34	0.15	0.67	0.16	0.69	0.00	0.00	0.00	0.01	0.00	0.02
Booster Compressor MSS	6.09	2.67	12.16	5.32	23.32	10.21	0.07	0.03	0.02	0.01	0.92	0.40
Sales Gas Flaring	485.67	51.00	969.59	101.81	993.48	104.31	3.87	0.41	19.28	2.02	29.35	3.08
Total Emissions	**491.84**	**54.00**	**981.90**	**107.80**	**1016.95**	**115.21**	**3.93**	**0.44**	**19.30**	**2.05**	**30.27**	**3.50**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
HP FLARE - PILOT & PURGE GAS

Flare Pilot & Purge Gas Emissions

Pilot Fuel + Purge Gas	9600	SCF/Day
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
BTU	1387.05	Btu/scf

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	3.668	3.668	0.15	0.67
NOx	1.838	1.838	0.08	0.34
VOCs	3.759	3.759	0.16	0.69
SO_2	0.015	0.015	0.00	0.00
H_2S	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.073	0.073	0.00	0.01

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
TREATER GAS ANALYSIS - PROMAX RESULTS

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.1935	0.2593
Nitrogen	0.2236	0.1908
Methane	41.2118	20.1368
Ethane	23.1411	21.1935
Propane	17.9809	24.1493
Isobutane	2.7647	4.8942
n-Butane	7.0651	12.5072
Isopentane	1.7129	3.7641
n-Pentane	1.8944	4.1629
n-Hexane	0.4442	1.1660
Cyclohexane	0.0764	0.1959
i-C6	0.6761	1.7745
i-C7	0.9233	2.8177
Methylcyclohexane	0.0263	0.0786
Octane	0.2612	0.9089
Nonane	0.0442	0.1725
Benzene	0.2203	0.5242
Toluene	0.1298	0.3644
Ethylbenzene	0.0067	0.0217
o-Xylene	0.0306	0.0988
H2S	0.0017	0.0018
Water	0.9427	0.5173
2,2,4 Trimethylpentane	0.0284	0.0989
Decanes Plus	0.0001	0.0007
Total	100.00	100.0000

MOLECULAR WEIGHT	32.83
SATURATED BTU	1889.06
NMHC	78.89
VOCs (NMNEHC)	57.70
HAPs	2.27
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

HEATER TREATER GAS - FLARING VOC EMISSIONS

Heater Treater VOC Emissions[1]

Emissions Component	Uncontrolled Heater Treater Stream		Controlled Heater Treater Stream (Booster Downtime - 100% Flared)[2]	
	lb/hr	TPY	lb/hr	TPY
Carbon Dioxide	5.240	22.951	0.105	0.046
Nitrogen	3.856	16.887	0.077	0.034
Methane	406.910	1782.266	8.138	3.565
Ethane	428.262	1875.790	8.565	3.752
Propane	487.992	2137.407	9.760	4.275
Isobutane	98.899	433.178	1.978	0.866
n-Butane	252.737	1106.988	5.055	2.214
Isopentane	76.061	333.149	1.521	0.666
n-Pentane	84.122	368.452	1.682	0.737
n-Hexane	23.561	103.199	0.471	0.206
Cyclohexane	3.959	17.340	0.079	0.035
i-C6	35.858	157.060	0.717	0.314
i-C7	56.939	249.391	1.139	0.499
Methylcyclohexane	1.587	6.953	0.032	0.014
Octane	18.366	80.442	0.367	0.161
Nonane	3.486	15.271	0.070	0.031
Benzene	10.593	46.396	0.212	0.093
Toluene	7.363	32.249	0.147	0.064
Ethylbenzene	0.439	1.925	0.009	0.004
o-Xylene	1.996	8.743	0.040	0.017
H2S	0.036	0.156	0.001	0.000
Water	10.452	45.781	0.209	0.092
2,2,4 Trimethylpentane	1.998	8.752	0.040	0.018
Decanes Plus	0.015	0.066	0.000	0.000

Emissions Component	Uncontrolled Heater Treater Stream		Controlled Heater Treater Stream (Booster Downtime - 100% Flared)[2]	
	lb/hr	TPY	lb/hr	TPY
STREAM TOTAL	2020.73	8850.79	40.41	17.70
VOC TOTAL	1165.97	5106.96	23.32	10.21
HAP TOTAL	45.95	201.26	0.92	0.40

[1]Uncontrolled emissions and gas volume are based on Promax Results. Treater vapors are collected for sales by booster compressor. 100% of vapors are flared during booster downtime.

[2]Controlled Emissions were calculated by the following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)

Flare Reduction = **98%** Booster Collection Efficiency = **100%**

[3]Annual controlled rate (tpy) calculated by multiplying hourly emission rate by booster downtime.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
HP FLARE COMBUSTION EMISSIONS - HEATER TREATER GAS

Heater Treater Gas Routed to HP Flare During Booster Downtime - Combustion Emissions

Total Treater Gas Flared	560545	SCF/Day
Duration	876	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heating Volume	1889.06	Btu/scf

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	291.729	291.729	12.16	5.32
NOx	146.129	146.129	6.09	2.67
SO_2	1.579	1.579	0.07	0.03
H_2S	0.017	0.017	0.00	0.00
$PM_{10 \& 2.5}$	0.426	0.426	0.02	0.01

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
INLET GAS ANALYSIS - PROMAX RESULTS

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.1764	0.3293
Nitrogen	0.9094	1.0808
Methane	69.2643	47.1415
Ethane	14.8437	18.9358
Propane	8.2352	15.4060
Isobutane	1.1059	2.7269
n-Butane	2.7098	6.6819
Isopentane	0.6031	1.8459
n-Pentane	0.6456	1.9760
n-Hexane	0.1357	0.4962
Cyclohexane	0.0232	0.0829
i-C6	0.2154	0.7874
i-C7	0.2693	1.1448
Methylcyclohexane	0.0075	0.0311
Octane	0.0671	0.3253
Nonane	0.0103	0.0562
Benzene	0.0680	0.2252
Toluene	0.0363	0.1420
Ethylbenzene	0.0017	0.0078
o-Xylene	0.0077	0.0349
H2S	0.0009	0.0013
Water	0.6554	0.5009
2,2,4 Trimethylpentane	0.0082	0.0396
Decanes Plus	0.0000	0.0001
Total	100.00	100.0000

MOLECULAR WEIGHT	23.57
SATURATED BTU	1387.05
NMHC	50.95
VOCs (NMNEHC)	32.01
HAPs	0.95
H2S Mole Percentage	0.00

[1]**Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
HP FLARE COMBUSTION EMISSIONS

HP Gas Routed to HP Flare - Sales Gas Downtime - Combustion Emissions

Total Gas Flared	60,895,633	SCF/Day
Total Gas Flared	532,836,791	SCF/Year
Duration	210	Hours/Year[2]
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heat Content	1387.05	Btu/scf

Component	Estimated Quantity Emitted from the Flare (lb/day)	Total Estimated Quantity Emitted (lb/day)	Hourly Emission Rate (lb/hr)[1]	Annualized Emission Rate (TPY)
CO	23270.135	23270.135	969.59	101.81
NOx	11656.184	11656.184	485.67	51.00
VOCs	23843.411	23843.411	993.48	104.31
SO_2	92.826	92.826	3.87	0.41
H_2S	0.986	0.986	0.04	0.00
$PM_{10 \& 2.5}$	462.807	462.807	19.28	2.02

1) VOC calculation: Gas flow (scfd) * 14.7 / 10.73 / 528 * Molecular Weight * VOC Weight % / 24
2) The number of hours is not meant to be enforceable. It is used to calculate an enforceable annual limit.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
HIGH PRESSURE FLARING EMISSIONS - GHG

Pilot Consumption Rate (scf/year)	Inlet Gas Flare Rate (scf/year)	Treater Gas Flare Rate (scf/year)
3504000	532,836,791	20,459,904

Pilot & Purge Gas		Inlet Gas Combusted		Treater Gas Combusted	
Ea,CH4 = Va * XCH4 * [(1- η)* ZL + ZU					
Va =	3504000	**Va =**	532836790.8	**Va =**	20459904
XCH_4 =	0.6926	**XCH_4 =**	0.6926	**XCH_4 =**	0.4121
N =	0.98	**N =**	0.98	**N =**	0.98
Z_L =	1	**Z_L =**	1	**Z_L =**	1
Z_U =	0	**Z_U =**	0	**Z_U =**	0
Ea,CH_4 =	48540	**Ea,CH_4 =**	7381314	**Ea,CH_4 =**	168638
Ea,CO2 (uncombusted) = Va * XCO2					
Va =	3504000	**Va =**	532836790.8	**Va =**	20459904
X_{CO2} =	0.0018	**X_{CO2} =**	0.0018	**X_{CO2} =**	0.0019
Ea,CO2 (uncombusted)	6180	**Ea,CO2 (uncombusted)**	939749	**Ea,CO2 (uncombusted)**	39580
Ea,CO2 (combusted) = Σ (η * Va * Yj * Rj * ZL)					
Ea,CO2 (combusted) =	5130810	**Ea,CO2 (combusted) =**	780218072	**Ea,CO2 (combusted) =**	42734201
Es,n = Ea,n * (459.67 + Ts) * Pa / (459.67 + Ta) * Ps					
$E_{a,n}$(CH4) =	43696	**$E_{a,n}$(CH4) =**	6644711	**$E_{a,n}$(CH4) =**	151809
$E_{a,n}$(CO2) =	4624354	**$E_{a,n}$(CO2) =**	703203703	**$E_{a,n}$(CO2) =**	38505255
Masss,i = Es,i * ρi * 103					
$Mass_{CH4}$	0.839	**$Mass_{CH4}$**	127.578	**$Mass_{CH4}$**	2.915
$Mass_{C02}$	243.241	**$Mass_{C02}$**	36988.515	**$Mass_{C02}$**	2025.376
CO2e = CO2 + (CH4 X GWP)					
CO_2	243	**CO_2**	36989	**CO_2**	2025
CH_4	1	**CH_4**	128	**CH_4**	3
CO_2e	264	**CO_2e**	40178	**CO_2e**	2098

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

LP FLARING - TOTAL EMISSIONS SUMMARY

Flare Emissions Summary Table - Total Emissions

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
Pilot Fuel & Purge Gas	0.04	0.17	0.08	0.33	0.08	0.34	0.00	0.00	0.00	0.01	0.00	0.01
Vapor Recovery Tower (VRT)	0.22	0.76	0.43	1.52	1.19	4.17	0.00	0.01	0.00	0.02	0.05	0.18
Oil Storage Tanks	0.03	0.01	0.06	0.01	0.17	0.04	0.00	0.00	0.00	0.00	0.01	0.00
Truck Loading of Oil	0.17	0.75	0.35	1.50	1.01	4.41	0.00	0.00	0.00	0.01	0.04	0.18
Skim & Water Tanks	0.51	2.23	1.02	4.45	0.38	1.68	0.03	0.12	0.02	0.10	0.07	0.33

VRU Downtime Emissions - MSS

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
Vapor Recovery Tower (VRT)	10.84	9.49	21.64	18.96	59.44	52.07	0.11	0.10	0.23	0.20	2.56	2.25
Oil Storage Tanks	1.53	6.38	3.06	12.75	8.38	34.87	0.01	0.05	0.03	0.12	0.35	1.47

Low Pressure Flaring Summary

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
Normal Operations[1]	0.72	3.92	1.44	7.82	1.47	10.64	0.03	0.13	0.03	0.13	0.12	0.70
VRU Downtime - MSS	12.37	15.88	24.70	31.70	67.82	86.94	0.12	0.14	0.26	0.33	2.92	3.72
Combined Flaring Total[2]	**13.09**	**19.80**	**26.14**	**39.52**	**69.29**	**97.58**	**0.15**	**0.28**	**0.29**	**0.46**	**3.04**	**4.42**

[1]Hourly emissions during normal operations do not include emissions from the VRTor oil tanks during normal operation as they cannot occur at the same time as VRU downtime.

[2]Combined Flaring Hourly Rates denotes the peak hourly rate possible.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - PILOT & PURGE GAS

Flare Pilot & Purge Gas Emissions

Pilot Fuel + Purge Gas	4800	SCF/Day
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
BTU	1387.05	Btu/scf

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	1.834	1.834	0.08	0.33
NOx	0.919	0.919	0.04	0.17
VOCs	1.879	1.879	0.08	0.34
SO_2	0.007	0.007	0.00	0.00
H_2S	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.036	0.036	0.00	0.01

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
VRT VAPOR ANALYSIS - PROMAX RESULTS

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.1077	0.1034
Nitrogen	0.0227	0.0139
Methane	10.9558	3.8344
Ethane	22.3331	14.6505
Propane	30.7372	29.5695
Isobutane	5.7479	7.2884
n-Butane	15.2933	19.3922
Isopentane	3.8299	6.0284
n-Pentane	4.2156	6.6355
n-Hexane	0.9441	1.7749
Cyclohexane	0.1626	0.2986
i-C6	1.4731	2.7696
i-C7	1.9009	4.1554
Methylcyclohexane	0.0534	0.1145
Octane	0.4852	1.2091
Nonane	0.0761	0.2130
Benzene	0.4733	0.8066
Toluene	0.2601	0.5228
Ethylbenzene	0.0125	0.0290
o-Xylene	0.0563	0.1305
H2S	0.0022	0.0016
Water	0.7991	0.3141
2,2,4 Trimethylpentane	0.0576	0.1435
Decanes Plus	0.0001	0.0005
Total	100.00	100.0000

MOLECULAR WEIGHT	45.84
SATURATED BTU	2588.42
NMHC	95.73
VOCs (NMNEHC)	81.08
HAPs	3.41
H2S Mole Percentage	0.00

[1]**Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

VAPOR RECOVERY TOWER EMISSIONS (VRT2-VRT3)

VRT VOC Emissions Routed to VRU/Flare Vent System[1]

Emissions Component	Uncontrolled VRT Stream		Controlled VRT Stream (Normal Operations)		Controlled VRT Stream (VRU Downtime - 100% Flared)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Carbon Dioxide	3.788	16.593	0.002	0.005	0.076	0.066
Nitrogen	0.509	2.231	0.000	0.001	0.010	0.009
Methane	140.536	615.548	0.056	0.197	2.811	2.462
Ethane	536.960	2351.887	0.215	0.753	10.739	9.408
Propane	1083.762	4746.877	0.434	1.519	21.675	18.988
Isobutane	267.131	1170.035	0.107	0.374	5.343	4.680
n-Butane	710.750	3113.084	0.284	0.996	14.215	12.452
Isopentane	220.949	967.755	0.088	0.310	4.419	3.871
n-Pentane	243.199	1065.212	0.097	0.341	4.864	4.261
n-Hexane	65.053	284.933	0.026	0.091	1.301	1.140
Cyclohexane	10.944	47.937	0.004	0.015	0.219	0.192
i-C6	101.508	444.605	0.041	0.142	2.030	1.778
i-C7	152.302	667.084	0.061	0.213	3.046	2.668
Methylcyclohexane	4.195	18.376	0.002	0.006	0.084	0.074
Octane	44.316	194.104	0.018	0.062	0.886	0.776
Nonane	7.807	34.194	0.003	0.011	0.156	0.137
Benzene	29.564	129.492	0.012	0.041	0.591	0.518
Toluene	19.162	83.929	0.008	0.027	0.383	0.336
Ethylbenzene	1.063	4.655	0.000	0.001	0.021	0.019
o-Xylene	4.782	20.943	0.002	0.007	0.096	0.084
H2S	0.059	0.260	0.000	0.000	0.001	0.001
Water	11.511	50.419	0.005	0.016	0.230	0.202
2,2,4 Trimethylpentane	5.261	23.044	0.002	0.007	0.105	0.092
Decanes Plus	0.019	0.083	0.000	0.000	0.000	0.000

Emissions Component	Uncontrolled VRT Stream		Controlled VRT Stream (Normal Operations - 2% Flared)		Controlled VRT Stream (VRU Downtime - 100% Flared)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
STREAM TOTAL	3665.13	16053.28	1.47	5.14	73.30	64.21
VOC TOTAL	2971.77	13016.34	1.19	4.17	59.44	52.07
HAP TOTAL	124.89	547.00	0.05	0.18	2.50	2.19

[1]Uncontrolled emissions and gas volume are based on Promax Results. VRT vapors are collected for sales by a VRU with any remaining vapors routed to the flare in the closed vent system. 100% of vapors are flared during VRU downtime.

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

Flare Destruction Efficiency **98%** VRU Collection Efficiency **98%**

[3]Annual controlled rate (tpy) calculated by multiplying hourly emission rate by VRU downtime.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - VAPOR RECOVERY TOWERS - NORMAL OPERATIONS

VRT Emissions Routed to VRU/Flare Vent System (VRT2-VRT3)

VRT Daily Gas Volume	728246	SCF/Day
VRU Collection Efficiency	98	Percentage
Uncaptured Vapors	14565	SCF/Day
Duration	7008	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heat Content	2588.42	Btu/scf

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	10.386	10.386	0.43	1.52
NOx	5.203	5.203	0.22	0.76
SO_2	0.053	0.053	0.00	0.01
H_2S	0.001	0.001	0.00	0.00
$PM_{10 \& 2.5}$	0.111	0.111	0.00	0.02

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - VAPOR RECOVERY TOWERS - VRU DOWNTIME

VRT Emissions Flared During VRU Downtime (VRT2-VRT3)

VRT Daily Gas Volume	728246	SCF/Day
VRU Collection Efficiency	0	Percentage
Uncaptured Vapors	728246	SCF/Day
Duration	1752	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heating Volume	2588.42	Btu/scf

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	519.320	519.320	21.64	18.96
NOx	260.131	260.131	10.84	9.49
SO_2	2.642	2.642	0.11	0.10
H_2S	0.028	0.028	0.00	0.00
$PM_{10 \& 2.5}$	5.535	5.535	0.23	0.20

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

OIL STORAGE TANK EMISSIONS SUMMARY

TOTAL EMISSIONS SUMMARY

FIN	Unit Description	Tank Controlled (Yes/No)	Control Type	Material Throughput (bbls/day)	Material Type (Oil/Produced Water)	Total VOC Emissions	
						lb/hour	TPY
TK1	**Oil Storage Tank**	Yes	Flare	4250.0	OIL	1.42	5.82
TK2	**Oil Storage Tank**	Yes	Flare	4250.0	OIL	1.42	5.82
TK3	**Oil Storage Tank**	Yes	Flare	4250.0	OIL	1.42	5.82
TK4	**Oil Storage Tank**	Yes	Flare	4250.0	OIL	1.42	5.82
TK5	**Oil Storage Tank**	Yes	Flare	4250.0	OIL	1.42	5.82
TK6	**Oil Storage Tank**	Yes	Flare	4250.0	OIL	1.42	5.82
Oil Tank Emissions						8.55	34.91

*** Emissions are represented at LPF.**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
OIL TANK VAPOR ANALYSIS - PROMAX RESULTS

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.0470	0.0409
Nitrogen	0.0004	0.0002
Methane	0.6581	0.2091
Ethane	20.8120	12.3947
Propane	35.4572	30.9672
Isobutane	7.0404	8.1048
n-Butane	19.5465	22.5016
Isopentane	5.0435	7.2072
n-Pentane	5.5602	7.9454
n-Hexane	1.2925	2.2060
Cyclohexane	0.1670	0.2784
i-C6	1.9490	3.3266
i-C7	0.7449	1.4784
Methylcyclohexane	0.0549	0.1069
Octane	0.6288	1.4226
Nonane	0.0973	0.2473
Benzene	0.4721	0.7305
Toluene	0.2786	0.5085
Ethylbenzene	0.0147	0.0308
o-Xylene	0.0553	0.1164
H2S	0.0018	0.0012
Water	0.0005	0.0002
2,2,4 Trimethylpentane	0.0774	0.1750
Decanes Plus	0.0001	0.0004
Total	100.00	100.0000

MOLECULAR WEIGHT	50.49
SATURATED BTU	2848.03
NMHC	99.75
VOCs (NMNEHC)	87.35
HAPs	3.77
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

OIL STORAGE TANK - EMISSIONS SUMMARY

Oil Storage Tank VOC Emissions Routed to Flare & VRU

Emission Component	Uncontrolled Oil Tank W&B Stream		Uncontrolled Oil Tank Flash Stream		Oil Tank Stream Controlled By Flare - VRU Downtime		Oil Tank Stream Controlled By VRU & Flare - Normal Operations	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Carbon Dioxide	0.043	0.186	0.333	1.457	0.008	0.031	0.000	0.000
Nitrogen	0.000	0.001	0.043	0.190	0.001	0.004	0.000	0.000
Methane	0.217	0.951	9.152	40.085	0.187	0.780	0.004	0.001
Ethane	12.870	56.371	53.945	236.280	1.336	5.560	0.027	0.006
Propane	32.155	140.840	118.800	520.345	3.019	12.562	0.060	0.013
Isobutane	8.416	36.861	29.650	129.867	0.761	3.168	0.015	0.003
n-Butane	23.365	102.338	79.303	347.347	2.053	8.544	0.041	0.009
Isopentane	7.484	32.778	24.638	107.914	0.642	2.673	0.013	0.003
n-Pentane	8.250	36.136	27.167	118.994	0.708	2.947	0.014	0.003
n-Hexane	2.291	10.033	7.135	31.250	0.189	0.784	0.004	0.001
Cyclohexane	0.289	1.266	0.983	4.307	0.025	0.106	0.001	0.000
i-C6	3.454	15.129	11.124	48.723	0.292	1.213	0.006	0.001
i-C7	1.535	6.724	16.927	74.142	0.369	1.536	0.007	0.002
Methylcyclohexane	0.111	0.486	0.373	1.633	0.010	0.040	0.000	0.000
Octane	1.477	6.470	4.810	21.067	0.126	0.523	0.003	0.001
Nonane	0.257	1.125	0.831	3.641	0.022	0.091	0.000	0.000
Benzene	0.758	3.322	3.283	14.380	0.081	0.336	0.002	0.000
Toluene	0.528	2.313	2.108	9.231	0.053	0.219	0.001	0.000
Ethylbenzene	0.032	0.140	0.115	0.505	0.003	0.012	0.000	0.000
o-Xylene	0.121	0.529	0.517	2.266	0.013	0.053	0.000	0.000
H2S	0.001	0.005	0.005	0.022	0.000	0.001	0.000	0.000
Water	0.000	0.001	0.896	3.925	0.018	0.075	0.000	0.000
2,2,4 Trimethylpentane	0.182	0.796	0.592	2.591	0.015	0.064	0.000	0.000
Decanes Plus	0.000	0.002	0.002	0.008	0.000	0.000	0.000	0.000

Emission Component	Uncontrolled Oil Tank W&B Stream		Uncontrolled Oil Tank Flash Stream		Oil Tank Stream Controlled By Flare - VRU Downtime		Oil Tank Stream Controlled By VRU & Flare - Normal Operations	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
STREAM TOTAL	103.84	454.80	392.73	1720.17	9.93	41.32	0.20	0.04
VOC TOTAL	90.70	397.29	328.36	1438.21	8.38	34.87	0.17	0.04
HAP TOTAL	3.91	17.13	13.75	60.22	0.35	1.47	0.01	0.00

[1]Uncontrolled emissions and gas volume are based on Promax Results. Tank vapors are controlled using a flare.

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

Flare Destruction Efficiency **98%** VRU Efficiency 98% VRU Downtime 8322 hr

[3]Annual controlled rate (tpy) calculated by multiplying hourly emission rate by 8760 hours for normal operation.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - OIL STORAGE TANKS

Flared Oil Storage Tank Emissions - VRU Normal Operations

Daily Gas Volume	93697	SCF/Day
VRU Collection Efficiency	98%	Percentage
Uncaptured Vapors	1874	SCF/Day
Duration	438	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heating Volume	2848.03	Btu/scf

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	1.470	1.470	0.06	0.01
NOx	0.737	0.737	0.03	0.01
SO_2	0.005	0.005	0.00	0.00
H_2S	0.000	0.000	0.00	0.00
$PM_{10 \& 2.5}$	0.014	0.014	0.00	0.00

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - OIL STORAGE TANKS

Flared Oil Storage Tank Emissions - VRU Downtime

Daily Gas Volume	93697	SCF/Day
VRU Collection Efficiency	0	Percentage
Uncaptured Vapors	93697	SCF/Day
Duration	8322	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heating Volume	2848.03	Btu/scf

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	73.518	73.518	3.06	12.75
NOx	36.826	36.826	1.53	6.38
SO_2	0.274	0.274	0.01	0.05
H_2S	0.003	0.003	0.00	0.00
$PM_{10 \& 2.5}$	0.712	0.712	0.03	0.12

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

PRODUCED WATER STORAGE TANK EMISSIONS SUMMARY

TOTAL EMISSIONS SUMMARY

FIN	Unit Description	Tank Controlled (Yes/No)	Control Type	Material Throughput (bbls/day)	Material Type (Oil/Produced Water)	Total VOC Emissions	
						lb/hour	TPY
PWTK1	**Produced Water Tank**	Yes	Flare	10000	PRODUCED WATER	0.00	0.01
PWTK2	**Produced Water Tank**	Yes	Flare	10000	PRODUCED WATER	0.00	0.01
PWTK3	**Produced Water Tank**	Yes	Flare	10000	PRODUCED WATER	0.00	0.01
PWTK4	**Produced Water Tank**	Yes	Flare	10000	PRODUCED WATER	0.00	0.01
PWTK5	**Produced Water Tank**	Yes	Flare	10000	PRODUCED WATER	0.00	0.01
PWTK6	**Produced Water Tank**	Yes	Flare	10000	PRODUCED WATER	0.00	0.01
Water Tank Emissions						0.02	0.07

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

PRODUCED WATER TANK VAPOR ANALYSIS - PROMAX RESULTS

Conversion of Mole Percent to Weight Percent

Component	Mole %	Weight %
Carbon Dioxide	0.2881	0.7001
Nitrogen	0.0100	0.0154
Methane	0.9341	0.8277
Ethane	0.2286	0.3796
Propane	0.0161	0.0393
Isobutane	0.0003	0.0008
n-Butane	0.0012	0.0040
Isopentane	0.0000	0.0002
n-Pentane	0.0000	0.0000
n-Hexane	0.0000	0.0000
Cyclohexane	0.0000	0.0000
i-C6	0.0000	0.0000
i-C7	0.0000	0.0000
Methylcyclohexane	0.0000	0.0000
Octane	0.0000	0.0000
Nonane	0.0000	0.0000
Benzene	0.0009	0.0040
Toluene	0.0002	0.0010
Ethylbenzene	0.0000	0.0000
o-Xylene	0.0000	0.0001
H2S	0.0025	0.0046
Water	98.5180	98.0231
2,2,4 Trimethylpentane	0.0000	0.0000
Decanes Plus	0.0000	0.0000
Total	100.00	100.0000

MOLECULAR WEIGHT	18.11
SATURATED BTU	64
NMHC	0.43
VOCs (NMNEHC)	0.05
HAPs	0.01
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

PRODUCED WATER TANKS - EMISSIONS SUMMARY

Produced Water Tank VOC Emissions - Uncontrolled

Emission Component	Uncontrolled PW W&B Stream		Uncontrolled PW Flash Stream		PW Tank Stream Controlled By Flare	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Carbon Dioxide	0.048	0.210	0.058	0.256	0.002	0.009
Nitrogen	0.001	0.005	0.018	0.078	0.000	0.002
Methane	0.057	0.248	1.452	6.362	0.030	0.132
Ethane	0.026	0.114	0.738	3.234	0.015	0.067
Propane	0.003	0.012	0.413	1.810	0.008	0.036
Isobutane	0.000	0.000	0.047	0.207	0.001	0.004
n-Butane	0.000	0.001	0.156	0.683	0.003	0.014
Isopentane	0.000	0.000	0.029	0.126	0.001	0.003
n-Pentane	0.000	0.000	0.014	0.062	0.000	0.001
n-Hexane	0.000	0.000	0.002	0.010	0.000	0.000
Cyclohexane	0.000	0.000	0.005	0.021	0.000	0.000
i-C6	0.000	0.000	0.007	0.031	0.000	0.001
i-C7	0.000	0.000	0.006	0.027	0.000	0.001
Methylcyclohexane	0.000	0.000	0.001	0.004	0.000	0.000
Octane	0.000	0.000	0.000	0.002	0.000	0.000
Nonane	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	0.000	0.001	0.041	0.179	0.001	0.004
Toluene	0.000	0.000	0.024	0.107	0.000	0.002
Ethylbenzene	0.000	0.000	0.001	0.006	0.000	0.000
o-Xylene	0.000	0.000	0.006	0.025	0.000	0.001
H2S	0.000	0.001	0.000	0.001	0.000	0.000
Water	6.708	29.383	0.122	0.536	0.137	0.598
2,2,4 Trimethylpentane	0.000	0.000	0.000	0.001	0.000	0.000
Decanes Plus	0.000	0.000	0.000	0.000	0.000	0.000

Emission Component	Uncontrolled PW W&B Stream		Uncontrolled PW Flash Stream		PW Tank Stream Controlled by Flare	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
STREAM TOTAL	6.84	29.98	3.14	13.77	0.20	0.87
VOC TOTAL	0.00	0.01	0.75	3.30	0.02	0.07
HAP TOTAL	0.00	0.00	0.07	0.33	0.00	0.01

[1]Uncontrolled emissions and gas volume are based on Promax Results. Tank vapors are controlled using a flare.

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

Flare Destruction Efficiency **98%**

[3]Annual controlled rate (tpy) calculated by multiplying hourly emission rate by 8760 hours for normal operation .

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

SKIM TANK EMISSIONS SUMMARY

TOTAL EMISSIONS SUMMARY

FIN	Unit Description	Tank Controlled (Yes/No)	Control Type	Material Throughput (bbls/day)	Material Type (Oil/Produced Water)	Total VOC Emissions	
						lb/hour	TPY
SKTK1	**Skim Tank**	Yes	Flare	30000	PRODUCED WATER	0.37	1.62
SKTK2	**Skim Tank**	Yes	Flare	30000	PRODUCED WATER	0.37	1.62
SKIM Tank Emissions						0.37	1.62

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
SKIM TANK VAPOR ANALYSIS - PROMAX RESULTS

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.9595	1.8593
Nitrogen	0.4578	0.5647
Methane	65.4089	46.2030
Ethane	17.7409	23.4886
Propane	6.7689	13.1425
Isobutane	0.5888	1.5070
n-Butane	1.9394	4.9634
Isopentane	0.2890	0.9182
n-Pentane	0.1417	0.4501
n-Hexane	0.0192	0.0729
Cyclohexane	0.0417	0.1545
i-C6	0.0594	0.2253
i-C7	0.0451	0.1989
Methylcyclohexane	0.0068	0.0293
Octane	0.0028	0.0142
Nonane	0.0004	0.0021
Benzene	0.3780	1.3001
Toluene	0.1910	0.7750
Ethylbenzene	0.0086	0.0402
o-Xylene	0.0396	0.1852
H2S	0.0058	0.0087
Water	4.9055	3.8912
2,2,4 Trimethylpentane	0.0011	0.0054
Decanes Plus	0.0000	0.0002
Total	100.00	100.0000

MOLECULAR WEIGHT	22.71
SATURATED BTU	1280.96
NMHC	47.47
VOCs (NMNEHC)	23.98
HAPs	2.38
H2S Mole Percentage	0.01

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

SKIM TANKS - EMISSIONS SUMMARY

Skim Tank VOC Emissions Routed to Flare Vent System

Emission Component	Uncontrolled Skim Tank W&B Stream		Uncontrolled Skim Tank Flash Stream		Skim Tank Stream Controlled by Flare	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Carbon Dioxide	0.068	0.298	2.864	12.545	0.059	0.257
Nitrogen	0.000	0.001	0.870	3.810	0.017	0.076
Methane	0.051	0.223	71.172	311.732	1.424	6.239
Ethane	0.036	0.158	36.182	158.478	0.724	3.173
Propane	0.003	0.014	20.245	88.672	0.405	1.774
Isobutane	0.000	0.000	2.321	10.167	0.046	0.203
n-Butane	0.000	0.001	7.646	33.488	0.153	0.670
Isopentane	0.000	0.000	1.414	6.195	0.028	0.124
n-Pentane	0.000	0.000	0.693	3.037	0.014	0.061
n-Hexane	0.000	0.000	0.112	0.492	0.002	0.010
Cyclohexane	0.000	0.000	0.238	1.043	0.005	0.021
i-C6	0.000	0.000	0.347	1.520	0.007	0.030
i-C7	0.000	0.000	0.306	1.342	0.006	0.027
Methylcyclohexane	0.000	0.000	0.045	0.198	0.001	0.004
Octane	0.000	0.000	0.022	0.096	0.000	0.002
Nonane	0.000	0.000	0.003	0.014	0.000	0.000
Benzene	0.001	0.003	2.003	8.772	0.040	0.176
Toluene	0.000	0.000	1.194	5.229	0.024	0.105
Ethylbenzene	0.000	0.000	0.062	0.271	0.001	0.005
o-Xylene	0.000	0.000	0.285	1.249	0.006	0.025
H2S	0.000	0.001	0.013	0.059	0.000	0.001
Water	5.096	22.322	5.994	26.254	0.222	0.972
2,2,4 Trimethylpentane	0.000	0.000	0.008	0.036	0.000	0.001
Decanes Plus	0.000	0.000	0.000	0.002	0.000	0.000

Emission Component	Uncontrolled Skim Tank W&B Stream		Uncontrolled Skim Tank Flash Stream		Skim Tank Stream Controlled by Flare	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
STREAM TOTAL	5.26	23.02	154.04	674.70	3.19	13.95
VOC TOTAL	0.00	0.02	36.95	161.82	0.74	3.24
HAP TOTAL	0.00	0.00	3.66	16.05	0.07	0.32

[1]Uncontrolled emissions and gas volume are based on Promax Results. Tank vapors are controlled using a flare.

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

Flare Destruction Efficiency **98%**

[3]Annual controlled rate (tpy) calculated by multiplying hourly emission rate by 8760 hours for normal operation.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - SKIM AND WATER TANKS

Flared Skim and Water Tank Emissions

Skim Tank Daily Gas Volume	69108	SCF/Day (Skim and Water Tanks)
VRU Collection Efficiency	0	Percentage
Uncaptured Vapors	69108	SCF/Day
Duration	8760	Hours/Year
Flared	Yes	(Yes/No)
Vented	No	(Yes/No)
Heating Volume	1280.96	Btu/scf

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	24.389	24.389	1.02	4.45
NOx	12.216	12.216	0.51	2.23
SO_2	0.670	0.670	0.03	0.12
H_2S	0.007	0.007	0.00	0.00
$PM_{10 \& 2.5}$	0.525	0.525	0.02	0.10

Flare Emission Factors
NOx: 0.138
CO: 0.2755

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
OIL TRUCK LOADING EMISSIONS

Truck Loading Losses Calculations - VOCs

Oil Loading	**5000**	**bbls / Day**
Operating Schedule	**365**	**Day / Year**
Total Production	**1825000**	**bbls / Year**

LL= 12.46 * SPM/T * (1-EFF/100)

Saturation Factor (S) =	0.6
Average True Vapor Pressure of liquid loaded (P) =	9.71
Maximum True Vapor Pressure of liquid loaded (P) =	11.92
Average Temperature of bulk liquid loaded in Rankin (T)[1] =	554.0
Maximum Temperature of bulk liquid loaded in Rankin (T)[1] =	570.6
Molecular Weight (M)[1] =	50.49
Collection Efficiency (EFF)[2]=	98.70
Hourly LL (lb Total HC / bbl Throughput) =	0.0043
Hourly LL (lb VOC / bbl Throughput) =	**0.0038**
Annual LL (lb Total HC / bbl Throughput) =	0.0036
Annual LL (lb VOC / bbl Throughput) =	**0.0032**
Estimated Throughput (bbls/Year) =	1825000
Truck Loading Rate (bbls/hour) =	210
Estimated # of Loads (Approximately 1 hr/Load) =	8690

COMPONENT	lb/hr	TPY
VOCs	0.79	2.88
HAPs	0.03	0.12
Benzene	0.01	0.02

[1]Based on PROMAX Results

[2]Based on DOT Oil Trucks at a collection efficiency of 98.7%. Controlled emissions at 98% flare efficiency are shown on the LP Flare Truck Loading page. Emissions here include only those emitted as a result of incomplete collection.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
LP FLARE - CONTROLLED TRUCK LOADING EMISSIONS

LP Flare - Truck Loading of Oil

	Oil Loading (Captured Vapors)[1]			LP Flare	
Component	Mole %	Weight %	lb/hr	lb/hr	TPY
Carbon Dioxide	0.044	0.039	0.023	0.023	0.099
Nitrogen	0.000	0.000	0.000	0.000	0.000
Methane	0.465	0.149	0.086	0.002	0.008
Ethane	21.440	12.840	7.434	0.149	0.651
Propane	35.908	31.537	18.258	0.365	1.599
Isobutane	6.984	8.084	4.680	0.094	0.410
n-Butane	19.255	22.290	12.905	0.258	1.130
Isopentane	4.908	7.053	4.083	0.082	0.358
n-Pentane	5.395	7.753	4.489	0.090	0.393
n-Hexane	1.244	2.135	1.236	0.025	0.108
Cyclohexane	0.160	0.269	0.156	0.003	0.014
i-C6	1.879	3.226	1.868	0.037	0.164
i-C7	0.711	1.419	0.822	0.016	0.072
Methylcyclohexane	0.053	0.103	0.060	0.001	0.005
Octane	0.599	1.362	0.789	0.016	0.069
Nonane	0.092	0.236	0.136	0.003	0.012
Benzene	0.453	0.705	0.408	0.008	0.036
Toluene	0.266	0.489	0.283	0.006	0.025
Ethylbenzene	0.014	0.029	0.017	0.000	0.001
o-Xylene	0.053	0.111	0.064	0.001	0.006
H2S	0.002	0.001	0.001	0.000	0.000
Water	0.000	0.000	0.000	0.000	0.000
2,2,4 Trimethylpentane	0.074	0.169	0.098	0.002	0.009
Decanes Plus	0.000	0.000	0.000	0.000	0.000

Stream Total	57.89	1.18	5.17
VOC Total	50.35	1.01	4.41
HAP Total	2.11	0.04	0.18

Annual Hours (hrs)	8690	Molecular Weight	50.21
Heating Value of Vapor (Btu/scf)	2833	Volumetric Flow (scf/hr)	443.35
Vapor Balance Loading Capture	98.7%	Heat Released (MMBtu/hr)	1.256
Destruction Efficiency of Flare	98%		

Criteria Pollutant Emissions from Flare [2]				
Component	**Emission Rate (lb/hr)**	**Emission Rate (TPY)**	**Emission Factor**	**Emission Factor Units**
NO_X	0.17	0.75	0.138	lb/MMBtu
CO	0.35	1.50	0.2755	lb/MMBtu
SO_2	0.00	0.00	--	--
PM_{10}	0.00	0.01	7.60	lb/MMscf
$PM_{2.5}$	0.00	0.01	7.60	lb/MMscf
H_2S	0.00	0.00	--	--

[1] Oil Loading vapors properties determined from ProMax

[2] Flare CO and NOx emission factors from TCEQ Air Permit Techincal Guidance for Chemical Sources. PM and PM2.5 emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO2 emissions assume 100% conversion of H2S to SO2.

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

LOW PRESSURE FLARING EMISSIONS - GHG

LP FLARE - GHG EMISSIONS

Pilot Consumption Rate (scf/year)	Total LP Flare Gas Rate (scf/year)
1752000	119046808.6

Pilot & Purge Gas		Total Gas Combusted	
$Ea,CH_4 = Va * XCH_4 * [(1- \eta)* ZL + ZU$			
Va =	1752000	Va =	119046809
XCH_4 =	0.6926	XCH_4 =	0.1096
N =	0.98	N =	0.98
Z_L =	1	Z_L =	1
Z_U =	0	Z_U =	0
Ea,CH_4 =	24270	Ea,CH_4 =	260850
$E_{a,CO2}$ (uncombusted) = $V_a * X_{CO2}$			
Va =	1752000	Va =	119046809
X_{CO2} =	0.0018	X_{CO2} =	0.0016
Ea,CO2 (uncombusted)	3090	Ea,CO2 (uncombusted)	195549
Ea,CO2 (combusted) = Σ (η * Va * Yj * Rj * ZL)			
Ea,CO2 (combusted) =	2565405	Ea,CO2 (combusted) =	4970481
Es,n = Ea,n * (459.67 + Ts) * Pa / (459.67 + Ta) * Ps			
$E_{a,n}$(CH4) =	21848	$E_{a,n}$(CH4) =	234819
$E_{a,n}$(CO2) =	2312177	$E_{a,n}$(CO2) =	4650496
$Mass_{s,i} = E_{s,i} * \rho i * 10^3$			
$Mass_{CH4}$	0.419	$Mass_{CH4}$	4.509
$Mass_{C02}$	121.621	$Mass_{C02}$	244.616
$CO_2e = CO_2 + (CH_4 X GWP)$			
CO_2	122	CO_2	245
CH_4	0	CH_4	5
CO_2e	132	CO_2e	357

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
ROAD EMISSIONS

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	8690
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	1646
Control Efficiency - 25 MPH Limit	0.44
Emissions (lbs/hr)	0.19
Emissions (tpy)	0.67

$PM_{2.5}$ 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	8690
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	1646
Control Efficiency - 25 MPH Limit	0.44
Emissions (lbs/hr)	0.02
Emissions (tpy)	0.07

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.

CORRAL CANYON TANK BATTERY

FUGITIVE EMISSIONS - TOTAL EMISSION SUMMARY

EQUIPMENT LEAK EMISSION SUMMARY TABLE

Stream Source	Total VOCs		Total HAPs		n-Hexane		CH4	CO2	CO2e
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY	TPY	TPY
Inlet & Sales Section	0.85	3.74	0.05	0.21	0.01	0.04	4.42	6.06	116.44
Heater Treater Section	0.76	3.32	0.04	0.17	0.01	0.04	3.16	4.57	83.60
Storage Tank Section	0.85	3.73	0.05	0.20	0.01	0.05	4.53	6.15	119.47
Total Emissions	**2.46**	**10.79**	**0.13**	**0.59**	**0.03**	**0.13**	**12.11**	**16.77**	**319.51**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

FACILITY INLET GAS ANALYSIS - PROMAX

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.1779	0.3290
Nitrogen	0.9132	1.0753
Methane	69.6002	46.9342
Ethane	14.4918	18.3168
Propane	7.8044	14.4657
Isobutane	1.0612	2.5928
n-Butane	2.6253	6.4140
Isopentane	0.6310	1.9136
n-Pentane	0.6807	2.0643
n-Hexane	0.2037	0.7379
Cyclohexane	0.1878	0.6644
i-C6	0.3150	1.1410
i-C7	0.2802	1.1803
Methylcyclohexane	0.1182	0.4880
Octane	0.0825	0.3960
Nonane	0.0278	0.1500
Benzene	0.0924	0.3034
Toluene	0.0517	0.2001
Ethylbenzene	0.0020	0.0089
o-Xylene	0.0119	0.0532
H2S	0.0010	0.0014
Water	0.6311	0.4779
2,2,4 Trimethylpentane	0.0000	0.0000
Decanes Plus	0.0089	0.0916
Total	100.00	100.0000

MOLECULAR WEIGHT	23.79
SATURATED BTU	1398
NMHC	51.182
VOCs (NMNEHC)	32.87
HAPs	1.30
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
FACILITY INLET FLUID ANALYSIS - PROMAX

Fluid Composition

Component	Mole %	Weight %
Carbon Dioxide	0.0135	0.0041
Nitrogen	0.0262	0.0050
Methane	1.8491	0.2040
Ethane	2.5026	0.5174
Propane	4.3487	1.3185
Isobutane	1.3060	0.5219
n-Butane	4.5915	1.8349
Isopentane	2.5435	1.2618
n-Pentane	3.6721	1.8217
n-Hexane	2.5190	1.4926
Cyclohexane	0.0000	0.0000
i-C6	2.7051	1.6029
i-C7	10.9925	7.5734
Methylcyclohexane	0.0000	0.0000
Octane	12.6190	9.9111
Nonane	5.8823	5.1873
Benzene	1.4955	0.8032
Toluene	2.8516	1.8066
Ethylbenzene	0.4121	0.3009
o-Xylene	2.2869	1.6694
H2S	0.0000	0.0000
Water	0.0000	0.0000
2,2,4 Trimethylpentane	0.5060	0.3974
Decanes Plus	36.8766	61.7660
Total	100.00	100.0000

MOLECULAR WEIGHT	145.44
NMHC	99.79
VOCs (NMNEHC)	99.27
HAPs	6.47
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
INLET & SALES SECTION - FUGITIVE EMISSION VOCs

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total VOC Weight %	Emissions			Total CH4 Weight %	Total CO2 Weight %	CH4 Emissions	CO2 Emissions	CO2e Emissions
						lb/hour	lb/year	tons/year			ton/year	ton/year	ton/year
Valves	Gas/Vapor*	50	8760	0.00992000	32.87	0.16	1427.98	0.71	46.93	0.33	1.15	2.17	30.99
	Light Oil*	50	8760	0.00550000	99.27	0.27	2391.40	1.20	1.85	0.00	1.18	1.20	30.76
	Heavy Oil	0	8760	0.00001900	99.27	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Water/Light Oil*	50	8760	0.00021600	99.27	0.01	93.92	0.05	1.85	0.00	0.05	0.05	1.21
Pump Seals	Gas/Vapor	0	8760	0.00529000	32.87	0.00	0.00	0.00	46.93	14.47	0.00	0.00	0.00
	Light Oil	0	8760	0.02866000	99.27	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00113000	99.27	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.00
	Water/Light Oil	10	8760	0.00005300	99.27	0.00	4.61	0.00	1.85	1.32	0.00	0.00	0.06
Connectors	Gas/Vapor	200	8760	0.00044000	32.87	0.03	253.35	0.13	46.93	2.06	0.20	0.38	5.49
	Light Oil	200	8760	0.00046300	99.27	0.09	805.25	0.40	1.85	1.82	0.40	0.40	10.35
	Heavy Oil	0	8760	0.00001700	99.27	0.00	0.00	0.00	1.85	1.82	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00024300	99.27	0.01	105.66	0.05	1.85	1.82	0.05	0.05	1.36
Flanges	Gas/Vapor	200	8760	0.00086000	32.87	0.06	495.19	0.25	46.93	1.18	0.40	0.74	10.74
	Light Oil	200	8760	0.00024300	99.27	0.05	422.63	0.21	1.85	7.57	0.21	0.20	5.42
	Heavy Oil	0	8760	0.00000086	99.27	0.00	0.00	0.00	1.85	7.57	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00000620	99.27	0.00	2.70	0.00	1.85	7.57	0.00	0.00	0.03
Open-ended Lines	Gas/Vapor	10	8760	0.00441000	32.87	0.01	126.96	0.06	46.93	0.30	0.10	0.19	2.76
	Light Oil	0	8760	0.00309000	99.27	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	99.27	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	99.27	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
Other:	Gas/Vapor	0	8760	0.01940000	32.87	0.00	0.00	0.00	46.93	0.00	0.00	0.00	0.00
	Light Oil	0	8760	0.01650000	99.27	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	99.27	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.03090000	99.27	0.15	1343.53	0.67	1.85	0.00	0.66	0.68	17.28

Emission Component	lb/hr	lb/year	TPY
Total VOC	0.85	7473.17	3.74

CH4 Emissions	CO2 Emissions	CO2e Emissions
4.42	6.06	116.44

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
INLET & SALES SECTION - FUGITIVE EMISSION HAPs

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total HAPs Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor*	50	8760	0.00992000	1.30	0.01	56.64	0.03
	Light Oil*	50	8760	0.00550000	6.47	0.02	155.86	0.08
	Heavy Oil	0	8760	0.00001900	6.47	0.00	0.00	0.00
	Water/Light Oil*	50	8760	0.00021600	6.47	0.00	6.12	0.00
Pump Seals	Gas/Vapor	0	8760	0.00529000	1.30	0.00	0.00	0.00
	Light Oil	0	8760	0.02866000	6.47	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00113000	6.47	0.00	0.00	0.00
	Water/Light Oil	10	8760	0.00005200	6.47	0.00	0.29	0.00
Connectors	Gas/Vapor	200	8760	0.00044000	1.30	0.00	10.05	0.01
	Light Oil	200	8760	0.00046300	6.47	0.01	52.48	0.03
	Heavy Oil	0	8760	0.00001700	6.47	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00024300	6.47	0.00	6.89	0.00
Flanges	Gas/Vapor	200	8760	0.00086000	1.30	0.00	19.64	0.01
	Light Oil	200	8760	0.00024300	6.47	0.00	27.55	0.01
	Heavy Oil	0	8760	0.00000086	6.47	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00000620	6.47	0.00	0.18	0.00
Open-ended Lines	Gas/Vapor	10	8760	0.00441000	1.30	0.00	5.04	0.00
	Light Oil	0	8760	0.00309000	6.47	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	6.47	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	6.47	0.00	0.00	0.00
Other:	Gas/Vapor	0	8760	0.01940000	1.30	0.00	0.00	0.00
	Light Oil	0	8760	0.01650000	6.47	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	6.47	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.03090000	6.47	0.01	87.57	0.04

Emission Component	lb/hr	lb/year	TPY
Total HAPs	0.05	428.30	0.21

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
INLET & SALES SECTION - FUGITIVE EMISSIONS N-HEXANE

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total n-Hexane Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor*	50	8760	0.00992000	0.74	0.00	10.58	0.01
	Light Oil*	50	8760	0.00550000	1.49	0.00	14.02	0.01
	Heavy Oil	0	8760	0.00001900	1.49	0.00	0.00	0.00
	Water/Light Oil*	50	8760	0.00021600	1.49	0.00	0.55	0.00
Pump Seals	Gas/Vapor	0	8760	0.00529000	0.74	0.00	0.00	0.00
	Light Oil	0	8760	0.02866000	1.49	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00113000	1.49	0.00	0.00	0.00
	Water/Light Oil	10	8760	0.00005300	1.49	0.00	0.07	0.00
Connectors	Gas/Vapor	200	8760	0.00044000	0.74	0.00	5.69	0.00
	Light Oil	200	8760	0.00046300	1.49	0.00	12.11	0.01
	Heavy Oil	0	8760	0.00001700	1.49	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00024300	1.49	0.00	1.59	0.00
Flanges	Gas/Vapor	200	8760	0.00086000	0.74	0.00	11.12	0.01
	Light Oil	200	8760	0.00024300	1.49	0.00	6.35	0.00
	Heavy Oil	0	8760	0.00000086	1.49	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00000620	1.49	0.00	0.04	0.00
Open-ended Lines	Gas/Vapor	10	8760	0.00441000	0.74	0.00	2.85	0.00
	Light Oil	0	8760	0.00309000	1.49	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	1.49	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	1.49	0.00	0.00	0.00
Other:	Gas/Vapor	0	8760	0.01940000	0.74	0.00	0.00	0.00
	Light Oil	0	8760	0.01650000	1.49	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	1.49	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.03090000	1.49	0.00	20.20	0.01

Emission Component	lb/hr	lb/year	TPY
Total Benzene	0.010	85.17	0.043

*** With the site LDAR program in place, valves in gas service are controlled by 67%, valves in light oil service by 61%, and pumps by 45%**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

TREATER GAS ANALYSIS - FUGITIVE EMISSIONS

Conversion of Mole Percent to Weight Percent

Component	Mole %	Weight %
Carbon Dioxide	0.1935	0.2593
Nitrogen	0.2236	0.1908
Methane	41.2118	20.1368
Ethane	23.1411	21.1935
Propane	17.9809	24.1493
Isobutane	2.7647	4.8942
n-Butane	7.0651	12.5072
Isopentane	1.7129	3.7641
n-Pentane	1.8944	4.1629
n-Hexane	0.4442	1.1660
Cyclohexane	0.0764	0.1959
i-C6	0.6761	1.7745
i-C7	0.9233	2.8177
Methylcyclohexane	0.0263	0.0786
Octane	0.2612	0.9089
Nonane	0.0442	0.1725
Benzene	0.2203	0.5242
Toluene	0.1298	0.3644
Ethylbenzene	0.0067	0.0217
o-Xylene	0.0306	0.0988
H2S	0.0017	0.0018
Water	0.9427	0.5173
2,2,4 Trimethylpentane	0.0284	0.0989
Decanes Plus	0.0001	0.0007
Total	100.00	100.0000

MOLECULAR WEIGHT	23.57
SATURATED BTU	1387.05
NMHC	78.89
VOCs (NMNEHC)	57.70
HAPs	2.27
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

TREATER LIQUID ANALYSIS - FUGITIVE EMISSIONS

Conversion of Mole Percent to Weight Percent

Component	Mole %	Weight %
Carbon Dioxide	0.0064	0.0019
Nitrogen	0.0011	0.0002
Methane	0.5823	0.0639
Ethane	1.6082	0.3307
Propane	3.9202	1.1822
Isobutane	1.3872	0.5514
n-Butane	4.9455	1.9658
Isopentane	2.8193	1.3911
n-Pentane	3.9847	1.9661
n-Hexane	2.8141	1.6584
Cyclohexane	0.6733	0.3875
i-C6	3.1524	1.8578
i-C7	11.0093	7.5442
Methylcyclohexane	0.4505	0.3025
Octane	12.5679	9.8179
Nonane	5.8928	5.1686
Benzene	1.5757	0.8417
Toluene	2.8856	1.8183
Ethylbenzene	0.4090	0.2969
o-Xylene	2.2790	1.6547
H2S	0.0002	0.0000
Water	0.0543	0.0067
2,2,4 Trimethylpentane	0.4703	0.3674
Decanes Plus	36.5106	60.8240
Total	100.00	100.0000

MOLECULAR WEIGHT	146.22
NMHC	99.93
VOCs (NMNEHC)	99.60
HAPs	6.64
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
TREATER SECTION - FUGITIVE EMISSION VOCs

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total VOC Weight %	Emissions			Total CH4 Weight %	Total CO2 Weight %	CH4 Emissions	CO2 Emissions	CO2e Emissions
						lb/hour	lb/year	tons/year			ton/year	ton/year	ton/year
Valves	Gas/Vapor*	40	8760	0.00992000	57.70	0.23	2005.65	1.00	46.93	0.33	0.92	1.73	24.79
	Light Oil*	40	8760	0.00550000	99.60	0.22	1919.42	0.96	1.85	0.00	0.95	0.96	24.61
	Heavy Oil	0	8760	0.00001900	99.60	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Water/Light Oil*	0	8760	0.00021600	99.60	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
Pump Seals	Gas/Vapor	0	8760	0.00529000	57.70	0.00	0.00	0.00	46.93	14.47	0.00	0.00	0.00
	Light Oil	0	8760	0.02866000	99.60	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00113000	99.60	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00005300	99.60	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.00
Connectors	Gas/Vapor	200	8760	0.00044000	57.70	0.05	444.80	0.22	46.93	2.06	0.20	0.38	5.49
	Light Oil	200	8760	0.00046300	99.60	0.09	807.90	0.40	1.85	1.82	0.40	0.40	10.35
	Heavy Oil	0	8760	0.00001700	99.60	0.00	0.00	0.00	1.85	1.82	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00024300	99.60	0.00	0.00	0.00	1.85	1.82	0.00	0.00	0.00
Flanges	Gas/Vapor	200	8760	0.00086000	57.70	0.10	869.39	0.43	46.93	1.18	0.40	0.74	10.74
	Light Oil	200	8760	0.00024300	99.60	0.05	424.02	0.21	1.85	7.57	0.21	0.20	5.42
	Heavy Oil	0	8760	0.00000086	99.60	0.00	0.00	0.00	1.85	7.57	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00000620	99.60	0.00	0.00	0.00	1.85	7.57	0.00	0.00	0.00
Open-ended Lines	Gas/Vapor	8	8760	0.00441000	57.70	0.02	178.33	0.09	46.93	0.30	0.08	0.15	2.20
	Light Oil	0	8760	0.00309000	99.60	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	99.60	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	99.60	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
Other:	Gas/Vapor	0	8760	0.01940000	57.70	0.00	0.00	0.00	46.93	0.00	0.00	0.00	0.00
	Light Oil	0	8760	0.01650000	99.60	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	99.60	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.03090000	99.60	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00

Emission Component	lb/hr	lb/year	TPY
Total VOC	0.76	6649.51	3.32

CH4 Emissions	CO2 Emissions	CO2e Emissions
3.16	4.57	83.60

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
TREATER SECTION - FUGITIVE EMISSION HAPs

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total HAPs Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor*	40	8760	0.00992000	2.27	0.01	79.04	0.04
	Light Oil*	40	8760	0.00550000	6.64	0.01	127.92	0.06
	Heavy Oil	0	8760	0.00001900	6.64	0.00	0.00	0.00
	Water/Light Oil*	0	8760	0.00021600	6.64	0.00	0.00	0.00
Pump Seals	Gas/Vapor	0	8760	0.00529000	2.27	0.00	0.00	0.00
	Light Oil	0	8760	0.02866000	6.64	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00113000	6.64	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00005300	6.64	0.00	0.00	0.00
Connectors	Gas/Vapor	200	8760	0.00044000	2.27	0.00	17.53	0.01
	Light Oil	200	8760	0.00046300	6.64	0.01	53.84	0.03
	Heavy Oil	0	8760	0.00001700	6.64	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00024300	6.64	0.00	0.00	0.00
Flanges	Gas/Vapor	200	8760	0.00086000	2.27	0.00	34.26	0.02
	Light Oil	200	8760	0.00024300	6.64	0.00	28.26	0.01
	Heavy Oil	0	8760	0.00000086	6.64	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00000620	6.64	0.00	0.00	0.00
Open-ended Lines	Gas/Vapor	8	8760	0.00441000	2.27	0.00	7.03	0.00
	Light Oil	0	8760	0.00309000	6.64	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	6.64	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	6.64	0.00	0.00	0.00
Other:	Gas/Vapor	0	8760	0.01940000	2.27	0.00	0.00	0.00
	Light Oil	0	8760	0.01650000	6.64	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	6.64	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.03090000	6.64	0.00	0.00	0.00

Emission Component	lb/hr	lb/year	TPY
Total HAPs	0.04	347.88	0.17

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
TREATER SECTION - FUGITIVE EMISSION N-HEXANE

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total n-Hexane Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor*	40	8760	0.00992000	1.17	0.00	13.37	0.01
	Light Oil*	40	8760	0.00550000	1.66	0.00	12.46	0.01
	Heavy Oil	0	8760	0.00001900	1.66	0.00	0.00	0.00
	Water/Light Oil*	0	8760	0.00021600	1.66	0.00	0.00	0.00
Pump Seals	Gas/Vapor	0	8760	0.00529000	1.17	0.00	0.00	0.00
	Light Oil	0	8760	0.02866000	1.66	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00113000	1.66	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00005300	1.66	0.00	0.00	0.00
Connectors	Gas/Vapor	200	8760	0.00044000	1.17	0.00	8.99	0.00
	Light Oil	200	8760	0.00046300	1.66	0.00	13.45	0.01
	Heavy Oil	0	8760	0.00001700	1.66	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00024300	1.66	0.00	0.00	0.00
Flanges	Gas/Vapor	200	8760	0.00086000	1.17	0.00	17.57	0.01
	Light Oil	200	8760	0.00024300	1.66	0.00	7.06	0.00
	Heavy Oil	0	8760	0.00000086	1.66	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00000620	1.66	0.00	0.00	0.00
Open-ended Lines	Gas/Vapor	8	8760	0.00441000	1.17	0.00	3.60	0.00
	Light Oil	0	8760	0.00309000	1.66	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	1.66	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	1.66	0.00	0.00	0.00
Other:	Gas/Vapor	0	8760	0.01940000	1.17	0.00	0.00	0.00
	Light Oil	0	8760	0.01650000	1.66	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	1.66	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.03090000	1.66	0.00	0.00	0.00

Emission Component	lb/hr	lb/year	TPY
Total Benzene	0.009	76.51	0.038

*** With the site LDAR program in place, valves in gas service are controlled by 67%, valves in light oil service by 61%, and pumps by 45%.**

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

OIL TANK SECTION GAS ANALYSIS - FUGITIVE EMISSIONS

Gas Composition

Component	Mole %	Weight %
Carbon Dioxide	0.0470	0.0409
Nitrogen	0.0004	0.0002
Methane	0.6581	0.2091
Ethane	20.8120	12.3947
Propane	35.4572	30.9672
Isobutane	7.0404	8.1048
n-Butane	19.5465	22.5016
Isopentane	5.0435	7.2072
n-Pentane	5.5602	7.9454
n-Hexane	1.2925	2.2060
Cyclohexane	0.1670	0.2784
i-C6	1.9490	3.3266
i-C7	0.7449	1.4784
Methylcyclohexane	0.0549	0.1069
Octane	0.6288	1.4226
Nonane	0.0973	0.2473
Benzene	0.4721	0.7305
Toluene	0.2786	0.5085
Ethylbenzene	0.0147	0.0308
o-Xylene	0.0553	0.1164
H2S	0.0018	0.0012
Water	0.0005	0.0002
2,2,4 Trimethylpentane	0.0774	0.1750
Decanes Plus	0.0001	0.0004
Total	100.00	100.0000

MOLECULAR WEIGHT	50.49
SATURATED BTU	2848.03
NMHC	99.75
VOCs (NMNEHC)	87.35
HAPs	3.77
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

WATER TANK LIQUID ANALYSIS - FUGITIVE EMISSIONS

Water Composition

Component	Mole %	Weight %
Carbon Dioxide	0.0004	0.0009
Nitrogen	0.0000	0.0000
Methane	0.0013	0.0012
Ethane	0.0005	0.0008
Propane	0.0001	0.0003
Isobutane	0.0000	0.0000
n-Butane	0.0000	0.0001
Isopentane	0.0000	0.0000
n-Pentane	0.0000	0.0000
n-Hexane	0.0000	0.0000
Cyclohexane	0.0000	0.0000
i-C6	0.0000	0.0000
i-C7	0.0000	0.0000
Methylcyclohexane	0.0000	0.0000
Octane	0.0000	0.0000
Nonane	0.0000	0.0000
Benzene	0.0009	0.0038
Toluene	0.0003	0.0017
Ethylbenzene	0.0000	0.0001
o-Xylene	0.0001	0.0005
H2S	0.0000	0.0000
Water	99.9963	99.9905
2,2,4 Trimethylpentane	0.0000	0.0000
Decanes Plus	0.0000	0.0000
Total	100.00	100.0000

MOLECULAR WEIGHT	18.02
NMHC	0.01
VOCs (NMNEHC)	0.01
HAPs	0.01
H2S Mole Percentage	0.00

[1]Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2

XTO ENERGY INC.

CORRAL CANYON TANK BATTERY

OIL TANK CONDENSATE ANALYSIS - FUGITIVE EMISSIONS

Conversion of Mole Percent to Weight Percent

Component	Mole %	Weight %
Carbon Dioxide	0.0009	0.0003
Nitrogen	0.0000	0.0000
Methane	0.0259	0.0027
Ethane	0.4540	0.0895
Propane	2.3655	0.6840
Isobutane	1.1120	0.4238
n-Butane	4.2640	1.6250
Isopentane	2.7114	1.2827
n-Pentane	3.9195	1.8542
n-Hexane	2.8751	1.6246
Cyclohexane	0.5666	0.3127
i-C6	3.1720	1.7924
i-C7	11.5910	7.6156
Methylcyclohexane	0.3816	0.2457
Octane	13.3478	9.9976
Nonane	6.2601	5.2646
Benzene	1.6306	0.8352
Toluene	3.0462	1.8404
Ethylbenzene	0.4348	0.3027
o-Xylene	2.4220	1.6860
H2S	0.0001	0.0000
Water	0.0104	0.0012
2,2,4 Trimethylpentane	0.5042	0.3777
Decanes Plus	38.9042	62.1415
Total	100.00	100.0000

MOLECULAR WEIGHT	152.51
NMHC	37.765
VOCs (NMNEHC)	37.081
HAPs	4.519
H2S Mole Percentage	0.01039

[1]**Values from GPSA Engineering Data Book, Volume II, 13th Edition, Figure 23-2**

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
STORAGE TANK SECTION - FUGITIVE EMISSIONS VOCs

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total VOC Weight %	Emissions			Total CH4 Weight %	Total CO2 Weight %	CH4 Emissions	CO2 Emissions	CO2e Emissions
						lb/hour	lb/year	tons/year			ton/year	ton/year	ton/year
Valves	Gas/Vapor*	50	8760	0.00992000	87.35	0.43	3795.48	1.90	46.93	0.33	1.15	2.17	30.99
	Light Oil*	50	8760	0.00550000	37.08	0.10	893.28	0.45	1.85	0.00	1.18	1.20	30.76
	Heavy Oil	0	8760	0.00001900	37.08	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Water/Light Oil*	50	8760	0.00021600	0.01	0.00	0.01	0.00	1.85	0.00	0.05	0.05	1.21
Pump Seals	Gas/Vapor*	5	8760	0.00529000	87.35	0.02	202.40	0.10	46.93	14.47	0.06	0.10	1.64
	Light Oil	5	8760	0.02866000	37.08	0.05	465.48	0.23	1.85	1.32	0.62	0.62	16.02
	Heavy Oil	0	8760	0.00113000	37.08	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.00
	Water/Light Oil	10	8760	0.00005300	0.01	0.00	0.00	0.00	1.85	1.32	0.00	0.00	0.06
Connectors	Gas/Vapor	50	8760	0.00044000	87.35	0.02	168.35	0.08	46.93	2.06	0.05	0.09	1.37
	Light Oil	50	8760	0.00046300	37.08	0.01	75.20	0.04	1.85	1.82	0.10	0.10	2.59
	Heavy Oil	0	8760	0.00001700	37.08	0.00	0.00	0.00	1.85	1.82	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00024300	0.01	0.00	0.01	0.00	1.85	1.82	0.05	0.05	1.36
Flanges	Gas/Vapor	50	8760	0.00086000	87.35	0.04	329.04	0.16	46.93	1.18	0.10	0.19	2.68
	Light Oil	50	8760	0.00024300	37.08	0.00	39.47	0.02	1.85	7.57	0.05	0.05	1.36
	Heavy Oil	0	8760	0.00000086	37.08	0.00	0.00	0.00	1.85	7.57	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00000620	0.01	0.00	0.00	0.00	1.85	7.57	0.00	0.00	0.03
Open-ended Lines	Gas/Vapor	0	8760	0.00441000	87.35	0.00	0.00	0.00	46.93	0.30	0.00	0.00	0.00
	Light Oil	0	8760	0.00309000	37.08	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	37.08	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	0.01	0.00	0.00	0.00	1.85	0.80	0.00	0.00	0.00
Other:	Gas/Vapor	10	8760	0.01940000	87.35	0.17	1484.52	0.74	46.93	0.00	0.45	0.85	12.12
	Light Oil	0	8760	0.01650000	37.08	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	37.08	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.03090000	0.01	0.00	0.09	0.00	1.85	0.00	0.66	0.68	17.28

Emission Component	lb/hr	lb/year	TPY
Total VOC	0.85	7453.32	3.73

CH4 Emissions	CO2 Emissions	CO2e Emissions
4.53	6.15	119.47

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
STORAGE TANK SECTION - FUGITIVE EMISSIONS HAPs

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total HAPs Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor*	50	8760	0.00992000	3.77	0.02	163.68	0.08
	Light Oil*	25	8760	0.00550000	4.52	0.01	54.44	0.03
	Heavy Oil	0	8760	0.00001900	4.52	0.00	0.00	0.00
	Water/Light Oil*	25	8760	0.00021600	0.01	0.00	0.00	0.00
Pump Seals	Gas/Vapor	5	8760	0.00529000	3.77	0.00	8.73	0.00
	Light Oil	5	8760	0.02866000	4.52	0.01	56.73	0.03
	Heavy Oil	0	8760	0.00113000	4.52	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.00005300	0.01	0.00	0.00	0.00
Connectors	Gas/Vapor	50	8760	0.00044000	3.77	0.00	7.26	0.00
	Light Oil	50	8760	0.00046300	4.52	0.00	9.17	0.00
	Heavy Oil	0	8760	0.00001700	4.52	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00024300	0.01	0.00	0.01	0.00
Flanges	Gas/Vapor	50	8760	0.00086000	3.77	0.00	14.19	0.01
	Light Oil	50	8760	0.00024300	4.52	0.00	4.81	0.00
	Heavy Oil	0	8760	0.00000086	4.52	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00000620	0.01	0.00	0.00	0.00
Open-ended Lines	Gas/Vapor	0	8760	0.00441000	3.77	0.00	0.00	0.00
	Light Oil	0	8760	0.00309000	4.52	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	4.52	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	0.01	0.00	0.00	0.00
Other:	Gas/Vapor	10	8760	0.01940000	3.77	0.01	64.02	0.03
	Light Oil	3	8760	0.01650000	4.52	0.00	19.60	0.01
	Heavy Oil	0	8760	0.00006800	4.52	0.00	0.00	0.00
	Water/Light Oil	3	8760	0.03090000	0.01	0.00	0.05	0.00

Emission Component	lb/hr	lb/year	TPY
Total HAPs	0.05	402.68	0.20

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
STORAGE TANK SECTION - FUGITIVE EMISSIONS N-HEXANE

Fugitive Emission Calculations

Component Type	Service	Estimated Components Count	Hours	Factors	Total n-Hexane Weight %	Emissions		
						lb/hour	lb/year	tons/year
Valves	Gas/Vapor	50	8760	0.00992000	0.51	0.00	22.09	0.01
	Light Oil	50	8760	0.00550000	1.84	0.01	44.33	0.02
	Heavy Oil	0	8760	0.00001900	1.84	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00021600	0.00	0.00	0.00	0.00
Pump Seals	Gas/Vapor	5	8760	0.00529000	0.51	0.00	1.18	0.00
	Light Oil	5	8760	0.02866000	1.84	0.00	23.10	0.01
	Heavy Oil	0	8760	0.00113000	1.84	0.00	0.00	0.00
	Water/Light Oil	10	8760	0.00005300	0.00	0.00	0.00	0.00
Connectors	Gas/Vapor	50	8760	0.00044000	0.51	0.00	0.98	0.00
	Light Oil	50	8760	0.00046300	1.84	0.00	3.73	0.00
	Heavy Oil	0	8760	0.00001700	1.84	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00024300	0.00	0.00	0.00	0.00
Flanges	Gas/Vapor	50	8760	0.00086000	0.51	0.00	1.92	0.00
	Light Oil	50	8760	0.00024300	1.84	0.00	1.96	0.00
	Heavy Oil	0	8760	0.00000086	1.84	0.00	0.00	0.00
	Water/Light Oil	50	8760	0.00000620	0.00	0.00	0.00	0.00
Open-ended Lines	Gas/Vapor	0	8760	0.00441000	0.51	0.00	0.00	0.00
	Light Oil	0	8760	0.00309000	1.84	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00030900	1.84	0.00	0.00	0.00
	Water/Light Oil	0	8760	0.00055000	0.00	0.00	0.00	0.00
Other:	Gas/Vapor	10	8760	0.01940000	0.51	0.00	8.64	0.00
	Light Oil	0	8760	0.01650000	1.84	0.00	0.00	0.00
	Heavy Oil	0	8760	0.00006800	1.84	0.00	0.00	0.00
	Water/Light Oil	5	8760	0.03090000	0.00	0.00	0.02	0.00

Emission Component	lb/hr	lb/year	TPY
Total Benzene	0.012	107.96	0.054

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
VRU - COST BENEFIT ANALYSIS

VAPOR RECOVERY TOWER VRU

Unit Variable	Vapor Recovery Tower
Vapor Emission Rate (mscfd)	713.681
Heating Value (btu/scf)	2588.42
Value of gas sold ($/MMBtu)	$ 2.40
VRU Rental Rate ($/Month)	$ 5,400.00
VRU Count	1
Total Monthly Rental Rate ($/Month)	$ 5,400.00
Annual Rental Rate Cost ($/Year)	$ 64,800.00
Expectancy of VRU (years)	5
Annual Revenue Total ($/Year)	$ 1,294,594.57
Five Year Profit ($)	**$ 6,148,972.86**

Is the primary purpose of the equipment to control air pollution?

No, the primary purpose is to recover product for sale.

Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?

The VRU generates income for the site.

Would the equipment be installed if no air quality regulations are in place?

The equipment would be installed regardless of air quality regulations.

(1) Vapor emissions are obtained from Promax Modeling.

(2) Value of gas sold based on 3-month average from http://www.eia.gov/dnav/ng/ng_pri_fut_s1_d.htm

(3) Heating vales of vapors are based on Promax results.

(4) Rental estimate includes installation, operation, and maintenance of VRU.

XTO ENERGY INC.
CORRAL CANYON TANK BATTERY
VRU - COST BENEFIT ANALYSIS

STORAGE TANK VRUs

Unit Varible	Oil Tanks
Vapor Emission Rate (mscfd)	91.823
Heating Value (btu/scf)	2848
Value of gas sold ($/MMBtu)	$ 2.40
VRU Rental Rate ($/Month)	$ 4,100.00
VRU Count	1
Total Monthly Rental Rate ($/Month)	$ 4,100.00
Annual Rental Rate Cost ($/Year)	$ 49,200.00
Expectancy of VRU (years)	5
Annual Revenue Total ($/Year)	$ 183,269.99
Five Year Profit ($)	**$ 670,349.93**

Is the primary purpose of the equipment to control air pollution?

No, the primary purpose is to recover product for sale.

Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?

The VRU generates income for the site.

Would the equipment be installed if no air quality regulations are in place?

The equipment would be installed regardless of air quality regulations.

(1) Vapor emissions are obtained from Promax Modeling.

(2) Value of gas sold based on 3-month average from http://www.eia.gov/dnav/ng/ng_pri_fut_s1_d.htm

(3) Heating vales of vapors are based on Promax results.

(4) Rental estimate includes installation, operation, and maintenance of VRU.

Tab 7
Section 7 - Information Used To Determine Emissions

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.

Backup documentation is provided.

August 30, 2019

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

For: XTO Energy, Inc.
22777 Springwoods Village Pkwy.
Spring, Texas 77389

Sample: Corral Canyon Tank Battery - FWKO 900
First Stage Separator
Spot Gas Sample @ 87 psig & 86 °F

Date Sampled: 08/20/2019 Job Number: 192968.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	0.919	
Carbon Dioxide	0.179	
Methane	70.043	
Ethane	14.584	3.997
Propane	7.854	2.218
Isobutane	1.068	0.358
n-Butane	2.635	0.851
2-2 Dimethylpropane	0.007	0.003
Isopentane	0.635	0.238
n-Pentane	0.685	0.254
Hexanes	0.522	0.220
Heptanes Plus	0.869	0.345
Totals	100.000	8.485

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity	3.263	(Air=1)
Molecular Weight	94.05	
Gross Heating Value	4891	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity	0.826	(Air=1)
Compressibility (Z)	0.9950	
Molecular Weight	23.80	
Gross Heating Value		
Dry Basis	1442	BTU/CF
Saturated Basis	1418	BTU/CF

*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)
Results: <0.013 Gr/100 CF, <0.2 PPMV or <0.001 Mol %

Base Conditions: 15.025 PSI & 60 Deg F

Sampled By: (14) R. Perez
Analyst: NG
Processor: RG
Cylinder ID: T-2763

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	0.919		1.082
Carbon Dioxide	0.179		0.331
Methane	70.043		47.216
Ethane	14.584	3.997	18.427
Propane	7.854	2.218	14.553
Isobutane	1.068	0.358	2.608
n-Butane	2.635	0.851	6.436
2,2 Dimethylpropane	0.007	0.003	0.021
Isopentane	0.635	0.238	1.925
n-Pentane	0.685	0.254	2.077
2,2 Dimethylbutane	0.007	0.003	0.025
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.058	0.024	0.210
2 Methylpentane	0.165	0.070	0.598
3 Methylpentane	0.087	0.036	0.315
n-Hexane	0.205	0.086	0.742
Methylcyclopentane	0.101	0.036	0.357
Benzene	0.093	0.027	0.305
Cyclohexane	0.189	0.066	0.668
2-Methylhexane	0.025	0.012	0.105
3-Methylhexane	0.028	0.013	0.118
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.071	0.032	0.296
n-Heptane	0.057	0.027	0.240
Methylcyclohexane	0.119	0.049	0.491
Toluene	0.052	0.018	0.201
Other C8's	0.065	0.031	0.301
n-Octane	0.018	0.009	0.086
Ethylbenzene	0.002	0.001	0.009
M & P Xylenes	0.010	0.004	0.045
O-Xylene	0.002	0.001	0.009
Other C9's	0.024	0.012	0.127
n-Nonane	0.004	0.002	0.022
Other C10's	0.007	0.004	0.042
n-Decane	0.001	0.001	0.006
Undecanes (11)	0.001	0.001	0.006
Totals	100.000	8.485	100.000

Computed Real Characteristics of Total Sample		
Specific Gravity	0.826	(Air=1)
Compressibility (Z)	0.9950	
Molecular Weight	23.80	
Gross Heating Value		
Dry Basis	1442	BTU/CF
Saturated Basis	1418	BTU/CF

August 30, 2019

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

Sample: Corral Canyon Tank Battery - FWKO 900
First Stage Separator
Spot Gas Sample @ 87 psig & 86 °F

Date Sampled: 08/20/2019 Job Number: 192968.001

GLYCALC FORMAT

COMPONENT	MOL%	GPM	Wt %
Carbon Dioxide	0.179		0.331
Hydrogen Sulfide	< 0.001		< 0.001
Nitrogen	0.919		1.082
Methane	70.043		47.216
Ethane	14.584	3.997	18.427
Propane	7.854	2.218	14.553
Isobutane	1.068	0.358	2.608
n-Butane	2.642	0.854	6.457
Isopentane	0.635	0.238	1.925
n-Pentane	0.685	0.254	2.077
Cyclopentane	0.000	0.000	0.000
n-Hexane	0.205	0.086	0.742
Cyclohexane	0.189	0.066	0.668
Other C6's	0.317	0.134	1.148
Heptanes	0.282	0.119	1.116
Methylcyclohexane	0.119	0.049	0.491
2,2,4 Trimethylpentane	0.000	0.000	0.000
Benzene	0.093	0.027	0.305
Toluene	0.052	0.018	0.201
Ethylbenzene	0.002	0.001	0.009
Xylenes	0.012	0.005	0.054
Octanes Plus	0.120	0.061	0.590
Totals	100.000	8.485	100.000

Real Characteristics Of Octanes Plus:

Specific Gravity	4.060	(Air=1)
Molecular Weight	117.01	
Gross Heating Value	6153	BTU/CF

Real Characteristics Of Total Sample:

Specific Gravity	0.826	(Air=1)
Compressibility (Z)	0.9950	
Molecular Weight	23.80	
Gross Heating Value		
Dry Basis	1442	BTU/CF
Saturated Basis	1418	BTU/CF

September 20, 2019

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

For: XTO Energy, Inc.
22777 Springwoods Village Pkwy.
Spring, Texas 77389

Sample: Corral Canyon Tank Battery - FWKO 900
First Stage Separator Hydrocarbon Liquid
Sampled @ 87 psig & 86 °F

Date Sampled: 08/21/19 Job Number: 192968.002

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M

COMPONENT	MOL %	LIQ VOL %	WT %
Nitrogen	0.026	0.005	0.005
Carbon Dioxide	0.014	0.004	0.004
Methane	1.849	0.544	0.207
Ethane	2.503	1.162	0.525
Propane	4.349	2.080	1.338
Isobutane	1.306	0.742	0.530
n-Butane	4.542	2.486	1.841
2,2 Dimethylpropane	0.050	0.033	0.025
Isopentane	2.544	1.615	1.280
n-Pentane	3.672	2.311	1.848
2,2 Dimethylbutane	0.036	0.026	0.022
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.399	0.284	0.240
2 Methylpentane	1.412	1.018	0.849
3 Methylpentane	0.857	0.608	0.515
n-Hexane	2.519	1.798	1.514
Heptanes Plus	73.923	85.283	89.256
Totals:	100.000	100.000	100.000

Characteristics of Heptanes Plus:

Specific Gravity	0.8254	(Water=1)
°API Gravity	39.92	@ 60°F
Molecular Weight	173.1	
Vapor Volume	14.76	CF/Gal
Weight	6.88	Lbs/Gal

Characteristics of Total Sample:

Specific Gravity	0.7887	(Water=1)
°API Gravity	47.91	@ 60°F
Molecular Weight	143.4	
Vapor Volume	17.03	CF/Gal
Weight	6.57	Lbs/Gal

Base Conditions: 15.025 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: (14) Perez
Analyst: RR
Processor: ANBdjv
Cylinder ID: W-2619

David Dannhaus 361-661-7015

FESCO, Ltd. Job Number: 192968.002

TANKS DATA INPUT REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Carbon Dioxide	0.014	0.004	0.004
Nitrogen	0.026	0.005	0.005
Methane	1.849	0.544	0.207
Ethane	2.503	1.162	0.525
Propane	4.349	2.080	1.338
Isobutane	1.306	0.742	0.530
n-Butane	4.592	2.519	1.866
Isopentane	2.544	1.615	1.280
n-Pentane	3.672	2.311	1.848
Other C-6's	2.705	1.936	1.626
Heptanes	10.992	7.572	7.025
Octanes	12.619	9.783	9.308
Nonanes	5.882	5.437	5.201
Decanes Plus	36.877	57.841	62.672
Benzene	1.495	0.727	0.815
Toluene	2.852	1.658	1.833
E-Benzene	0.412	0.276	0.305
Xylenes	2.287	1.533	1.694
n-Hexane	2.519	1.798	1.514
2,2,4 Trimethylpentane	0.506	0.457	0.403
Totals:	100.000	100.000	100.000

Characteristics of Total Sample:

Specific Gravity	0.7887	(Water=1)
°API Gravity	47.91	@ 60°F
Molecular Weight	143.4	
Vapor Volume	17.03	CF/Gal
Weight	6.57	Lbs/Gal

Characteristics of Decanes (C10) Plus:

Specific Gravity	0.8546	(Water=1)
Molecular Weight	243.6	

Characteristics of Atmospheric Sample:

°API Gravity	45.26	@ 60°F
Reid Vapor Pressure Equivalent (D-6377)	9.64	psi

QUALITY CONTROL CHECK			
	Sampling Conditions	Test Samples	
Cylinder Number	------	W-2619*	------
Pressure, PSIG	87	80	------
Temperature, °F	86	86	------

* Sample used for analysis

TOTAL EXTENDED REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Nitrogen	0.026	0.005	0.005
Carbon Dioxide	0.014	0.004	0.004
Methane	1.849	0.544	0.207
Ethane	2.503	1.162	0.525
Propane	4.349	2.080	1.338
Isobutane	1.306	0.742	0.530
n-Butane	4.542	2.486	1.841
2,2 Dimethylpropane	0.050	0.033	0.025
Isopentane	2.544	1.615	1.280
n-Pentane	3.672	2.311	1.848
2,2 Dimethylbutane	0.036	0.026	0.022
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.399	0.284	0.240
2 Methylpentane	1.412	1.018	0.849
3 Methylpentane	0.857	0.608	0.515
n-Hexane	2.519	1.798	1.514
Methylcyclopentane	1.687	1.036	0.990
Benzene	1.495	0.727	0.815
Cyclohexane	4.127	2.439	2.423
2-Methylhexane	0.929	0.750	0.650
3-Methylhexane	0.841	0.670	0.588
2,2,4 Trimethylpentane	0.506	0.457	0.403
Other C-7's	1.146	0.863	0.793
n-Heptane	2.263	1.813	1.582
Methylcyclohexane	5.342	3.728	3.659
Toluene	2.852	1.658	1.833
Other C-8's	5.341	4.333	4.106
n-Octane	1.936	1.722	1.543
E-Benzene	0.412	0.276	0.305
M & P Xylenes	1.715	1.155	1.270
O-Xylene	0.572	0.378	0.424
Other C-9's	4.372	3.962	3.851
n-Nonane	1.510	1.475	1.351
Other C-10's	4.633	4.614	4.566
n-decane	1.021	1.088	1.014
Undecanes(11)	4.261	4.353	4.369
Dodecanes(12)	2.994	3.303	3.362
Tridecanes(13)	3.042	3.600	3.714
Tetradecanes(14)	2.657	3.368	3.522
Pentadecanes(15)	2.326	3.158	3.342
Hexadecanes(16)	1.722	2.499	2.667
Heptadecanes(17)	1.501	2.304	2.482
Octadecanes(18)	1.395	2.254	2.443
Nonadecanes(19)	1.219	2.051	2.236
Eicosanes(20)	0.947	1.656	1.816
Heneicosanes(21)	0.841	1.547	1.706
Docosanes(22)	0.748	1.434	1.591
Tricosanes(23)	0.643	1.278	1.426
Tetracosanes(24)	0.562	1.157	1.297
Pentacosanes(25)	0.508	1.086	1.223
Hexacosanes(26)	0.458	1.014	1.147
Heptacosanes(27)	0.432	0.993	1.128
Octacosanes(28)	0.360	0.856	0.975
Nonacosanes(29)	0.337	0.825	0.944
Triacontanes(30)	0.282	0.713	0.818
Hentriacontanes Plus(31+)	3.988	12.690	14.883
Total	100.000	100.000	100.000

September 20, 2019

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

For: XTO Energy, Inc.
22777 Springwoods Village Pkwy.
Spring, Texas 77389

Date Sampled: 08/21/19

Date Analyzed: 09/09/19

Sample: Corral Canyon Tank Battery - FWKO 900

Job Number: J192968

FLASH LIBERATION OF HYDROCARBON LIQUID		
	Separator HC Liquid	**Stock Tank**
Pressure, psig	87	0
Temperature, °F	86	70
Density of Separator HC Liquid (g/cc)	0.7670	------
Gas Oil Ratio (1)	------	53.2
Gas Specific Gravity (2)	------	1.318

STOCK TANK FLUID PROPERTIES	
Shrinkage Recovery Factor (3)	0.9469
Density of Stock Tank HC Liquid (g/cc @ 60 °F)	0.7997
Oil API Gravity at 60 °F	45.26

Quality Control Check			
	Sampling Conditions	**Test Samples**	
Cylinder No.	------	W-2619*	------
Pressure, psig	87	80	------
Temperature, °F	86	86	------

(1) - Scf of flashed vapor per barrel of stock tank oil
(2) - Air = 1.000
(3) - Fraction of first stage separator liquid

Analyst: E.T. III

Base Conditions: 15.025 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

September 10, 2019

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

For: XTO Energy, Inc.
22777 Springwoods Village Pkwy.
Spring, Texas 77389

Sample: Corral Canyon Tank Battery - FWKO 900
Gas Evolved from Hydrocarbon Liquid Flashed
Spot Gas Sample @ 87 psig & 86 °F

Date Sampled: 08/20/2019 Job Number: 192968.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	0.191	
Carbon Dioxide	0.156	
Methane	26.787	
Ethane	26.084	7.212
Propane	24.919	7.098
Isobutane	3.981	1.347
n-Butane	9.867	3.216
2-2 Dimethylpropane	0.020	0.008
Isopentane	2.314	0.875
n-Pentane	2.464	0.923
Hexanes	1.370	0.583
Heptanes Plus	1.847	0.727
Totals	100.000	21.990

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity	3.239	(Air=1)
Molecular Weight	92.54	
Gross Heating Value	4796	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity	1.318	(Air=1)
Compressibility (Z)	0.9863	
Molecular Weight	37.65	
Gross Heating Value		
Dry Basis	2233	BTU/CF
Saturated Basis	2195	BTU/CF

*Hydrogen Sulfide tested in laboratory by: Stain Tube Method (GPA 2377)
Results: <0.013 Gr/100 CF, <0.2 PPMV or <0.001 Mol %

Base Conditions: 15.025 PSI & 60 Deg F

Sampled By: (16) ET III
Analyst: NG
Processor: NG
Cylinder ID: FL-17S

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

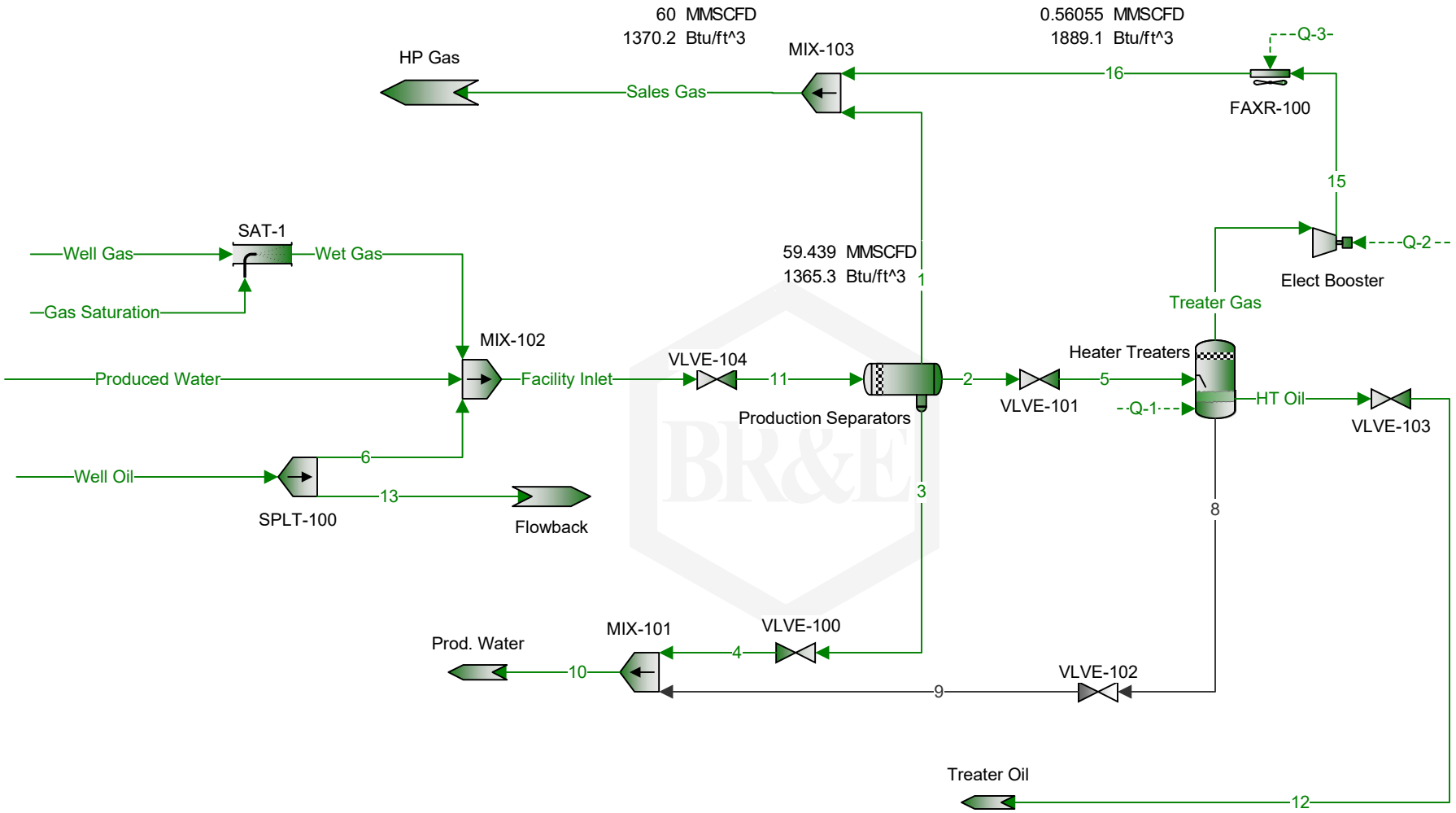
CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	0.191		0.142
Carbon Dioxide	0.156		0.182
Methane	26.787		11.416
Ethane	26.084	7.212	20.831
Propane	24.919	7.098	29.184
Isobutane	3.981	1.347	6.145
n-Butane	9.867	3.216	15.232
2,2 Dimethylpropane	0.020	0.008	0.038
Isopentane	2.314	0.875	4.434
n-Pentane	2.464	0.923	4.722
2,2 Dimethylbutane	0.019	0.008	0.043
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.160	0.068	0.366
2 Methylpentane	0.447	0.192	1.023
3 Methylpentane	0.229	0.097	0.524
n-Hexane	0.515	0.219	1.179
Methylcyclopentane	0.251	0.089	0.561
Benzene	0.218	0.063	0.452
Cyclohexane	0.447	0.157	0.999
2-Methylhexane	0.055	0.026	0.146
3-Methylhexane	0.060	0.028	0.160
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.156	0.070	0.411
n-Heptane	0.112	0.053	0.298
Methylcyclohexane	0.239	0.099	0.623
Toluene	0.090	0.031	0.220
Other C8's	0.123	0.059	0.360
n-Octane	0.022	0.012	0.067
Ethylbenzene	0.004	0.002	0.011
M & P Xylenes	0.013	0.005	0.037
O-Xylene	0.003	0.001	0.008
Other C9's	0.038	0.020	0.127
n-Nonane	0.005	0.003	0.017
Other C10's	0.009	0.005	0.034
n-Decane	0.001	0.001	0.004
Undecanes (11)	0.001	0.001	0.004
Totals	100.000	21.990	100.000

Computed Real Characteristics Of Total Sample:

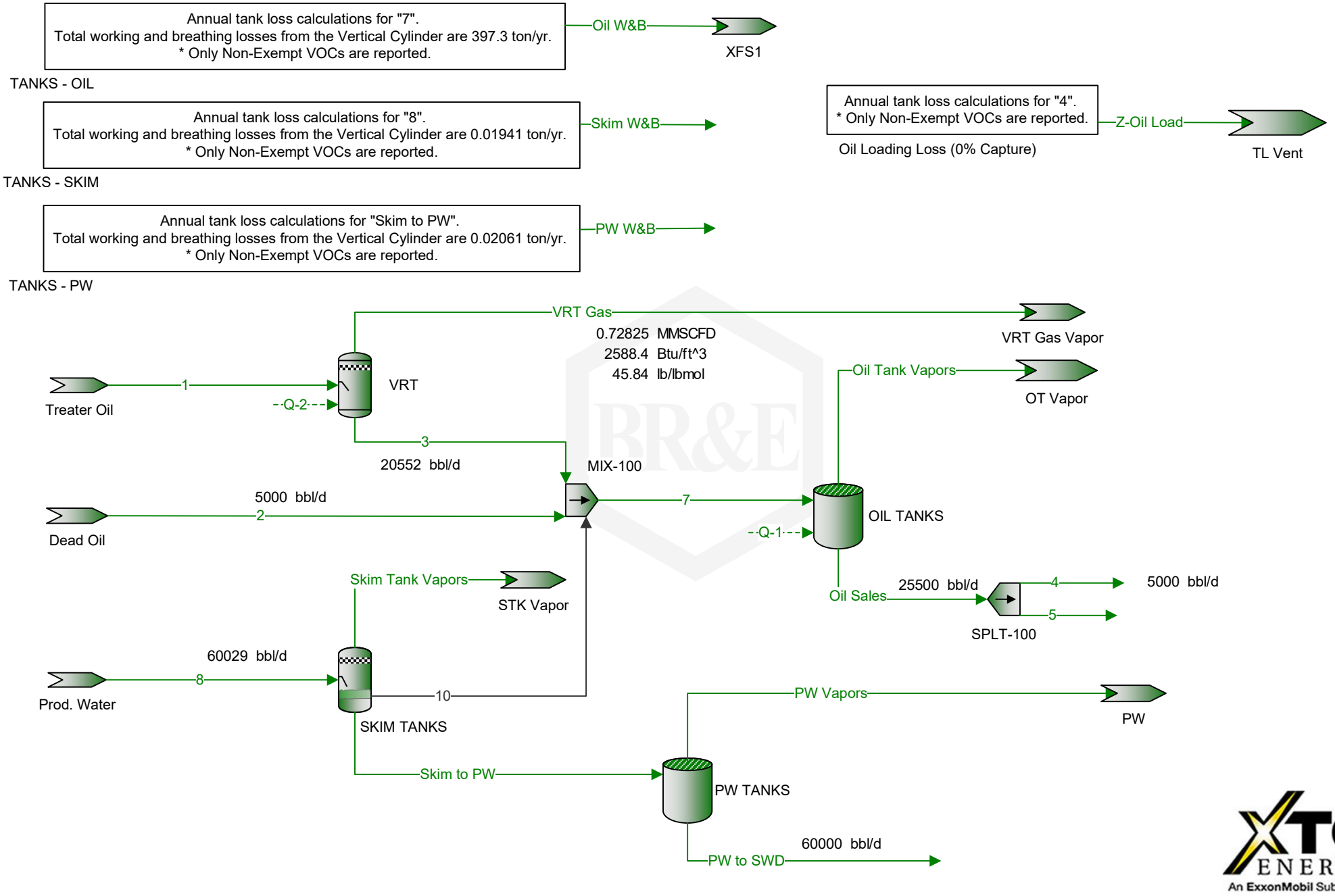
Specific Gravity	1.318	(Air=1)
Compressibility (Z)	0.9863	
Molecular Weight	37.65	
Gross Heating Value		
Dry Basis	2233	BTU/CF
Saturated Basis	2195	BTU/CF

CORRAL CANYON NEW TANK BATTERY

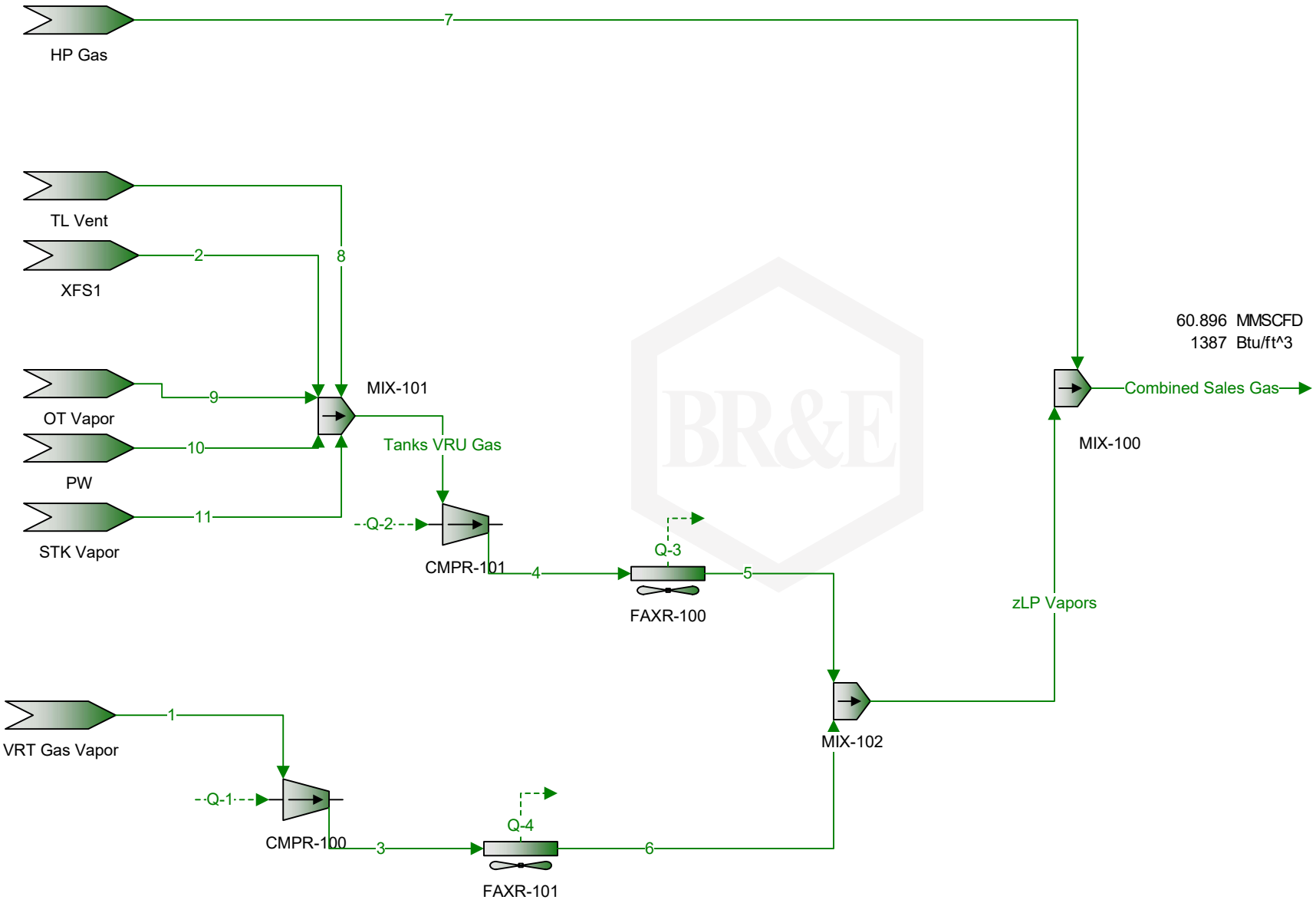


XTO ENERGY
An ExxonMobil Subsidiary

CORRAL CANYON NEW TANK BATTERY



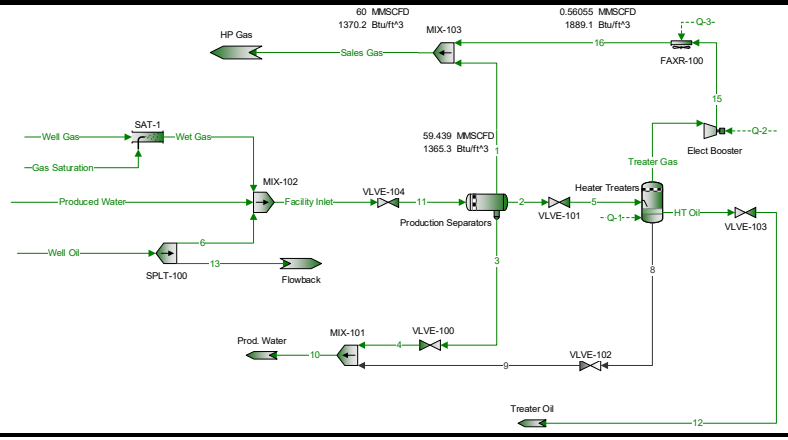
CORRAL CANYON NEW TANK BATTERY



XTO ENERGY
An ExxonMobil Subsidiary

Inlet
Plant Schematic

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	



Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Connections

	Facility Inlet	Gas Saturation	HT Oil	Produced Water	Sales Gas
From Block	MIX-102	--	Heater Treaters	--	MIX-103
To Block	VLVE-104	SAT-1	VLVE-103	MIX-102	HP Gas

Stream Composition

Mole Fraction	Facility Inlet %	Gas Saturation %	HT Oil %	Produced Water %	Sales Gas %
Carbon Dioxide	0.021084	0 *	0.00640796	0 *	0.176548
Nitrogen	0.107019	0 *	0.00114543	0 *	0.922182
Methane	8.15247	0 *	0.582281	0 *	70.0876
Ethane	1.75775	0 *	1.60823	0 *	14.738
Propane	1.03204	0 *	3.92018	0 *	7.91957
Isobutane	0.160683	0 *	1.38717	0 *	1.04081
n-Butane	0.436229	0 *	4.94554	0 *	2.53236
Isopentane	0.145838	0 *	2.81931	0 *	0.55764
n-Pentane	0.183748	0 *	3.98473	0 *	0.595487
n-Hexane	0.0954149	0 *	2.81407	0 *	0.124376
Cyclohexane	0.0218561	0 *	0.673334	0 *	0.0212996
i-C6	0.113666	0 *	3.15238	0 *	0.197757
i-C7	0.345533	0 *	11.0093	0 *	0.247271
Methylcyclohexane	0.0137613	0 *	0.450522	0 *	0.0068469
Octane	0.368824	0 *	12.5679	0 *	0.0613017
Nonane	0.17069	0 *	5.89279	0 *	0.00940667
Benzene	0.0533261	0 *	1.57566	0 *	0.0619638
Toluene	0.0871911	0 *	2.88563	0 *	0.03304
Ethylbenzene	0.0119639	0 *	0.408951	0 *	0.00156869
o-Xylene	0.066489	0 *	2.27902	0 *	0.00703729
H2S	0.000115641	0 *	0.000191237	0 *	0.000893892
Water	85.5891	100 *	0.0543035	100 *	0.64953
2,2,4-Trimethylpentane	0.0144043	0 *	0.47032	0 *	0.00748567
Decanes Plus	1.05081	0 *	36.5106	0 *	1.11601E-05

Mass Fraction	Facility Inlet %	Gas Saturation %	HT Oil %	Produced Water %	Sales Gas %
Carbon Dioxide	0.0415824	0 *	0.00192861	0 *	0.334064
Nitrogen	0.13435	0 *	0.000219439	0 *	1.11072
Methane	5.86098	0 *	0.0638827	0 *	48.343
Ethane	2.36857	0 *	0.33071	0 *	19.0538
Propane	2.03939	0 *	1.18217	0 *	15.0148
Isobutane	0.418526	0 *	0.55138	0 *	2.60096
n-Butane	1.13623	0 *	1.96578	0 *	6.32832
Isopentane	0.471532	0 *	1.39108	0 *	1.72983
n-Pentane	0.594103	0 *	1.96611	0 *	1.84724
n-Hexane	0.368476	0 *	1.65843	0 *	0.46083
Cyclohexane	0.0824301	0 *	0.387536	0 *	0.077072
i-C6	0.438957	0 *	1.85781	0 *	0.732717
i-C7	1.55159	0 *	7.54423	0 *	1.0653
Methylcyclohexane	0.0605505	0 *	0.302514	0 *	0.0289045
Octane	1.88801	0 *	9.81788	0 *	0.301071
Nonane	0.981053	0 *	5.16862	0 *	0.0518719
Benzene	0.186666	0 *	0.841701	0 *	0.208102
Toluene	0.360017	0 *	1.81828	0 *	0.130889
Ethylbenzene	0.0569201	0 *	0.296915	0 *	0.00716045
o-Xylene	0.316331	0 *	1.65466	0 *	0.0321224
H2S	0.000176617	0 *	4.4572E-05	0 *	0.00130984
Water	69.0986	100 *	0.00669034	100 *	0.503109
2,2,4-Trimethylpentane	0.0737354	0 *	0.367407	0 *	0.0367644

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Mass Fraction	Facility Inlet %	Gas Saturation %	HT Oil %	Produced Water %	Sales Gas %
Decanes Plus	11.4712	0 *	60.824	0 *	0.000116887

Mass Flow	Facility Inlet lb/h	Gas Saturation lb/h	HT Oil lb/h	Produced Water lb/h	Sales Gas lb/h
Carbon Dioxide	527.202	0 *	4.61155	0 *	511.865
Nitrogen	1703.35	0 *	0.524705	0 *	1701.88
Methane	74308.3	0 *	152.751	0 *	74072.8
Ethane	30029.9	0 *	790.766	0 *	29194.8
Propane	25856.4	0 *	2826.71	0 *	23006.1
Isobutane	5306.28	0 *	1318.41	0 *	3985.28
n-Butane	14405.7	0 *	4700.41	0 *	9696.47
Isopentane	5978.31	0 *	3326.23	0 *	2650.51
n-Pentane	7532.32	0 *	4701.19	0 *	2830.4
n-Hexane	4671.72	0 *	3965.5	0 *	706.099
Cyclohexane	1045.09	0 *	926.645	0 *	118.092
i-C6	5565.31	0 *	4442.24	0 *	1122.69
i-C7	19671.8	0 *	18039.1	0 *	1632.29
Methylcyclohexane	767.689	0 *	723.346	0 *	44.2885
Octane	23937.1	0 *	23475.7	0 *	461.311
Nonane	12438.3	0 *	12358.8	0 *	79.4799
Benzene	2366.65	0 *	2012.61	0 *	318.861
Toluene	4564.47	0 *	4347.72	0 *	200.552
Ethylbenzene	721.66	0 *	709.958	0 *	10.9715
o-Xylene	4010.59	0 *	3956.48	0 *	49.2191
H2S	2.23923	0 *	0.106577	0 *	2.00698
Water	876066	751.81 *	15.9974	875314 *	770.881
2,2,4-Trimethylpentane	934.853	0 *	878.513	0 *	56.3316
Decanes Plus	145438	0 *	145437	0 *	0.179099

Stream Properties

Property	Units	Facility Inlet	Gas Saturation	HT Oil	Produced Water	Sales Gas
Temperature	°F	86.7323	327.72	120	86 *	85.8503
Pressure	psig	87	87	40	87 *	80
Molecular Weight	lb/lbmol	22.3147	18.0153	146.225	18.0153	23.2583
Mass Flow	lb/h	1.26785E+06	751.81	239112	875314	153223
Std Vapor Volumetric Flow	MMSCFD	517.466	0.380077	14.8931	442.515	60
Std Liquid Volumetric Flow	sgpm	3198.5	1.50292	613.82	1749.82 *	833.837
Gross Ideal Gas Heating Value	Btu/ft^3	424.168	50.31	7715.03	50.31	1370.24

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Connections

	Treater Gas	Well Gas	Well Oil	Wet Gas	1
From Block	Heater Treaters	--	--	SAT-1	Production Separators
To Block	Elect Booster	SAT-1	SPLT-100	MIX-102	MIX-103

Stream Composition

Mole Fraction	Treater Gas %	Well Gas %	Well Oil %	Wet Gas %	1 %
Carbon Dioxide	0.193451	0.178998 *	0.0135 *	0.177868	0.176388
Nitrogen	0.223622	0.918991 *	0.02618 *	0.913191	0.92877
Methane	41.2118	70.0423 *	1.84912 *	69.6002	70.3599
Ethane	23.1411	14.5839 *	2.50262 *	14.4918	14.6588
Propane	17.9809	7.85392 *	4.34866 *	7.80435	7.82468
Isobutane	2.76467	1.06799 *	1.30604 *	1.06125	1.02455
n-Butane	7.06514	2.64197 *	4.5915 *	2.6253	2.48961
Isopentane	1.71289	0.634994 *	2.54353 *	0.630986	0.546745
n-Pentane	1.8944	0.684993 *	3.67212 *	0.68067	0.583237
n-Hexane	0.444234	0.204998 *	2.51901 *	0.203704	0.121359
Cyclohexane	0.0764284	0.188998 *	0 *	0.187805	0.0207797
i-C6	0.676085	0.316997 *	2.70515 *	0.314996	0.193246
i-C7	0.92326	0.281997 *	10.9925 *	0.280217	0.240896
Methylcyclohexane	0.0262674	0.118999 *	0 *	0.118248	0.00666376
Octane	0.261233	0.0829992 *	12.619 *	0.0824753	0.0594162
Nonane	0.0441674	0.0279997 *	5.88233 *	0.027823	0.00907885
Benzene	0.220333	0.0929991 *	1.49547 *	0.0924121	0.0604703
Toluene	0.129835	0.0519995 *	2.85165 *	0.0516713	0.0321272
Ethylbenzene	0.00672601	0.00199998 *	0.41215 *	0.00198736	0.00152005
o-Xylene	0.0305502	0.0119999 *	2.28691 *	0.0119241	0.00681556
H2S	0.00169289	0.00099999 *	0 *	0.000993679	0.000886357
Water	0.942677	0 *	0 *	0.631138	0.646766
2,2,4-Trimethylpentane	0.0284216	0 *	0.506 *	0	0.00728824
Decanes Plus	0.000101039	0.00899991 *	36.8766 *	0.00894311	1.03125E-05

Mass Fraction	Treater Gas %	Well Gas %	Well Oil %	Wet Gas %	1 %
Carbon Dioxide	0.259308	0.330624 *	0.00408509 *	0.329043	0.335064
Nitrogen	0.1908	1.08048 *	0.00504263 *	1.07531	1.12301
Methane	20.1368	47.1596 *	0.203966 *	46.9342	48.7199
Ethane	21.1935	18.4048 *	0.517411 *	18.3168	19.0252
Propane	24.1493	14.5352 *	1.31848 *	14.4657	14.8927
Isobutane	4.89423	2.60524 *	0.521939 *	2.59279	2.57031
n-Butane	12.5072	6.4448 *	1.83492 *	6.414	6.24574
Isopentane	3.76406	1.92281 *	1.26179 *	1.91362	1.70265
n-Pentane	4.16293	2.07422 *	1.82166 *	2.0643	1.81629
n-Hexane	1.16599	0.741432 *	1.49257 *	0.737889	0.451406
Cyclohexane	0.19591	0.667574 *	0 *	0.664383	0.0754838
i-C6	1.77453	1.14651 *	1.60286 *	1.14103	0.718794
i-C7	2.81772	1.18593 *	7.57344 *	1.18026	1.04188
Methylcyclohexane	0.0785535	0.490378 *	0 *	0.488035	0.028241
Octane	0.908866	0.397912 *	9.9111 *	0.39601	0.292948
Nonane	0.172534	0.150719 *	5.18735 *	0.149998	0.0502593
Benzene	0.524198	0.304884 *	0.803185 *	0.303427	0.203878
Toluene	0.36436	0.201084 *	1.80658 *	0.200123	0.127769
Ethylbenzene	0.0217489	0.0089114 *	0.300855 *	0.00886881	0.00696548
o-Xylene	0.0987857	0.0534684 *	1.66937 *	0.0532128	0.0312315
H2S	0.00175726	0.00143036 *	0 *	0.00142352	0.00130386
Water	0.517252	0 *	0 *	0.47794	0.50292
2,2,4-Trimethylpentane	0.0988829	0 *	0.397417 *	0	0.0359342
Decanes Plus	0.000749661	0.0920141 *	61.766 *	0.0915743	0.000108431

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Mass Flow	Treater Gas lb/h	Well Gas lb/h	Well Oil lb/h	Wet Gas lb/h	1 lb/h
Carbon Dioxide	5.2399	517.592 *	12.9619 *	517.592	506.625
Nitrogen	3.85555	1691.49 *	16.0001 *	1691.49	1698.03
Methane	406.91	73828.5 *	647.178 *	73828.5	73665.9
Ethane	428.262	28812.7 *	1641.73 *	28812.7	28766.6
Propane	487.992	22754.9 *	4183.49 *	22754.9	22518.1
Isobutane	98.899	4078.51 *	1656.1 *	4078.51	3886.38
n-Butane	252.737	10089.4 *	5822.16 *	10089.4	9443.73
Isopentane	76.0613	3010.17 *	4003.62 *	3010.17	2574.45
n-Pentane	84.1215	3247.19 *	5780.07 *	3247.19	2746.28
n-Hexane	23.5614	1160.71 *	4735.88 *	1160.71	682.538
Cyclohexane	3.9588	1045.09 *	0 *	1045.09	114.134
i-C6	35.8583	1794.86 *	5085.83 *	1794.86	1086.84
i-C7	56.9385	1856.58 *	24030.3 *	1856.58	1575.35
Methylcyclohexane	1.58735	767.689 *	0 *	767.689	42.7011
Octane	18.3657	622.933 *	31447.7 *	622.933	442.945
Nonane	3.48644	235.951 *	16459.3 *	235.951	75.9934
Benzene	10.5926	477.297 *	2548.48 *	477.297	308.269
Toluene	7.36273	314.798 *	5732.24 *	314.798	193.19
Ethylbenzene	0.439486	13.9508 *	954.606 *	13.9508	10.532
o-Xylene	1.99619	83.7049 *	5296.85 *	83.7049	47.2229
H2S	0.0355095	2.23923 *	0 *	2.23923	1.97147
Water	10.4523	0 *	0 *	751.81	760.429
2,2,4-Trimethylpentane	1.99815	0 *	1260.99 *	0	54.3335
Decanes Plus	0.0151486	144.048 *	195982 *	144.048	0.16395

Stream Properties

Property	Units	Treater Gas	Well Gas	Well Oil	Wet Gas	1
Temperature	°F	120 *	86 *	86 *	86	86.7323
Pressure	psig	40	87 *	87 *	87	87
Molecular Weight	lb/lbmol	32.8323	23.8266	145.438	23.7899	23.168
Mass Flow	lb/h	2020.73	156550	317297	157302	151203
Std Vapor Volumetric Flow	MMSCFD	0.560545	59.8408 *	19.8697	60.2209	59.4395
Std Liquid Volumetric Flow	sgpm	9.28282	841.739	816.667 *	843.242	824.554
Gross Ideal Gas Heating Value	Btu/ft^3	1889.06	1406.59	7673.74	1398.03	1365.34

Remarks

Well Gas:
Corral Canyon FWKO 900
8/20/19 Sample Date

Well Oil:
Corral Canyon FKWK 900
8/20/19 Sample Date

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Connections

	2	3	4	5	6
From Block	Production Separators	Production Separators	VLVE-100	VLVE-101	SPLT-100
To Block	VLVE-101	VLVE-100	MIX-101	Heater Treaters	MIX-102

Stream Composition

Mole Fraction	2 %	3 %	4 %	5 %	6 %
Carbon Dioxide	0.0131925	0.000501518	0.000501518	0.0131925	0.0135
Nitrogen	0.00921525	6.9641E-05	6.9641E-05	0.00921525	0.02618
Methane	2.05602	0.0106184	0.0106184	2.05602	1.84912
Ethane	2.38929	0.00302867	0.00302867	2.38929	2.50262
Propane	4.4302	0.00109824	0.00109824	4.4302	4.34866
Isobutane	1.43714	9.14905E-05	9.14905E-05	1.43714	1.30604
n-Butane	5.02243	0.000311619	0.000311619	5.02243	4.5915
Isopentane	2.77918	4.47243E-05	4.47243E-05	2.77918	2.54353
n-Pentane	3.90891	2.09451E-05	2.09451E-05	3.90891	3.67212
n-Hexane	2.72811	2.80579E-06	2.80579E-06	2.72811	2.51901
Cyclohexane	0.651682	8.58892E-06	8.58892E-06	0.651682	0
i-C6	3.06256	8.87836E-06	8.87836E-06	3.06256	2.70515
i-C7	10.6435	6.61664E-06	6.61664E-06	10.6435	10.9925
Methylcyclohexane	0.435133	1.14839E-06	1.14839E-06	0.435133	0
Octane	12.1215	4.04736E-07	4.04736E-07	12.1215	12.619
Nonane	5.68064	5.27021E-08	5.27021E-08	5.68064	5.88233
Benzene	1.5265	0.000926815	0.000926815	1.5265	1.49547
Toluene	2.78567	0.000361711	0.000361711	2.78567	2.85165
Ethylbenzene	0.394361	1.41555E-05	1.41555E-05	0.394361	0.41215
o-Xylene	2.19746	9.48626E-05	9.48626E-05	2.19746	2.28691
H2S	0.000245706	7.58879E-06	7.58879E-06	0.000245706	0
Water	0.0865273	99.9828	99.9828	0.0865273	0
2,2,4-Trimethylpentane	0.454291	1.55333E-07	1.55333E-07	0.454291	0.506
Decanes Plus	35.1863	6.36024E-09	6.36024E-09	35.1863	36.8766

Mass Fraction	2 %	3 %	4 %	5 %	6 %
Carbon Dioxide	0.00408549	0.00122504	0.00122504	0.00408549	0.00408509
Nitrogen	0.00181653	0.00010828	0.00010828	0.00181653	0.00504263
Methane	0.232097	0.00945472	0.00945472	0.232097	0.203966
Ethane	0.505543	0.00505463	0.00505463	0.505543	0.517411
Propane	1.37464	0.00268789	0.00268789	1.37464	1.31848
Isobutane	0.587774	0.000295145	0.000295145	0.587774	0.521939
n-Butane	2.05412	0.00100527	0.00100527	2.05412	1.83492
Isopentane	1.41096	0.000179098	0.000179098	1.41096	1.26179
n-Pentane	1.98451	8.38742E-05	8.38742E-05	1.98451	1.82166
n-Hexane	1.6543	1.34201E-05	1.34201E-05	1.6543	1.49257
Cyclohexane	0.385931	4.01198E-05	4.01198E-05	0.385931	0
i-C6	1.85711	4.24652E-05	4.24652E-05	1.85711	1.60286
i-C7	7.50462	3.67986E-05	3.67986E-05	7.50462	7.57344
Methylcyclohexane	0.300637	6.25833E-06	6.25833E-06	0.300637	0
Octane	9.74323	2.56605E-06	2.56605E-06	9.74323	9.9111
Nonane	5.12675	3.75163E-07	3.75163E-07	5.12675	5.18735
Benzene	0.839041	0.00401816	0.00401816	0.839041	0.803185
Toluene	1.8061	0.00184978	0.00184978	1.8061	1.80658
Ethylbenzene	0.294609	8.34112E-05	8.34112E-05	0.294609	0.300855
o-Xylene	1.64162	0.000558977	0.000558977	1.64162	1.66937
H2S	5.89246E-05	1.43549E-05	1.43549E-05	5.89246E-05	0
Water	0.0109689	99.9732	99.9732	0.0109689	0
2,2,4-Trimethylpentane	0.365156	9.84815E-07	9.84815E-07	0.365156	0.397417
Decanes Plus	60.3143	8.59941E-08	8.59941E-08	60.3143	61.766

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Mass Flow	2 lb/h	3 lb/h	4 lb/h	5 lb/h	6 lb/h
Carbon Dioxide	9.85145	10.7254	10.7254	9.85145	9.60945
Nitrogen	4.38025	0.948006	0.948006	4.38025	11.8619
Methane	559.661	82.7773	82.7773	559.661	479.793
Ethane	1219.03	44.254	44.254	1219.03	1217.12
Propane	3314.71	23.5329	23.5329	3314.71	3101.48
Isobutane	1417.31	2.58403	2.58403	1417.31	1227.77
n-Butane	4953.15	8.8013	8.8013	4953.15	4316.33
Isopentane	3402.29	1.56803	1.56803	3402.29	2968.14
n-Pentane	4785.31	0.73433	0.73433	4785.31	4285.13
n-Hexane	3989.06	0.117495	0.117495	3989.06	3511
Cyclohexane	930.604	0.351254	0.351254	930.604	0
i-C6	4478.1	0.371789	0.371789	4478.1	3770.45
i-C7	18096.1	0.322177	0.322177	18096.1	17815.2
Methylcyclohexane	724.933	0.0547925	0.0547925	724.933	0
Octane	23494.1	0.0224661	0.0224661	23494.1	23314.1
Nonane	12362.3	0.0032846	0.0032846	12362.3	12202.3
Benzene	2023.2	35.1796	35.1796	2023.2	1889.35
Toluene	4355.08	16.1951	16.1951	4355.08	4249.67
Ethylbenzene	710.398	0.730276	0.730276	710.398	707.709
o-Xylene	3958.48	4.89392	4.89392	3958.48	3926.89
H2S	0.142086	0.125679	0.125679	0.142086	0
Water	26.4496	875279	875279	26.4496	0
2,2,4-Trimethylpentane	880.511	0.00862218	0.00862218	880.511	934.853
Decanes Plus	145437	0.00075289	0.00075289	145437	145294

Stream Properties

Property	Units	2	3	4	5	6
Temperature	°F	86.7323	86.7323	86.9396	85.7159	86
Pressure	psig	87	87	0.25 *	40 *	87
Molecular Weight	lb/lbmol	142.112	18.017	18.017	142.112	145.438
Mass Flow	lb/h	241133	875513	875513	241133	235232
Std Vapor Volumetric Flow	MMSCFD	15.4536	442.573	442.573	15.4536	14.7307
Std Liquid Volumetric Flow	sgpm	623.103	1750.85	1750.85	623.103	605.446 *
Gross Ideal Gas Heating Value	Btu/ft^3	7503.71	50.5636	50.5636	7503.71	7673.74

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Connections

	8	9	10	11	12
From Block	Heater Treaters	VLVE-102	MIX-101	VLVE-104	VLVE-103
To Block	VLVE-102	MIX-101	Prod. Water	Production Separators	Treater Oil

Stream Composition

Mole Fraction	8 %	9 %	10 %	11 %	12 %
Carbon Dioxide			0.000501518	0.021084	0.00640796
Nitrogen			6.9641E-05	0.107019	0.00114543
Methane			0.0106184	8.15247	0.582281
Ethane			0.00302867	1.75775	1.60823
Propane			0.00109824	1.03204	3.92018
Isobutane			9.14905E-05	0.160683	1.38717
n-Butane			0.000311619	0.436229	4.94554
Isopentane			4.47243E-05	0.145838	2.81931
n-Pentane			2.09451E-05	0.183748	3.98473
n-Hexane			2.80579E-06	0.0954149	2.81407
Cyclohexane			8.58892E-06	0.0218561	0.673334
i-C6			8.87836E-06	0.113666	3.15238
i-C7			6.61664E-06	0.345533	11.0093
Methylcyclohexane			1.14839E-06	0.0137613	0.450522
Octane			4.04736E-07	0.368824	12.5679
Nonane			5.27021E-08	0.17069	5.89279
Benzene			0.000926815	0.0533261	1.57566
Toluene			0.000361711	0.0871911	2.88563
Ethylbenzene			1.41555E-05	0.0119639	0.408951
o-Xylene			9.48626E-05	0.066489	2.27902
H2S			7.58879E-06	0.000115641	0.000191237
Water			99.9828	85.5891	0.0543035
2,2,4-Trimethylpentane			1.55333E-07	0.0144043	0.47032
Decanes Plus			6.36024E-09	1.05081	36.5106

Mass Fraction	8 %	9 %	10 %	11 %	12 %
Carbon Dioxide			0.00122504	0.0415824	0.00192861
Nitrogen			0.00010828	0.13435	0.000219439
Methane			0.00945472	5.86098	0.0638827
Ethane			0.00505463	2.36857	0.33071
Propane			0.00268789	2.03939	1.18217
Isobutane			0.000295145	0.418526	0.55138
n-Butane			0.00100527	1.13623	1.96578
Isopentane			0.000179098	0.471532	1.39108
n-Pentane			8.38742E-05	0.594103	1.96611
n-Hexane			1.34201E-05	0.368476	1.65843
Cyclohexane			4.01198E-05	0.0824301	0.387536
i-C6			4.24652E-05	0.438957	1.85781
i-C7			3.67986E-05	1.55159	7.54423
Methylcyclohexane			6.25833E-06	0.0605505	0.302514
Octane			2.56605E-06	1.88801	9.81788
Nonane			3.75163E-07	0.981053	5.16862
Benzene			0.00401816	0.186666	0.841701
Toluene			0.00184978	0.360017	1.81828
Ethylbenzene			8.34112E-05	0.0569201	0.296915
o-Xylene			0.000558977	0.316331	1.65466
H2S			1.43549E-05	0.000176617	4.4572E-05
Water			99.9732	69.0986	0.00669034
2,2,4-Trimethylpentane			9.84815E-07	0.0737354	0.367407
Decanes Plus			8.59941E-08	11.4712	60.824

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Mass Flow	8 lb/h	9 lb/h	10 lb/h	11 lb/h	12 lb/h
Carbon Dioxide			10.7254	527.202	4.61155
Nitrogen			0.948006	1703.35	0.524705
Methane			82.7773	74308.3	152.751
Ethane			44.254	30029.9	790.766
Propane			23.5329	25856.4	2826.71
Isobutane			2.58403	5306.28	1318.41
n-Butane			8.8013	14405.7	4700.41
Isopentane			1.56803	5978.31	3326.23
n-Pentane			0.73433	7532.32	4701.19
n-Hexane			0.117495	4671.72	3965.5
Cyclohexane			0.351254	1045.09	926.645
i-C6			0.371789	5565.31	4442.24
i-C7			0.322177	19671.8	18039.1
Methylcyclohexane			0.0547925	767.689	723.346
Octane			0.0224661	23937.1	23475.7
Nonane			0.0032846	12438.3	12358.8
Benzene			35.1796	2366.65	2012.61
Toluene			16.1951	4564.47	4347.72
Ethylbenzene			0.730276	721.66	709.958
o-Xylene			4.89392	4010.59	3956.48
H2S			0.125679	2.23923	0.106577
Water			875279	876066	15.9974
2,2,4-Trimethylpentane			0.00862218	934.853	878.513
Decanes Plus			0.00075289	145438	145437

Stream Properties

Property	Units	8	9	10	11	12
Temperature	°F	120		86.9396	86.7323	113.779
Pressure	psig	40	0.25 *	0.25	87 *	3 *
Molecular Weight	lb/lbmol			18.017	22.3147	146.225
Mass Flow	lb/h	0	0	875513	1.26785E+06	239112
Std Vapor Volumetric Flow	MMSCFD	0	0	442.573	517.466	14.8931
Std Liquid Volumetric Flow	sgpm	0	0	1750.85	3198.5	613.82
Gross Ideal Gas Heating Value	Btu/ft^3			50.5636	424.168	7715.03

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Connections

	13	15	16		
From Block	SPLT-100	Elect Booster	FAXR-100		
To Block	Flowback	FAXR-100	MIX-103		

Stream Composition

Mole Fraction	13 %	15 %	16 %		
Carbon Dioxide	0.0135	0.193451	0.193451		
Nitrogen	0.02618	0.223622	0.223622		
Methane	1.84912	41.2118	41.2118		
Ethane	2.50262	23.1411	23.1411		
Propane	4.34866	17.9809	17.9809		
Isobutane	1.30604	2.76467	2.76467		
n-Butane	4.5915	7.06514	7.06514		
Isopentane	2.54353	1.71289	1.71289		
n-Pentane	3.67212	1.8944	1.8944		
n-Hexane	2.51901	0.444234	0.444234		
Cyclohexane	0	0.0764284	0.0764284		
i-C6	2.70515	0.676085	0.676085		
i-C7	10.9925	0.92326	0.92326		
Methylcyclohexane	0	0.0262674	0.0262674		
Octane	12.619	0.261233	0.261233		
Nonane	5.88233	0.0441674	0.0441674		
Benzene	1.49547	0.220333	0.220333		
Toluene	2.85165	0.129835	0.129835		
Ethylbenzene	0.41215	0.00672601	0.00672601		
o-Xylene	2.28691	0.0305502	0.0305502		
H2S	0	0.00169289	0.00169289		
Water	0	0.942677	0.942677		
2,2,4-Trimethylpentane	0.506	0.0284216	0.0284216		
Decanes Plus	36.8766	0.000101039	0.000101039		

Mass Fraction	13 %	15 %	16 %		
Carbon Dioxide	0.00408509	0.259308	0.259308		
Nitrogen	0.00504263	0.1908	0.1908		
Methane	0.203966	20.1368	20.1368		
Ethane	0.517411	21.1935	21.1935		
Propane	1.31848	24.1493	24.1493		
Isobutane	0.521939	4.89423	4.89423		
n-Butane	1.83492	12.5072	12.5072		
Isopentane	1.26179	3.76406	3.76406		
n-Pentane	1.82166	4.16293	4.16293		
n-Hexane	1.49257	1.16599	1.16599		
Cyclohexane	0	0.19591	0.19591		
i-C6	1.60286	1.77453	1.77453		
i-C7	7.57344	2.81772	2.81772		
Methylcyclohexane	0	0.0785535	0.0785535		
Octane	9.9111	0.908866	0.908866		
Nonane	5.18735	0.172534	0.172534		
Benzene	0.803185	0.524198	0.524198		
Toluene	1.80658	0.36436	0.36436		
Ethylbenzene	0.300855	0.0217489	0.0217489		
o-Xylene	1.66937	0.0987857	0.0987857		
H2S	0	0.00175726	0.00175726		
Water	0	0.517252	0.517252		
2,2,4-Trimethylpentane	0.397417	0.0988829	0.0988829		
Decanes Plus	61.766	0.000749661	0.000749661		

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Inlet	

Mass Flow	13 lb/h	15 lb/h	16 lb/h		
Carbon Dioxide	2.40493	5.2399	5.2399		
Nitrogen	2.96864	3.85555	3.85555		
Methane	120.077	406.91	406.91		
Ethane	304.605	428.262	428.262		
Propane	776.199	487.992	487.992		
Isobutane	307.27	98.899	98.899		
n-Butane	1080.24	252.737	252.737		
Isopentane	742.828	76.0613	76.0613		
n-Pentane	1072.43	84.1215	84.1215		
n-Hexane	878.689	23.5614	23.5614		
Cyclohexane	0	3.9588	3.9588		
i-C6	943.619	35.8583	35.8583		
i-C7	4458.55	56.9385	56.9385		
Methylcyclohexane	0	1.58735	1.58735		
Octane	5834.76	18.3657	18.3657		
Nonane	3053.84	3.48644	3.48644		
Benzene	472.843	10.5926	10.5926		
Toluene	1063.55	7.36273	7.36273		
Ethylbenzene	177.116	0.439486	0.439486		
o-Xylene	982.772	1.99619	1.99619		
H2S	0	0.0355095	0.0355095		
Water	0	10.4523	10.4523		
2,2,4-Trimethylpentane	233.963	1.99815	1.99815		
Decanes Plus	36362.2	0.0151486	0.0151486		

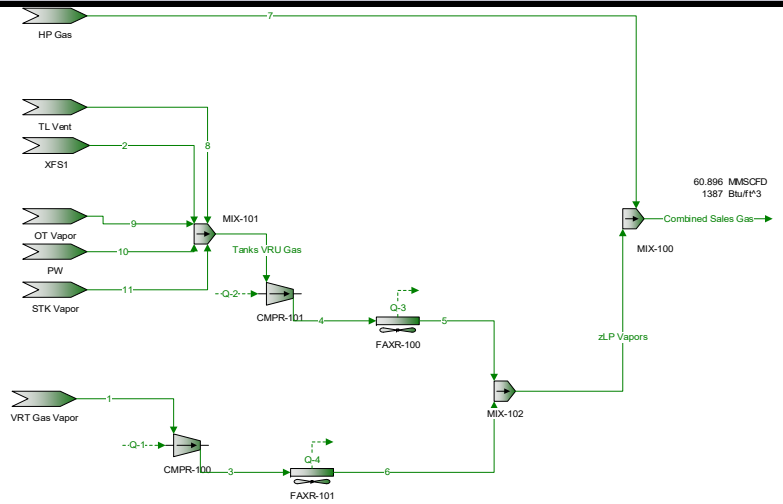
Stream Properties

Property	Units	13	15	16		
Temperature	°F	86	218.081	90 *		
Pressure	psig	87	85 *	80 *		
Molecular Weight	lb/lbmol	145.438	32.8323	32.8323		
Mass Flow	lb/h	58870.9	2020.73	2020.73		
Std Vapor Volumetric Flow	MMSCFD	3.68661	0.560545	0.560545		
Std Liquid Volumetric Flow	sgpm	151.523	9.28282	9.28282		
Gross Ideal Gas Heating Value	Btu/ft^3	7673.74	1889.06	1889.06		

Remarks

Sales
Plant Schematic

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Sales	



Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT	
Location:	CC New TB		
Flowsheet:	Sales		

Connections

	Combined Sales Gas	Tanks VRU Gas	zLP Vapors	1	2
From Block	MIX-100	MIX-101	MIX-102	VRT Gas Vapor	XFS1
To Block	--	CMPR-101	MIX-100	CMPR-100	MIX-101

Stream Composition

Mole Fraction	Combined Sales Gas %	Tanks VRU Gas %	zLP Vapors %	1 %	2 %
Carbon Dioxide	0.176367	0.41057	0.164262	0.107653	0.0469615
Nitrogen	0.909388	0.180899	0.0523002	0.0227445	0.000362491
Methane	69.2643	27.8413	14.1113	10.9558	0.658086
Ethane	14.8437	20.1359	21.9225	22.3331	20.812
Propane	8.23516	23.4604	29.3774	30.7372	35.4572
Isobutane	1.10586	4.22952	5.46415	5.7479	7.04037
n-Butane	2.70979	11.5665	14.5968	15.2933	19.5465
Isopentane	0.603055	2.8435	3.64557	3.82991	5.04353
n-Pentane	0.645574	3.06759	4.00106	4.2156	5.56015
n-Hexane	0.13571	0.681475	0.895011	0.944088	1.29246
Cyclohexane	0.0232286	0.108174	0.152458	0.162636	0.167037
i-C6	0.215385	1.06238	1.39638	1.47314	1.94901
i-C7	0.269294	1.0648	1.74464	1.90089	0.744915
Methylcyclohexane	0.00747514	0.0327027	0.0495625	0.0534373	0.0549483
Octane	0.0671332	0.338624	0.457799	0.485189	0.628785
Nonane	0.0103221	0.0521656	0.0716484	0.0761261	0.0973366
Benzene	0.0679576	0.452749	0.469496	0.473345	0.472147
Toluene	0.0363366	0.244521	0.257182	0.260091	0.278635
Ethylbenzene	0.00172745	0.0116805	0.012363	0.0125198	0.0146621
o-Xylene	0.0077475	0.0509741	0.0553264	0.0563267	0.0553345
H2S	0.000915943	0.00332002	0.00239322	0.00218021	0.00175881
Water	0.655356	2.11822	1.04562	0.799107	0.000503706
2,2,4-Trimethylpentane	0.00817974	0.0419491	0.0546772	0.0576025	0.0773519
Decanes Plus	1.23359E-05	6.2244E-05	9.11063E-05	9.77397E-05	8.16328E-05

Mass Fraction	Combined Sales Gas %	Tanks VRU Gas %	zLP Vapors %	1 %	2 %
Carbon Dioxide	0.329296	0.466103	0.162395	0.103361	0.0409346
Nitrogen	1.08078	0.130722	0.0329122	0.0139004	0.000201125
Methane	47.1415	11.5215	5.08542	3.83441	0.209101
Ethane	18.9358	15.6185	14.808	14.6505	12.3947
Propane	15.406	26.6857	29.1002	29.5695	30.9672
Isobutane	2.72688	6.34134	7.13432	7.28845	8.10475
n-Butane	6.68192	17.3417	19.0585	19.3922	22.5016
Isopentane	1.8459	5.29212	5.90857	6.0284	7.20718
n-Pentane	1.97605	5.70919	6.48473	6.63548	7.94544
n-Hexane	0.496155	1.51489	1.7326	1.77492	2.20598
Cyclohexane	0.0829372	0.23484	0.288231	0.298609	0.278431
i-C6	0.787448	2.36162	2.70317	2.76956	3.32659
i-C7	1.14479	2.75228	3.92708	4.15544	1.47838
Methylcyclohexane	0.0311381	0.0828287	0.109318	0.114466	0.106858
Octane	0.325338	0.997791	1.17473	1.20912	1.42259
Nonane	0.0561648	0.172587	0.206428	0.213006	0.24726
Benzene	0.225205	0.912268	0.823828	0.806638	0.730461
Toluene	0.142039	0.581172	0.532315	0.522818	0.508486
Ethylbenzene	0.00778052	0.0319883	0.0294844	0.0289977	0.0308305
o-Xylene	0.0348952	0.139598	0.131948	0.130461	0.116354
H2S	0.00132435	0.00291876	0.00183223	0.00162104	0.00118722
Water	0.500888	0.984374	0.423159	0.314073	0.00017973
2,2,4-Trimethylpentane	0.0396403	0.123607	0.140304	0.143549	0.175004

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Sales	

Mass Fraction	Combined Sales Gas %	Tanks VRU Gas %	zLP Vapors %	1 %	2 %
Decanes Plus	0.000127489	0.000391132	0.000498556	0.000519436	0.000393862

Mass Flow	Combined Sales Gas lb/h	Tanks VRU Gas lb/h	zLP Vapors lb/h	1 lb/h	2 lb/h
Carbon Dioxide	518.974	3.32057	7.1089	3.78833	0.042505
Nitrogen	1703.32	0.931278	1.44074	0.509467	0.00020884
Methane	74295.4	82.0802	222.616	140.536	0.217123
Ethane	29843.1	111.268	648.228	536.96	12.8702
Propane	24280	190.112	1273.87	1083.76	32.1552
Isobutane	4297.59	45.1764	312.308	267.131	8.41567
n-Butane	10530.8	123.544	834.294	710.75	23.3648
Isopentane	2909.16	37.7016	258.65	220.949	7.48367
n-Pentane	3114.27	40.6729	283.872	243.199	8.25025
n-Hexane	781.945	10.7922	75.8455	65.0533	2.29061
Cyclohexane	130.71	1.67303	12.6175	10.9444	0.289113
i-C6	1241.03	16.8244	118.332	101.508	3.4542
i-C7	1804.2	19.6075	171.91	152.302	1.53509
Methylcyclohexane	49.0739	0.59008	4.78543	4.19535	0.110957
Octane	512.735	7.10836	51.4242	44.3159	1.47716
Nonane	88.5163	1.22952	9.03649	7.80696	0.256745
Benzene	354.925	6.49909	36.0634	29.5644	0.758483
Toluene	223.855	4.14033	23.3023	19.162	0.527992
Ethylbenzene	12.2622	0.227888	1.29069	1.0628	0.0320133
o-Xylene	54.9952	0.994509	5.77607	4.78156	0.120817
H2S	2.08718	0.0207936	0.0802069	0.0594133	0.00123277
Water	789.405	7.01278	18.524	11.5112	0.000186625
2,2,4-Trimethylpentane	62.4735	0.880592	6.14185	5.26126	0.181718
Decanes Plus	0.200923	0.00278646	0.0218245	0.019038	0.000408972

Stream Properties

Property	Units	Combined Sales Gas	Tanks VRU Gas	zLP Vapors	1	2
Temperature	°F	84.2603	95.8385	99.2365	100	110.616
Pressure	psig	80	0.25	80	3	10.4493
Molecular Weight	lb/lbmol	23.571	38.7661	44.5156	45.837	50.4891
Mass Flow	lb/h	157601	712.41	4377.54	3665.13	103.836
Std Vapor Volumetric Flow	MMSCFD	60.8956	0.167372	0.895618	0.728246	0.0187308
Std Liquid Volumetric Flow	sgpm	851.202	2.9778	17.3659	14.3881	0.392023
Gross Ideal Gas Heating Value	Btu/ft^3	1387.05	2186.53	2513.32	2588.42	2848.03

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Sales	

Connections

	3	4	5	6	7
From Block	CMPR-100	CMPR-101	FAXR-100	FAXR-101	HP Gas
To Block	FAXR-101	FAXR-100	MIX-102	MIX-102	MIX-100

Stream Composition

Mole Fraction	3 %	4 %	5 %	6 %	7 %
Carbon Dioxide	0.107653	0.41057	0.41057	0.107653	0.176548
Nitrogen	0.0227445	0.180899	0.180899	0.0227445	0.922182
Methane	10.9558	27.8413	27.8413	10.9558	70.0876
Ethane	22.3331	20.1359	20.1359	22.3331	14.738
Propane	30.7372	23.4604	23.4604	30.7372	7.91957
Isobutane	5.7479	4.22952	4.22952	5.7479	1.04081
n-Butane	15.2933	11.5665	11.5665	15.2933	2.53236
Isopentane	3.82991	2.8435	2.8435	3.82991	0.55764
n-Pentane	4.2156	3.06759	3.06759	4.2156	0.595487
n-Hexane	0.944088	0.681475	0.681475	0.944088	0.124376
Cyclohexane	0.162636	0.108174	0.108174	0.162636	0.0212996
i-C6	1.47314	1.06238	1.06238	1.47314	0.197757
i-C7	1.90089	1.0648	1.0648	1.90089	0.247271
Methylcyclohexane	0.0534373	0.0327027	0.0327027	0.0534373	0.0068469
Octane	0.485189	0.338624	0.338624	0.485189	0.0613017
Nonane	0.0761261	0.0521656	0.0521656	0.0761261	0.00940667
Benzene	0.473345	0.452749	0.452749	0.473345	0.0619638
Toluene	0.260091	0.244521	0.244521	0.260091	0.03304
Ethylbenzene	0.0125198	0.0116805	0.0116805	0.0125198	0.00156869
o-Xylene	0.0563267	0.0509741	0.0509741	0.0563267	0.00703729
H2S	0.00218021	0.00332002	0.00332002	0.00218021	0.000893892
Water	0.799107	2.11822	2.11822	0.799107	0.64953
2,2,4-Trimethylpentane	0.0576025	0.0419491	0.0419491	0.0576025	0.00748567
Decanes Plus	9.77397E-05	6.2244E-05	6.2244E-05	9.77397E-05	1.11601E-05

Mass Fraction	3 %	4 %	5 %	6 %	7 %
Carbon Dioxide	0.103361	0.466103	0.466103	0.103361	0.334064
Nitrogen	0.0139004	0.130722	0.130722	0.0139004	1.11072
Methane	3.83441	11.5215	11.5215	3.83441	48.343
Ethane	14.6505	15.6185	15.6185	14.6505	19.0538
Propane	29.5695	26.6857	26.6857	29.5695	15.0148
Isobutane	7.28845	6.34134	6.34134	7.28845	2.60096
n-Butane	19.3922	17.3417	17.3417	19.3922	6.32832
Isopentane	6.0284	5.29212	5.29212	6.0284	1.72983
n-Pentane	6.63548	5.70919	5.70919	6.63548	1.84724
n-Hexane	1.77492	1.51489	1.51489	1.77492	0.46083
Cyclohexane	0.298609	0.23484	0.23484	0.298609	0.077072
i-C6	2.76956	2.36162	2.36162	2.76956	0.732717
i-C7	4.15544	2.75228	2.75228	4.15544	1.0653
Methylcyclohexane	0.114466	0.0828287	0.0828287	0.114466	0.0289045
Octane	1.20912	0.997791	0.997791	1.20912	0.301071
Nonane	0.213006	0.172587	0.172587	0.213006	0.0518719
Benzene	0.806638	0.912268	0.912268	0.806638	0.208102
Toluene	0.522818	0.581172	0.581172	0.522818	0.130889
Ethylbenzene	0.0289977	0.0319883	0.0319883	0.0289977	0.00716045
o-Xylene	0.130461	0.139598	0.139598	0.130461	0.0321224
H2S	0.00162104	0.00291876	0.00291876	0.00162104	0.00130984
Water	0.314073	0.984374	0.984374	0.314073	0.503109
2,2,4-Trimethylpentane	0.143549	0.123607	0.123607	0.143549	0.0367644
Decanes Plus	0.000519436	0.000391132	0.000391132	0.000519436	0.000116887

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Sales	

Mass Flow	3 lb/h	4 lb/h	5 lb/h	6 lb/h	7 lb/h
Carbon Dioxide	3.78833	3.32057	3.32057	3.78833	511.865
Nitrogen	0.509467	0.931278	0.931278	0.509467	1701.88
Methane	140.536	82.0802	82.0802	140.536	74072.8
Ethane	536.96	111.268	111.268	536.96	29194.8
Propane	1083.76	190.112	190.112	1083.76	23006.1
Isobutane	267.131	45.1764	45.1764	267.131	3985.28
n-Butane	710.75	123.544	123.544	710.75	9696.47
Isopentane	220.949	37.7016	37.7016	220.949	2650.51
n-Pentane	243.199	40.6729	40.6729	243.199	2830.4
n-Hexane	65.0533	10.7922	10.7922	65.0533	706.099
Cyclohexane	10.9444	1.67303	1.67303	10.9444	118.092
i-C6	101.508	16.8244	16.8244	101.508	1122.69
i-C7	152.302	19.6075	19.6075	152.302	1632.29
Methylcyclohexane	4.19535	0.59008	0.59008	4.19535	44.2885
Octane	44.3159	7.10836	7.10836	44.3159	461.311
Nonane	7.80696	1.22952	1.22952	7.80696	79.4799
Benzene	29.5644	6.49909	6.49909	29.5644	318.861
Toluene	19.162	4.14033	4.14033	19.162	200.552
Ethylbenzene	1.0628	0.227888	0.227888	1.0628	10.9715
o-Xylene	4.78156	0.994509	0.994509	4.78156	49.2191
H2S	0.0594133	0.0207936	0.0207936	0.0594133	2.00698
Water	11.5112	7.01278	7.01278	11.5112	770.881
2,2,4-Trimethylpentane	5.26126	0.880592	0.880592	5.26126	56.3316
Decanes Plus	0.019038	0.00278646	0.00278646	0.019038	0.179099

Stream Properties

Property	Units	3	4	5	6	7
Temperature	°F	275 *	305 *	100 *	100 *	85.8503
Pressure	psig	85 *	85 *	80 *	80 *	80
Molecular Weight	lb/lbmol	45.837	38.7661	38.7661	45.837	23.2583
Mass Flow	lb/h	3665.13	712.41	712.41	3665.13	153223
Std Vapor Volumetric Flow	MMSCFD	0.728246	0.167372	0.167372	0.728246	60
Std Liquid Volumetric Flow	sgpm	14.3881	2.9778	2.9778	14.3881	833.837
Gross Ideal Gas Heating Value	Btu/ft^3	2588.42	2186.53	2186.53	2588.42	1370.24

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Sales	

Connections

	8	9	10	11	
From Block	TL Vent	OT Vapor	PW	STK Vapor	
To Block	MIX-101	MIX-101	MIX-101	MIX-101	

Stream Composition

Mole Fraction	8 %	9 %	10 %	11 %	
Carbon Dioxide	0.0444992	0.091822	0.959497	0.959497	
Nitrogen	0.000134288	0.0188339	0.457802	0.457802	
Methane	0.464773	6.93073	65.4089	65.4089	
Ethane	21.4402	21.7957	17.7409	17.7409	
Propane	35.9079	32.731	6.76893	6.76893	
Isobutane	6.98352	6.19754	0.588841	0.588841	
n-Butane	19.2547	16.5762	1.93944	1.93944	
Isopentane	4.90781	4.1487	0.289024	0.289024	
n-Pentane	5.3953	4.57465	0.14167	0.14167	
n-Hexane	1.24382	1.00585	0.0192141	0.0192141	
Cyclohexane	0.160468	0.141937	0.0417009	0.0417009	
i-C6	1.8794	1.56824	0.0593841	0.0593841	
i-C7	0.711011	2.05236	0.0450756	0.0450756	
Methylcyclohexane	0.0526263	0.0461195	0.00677265	0.00677265	
Octane	0.598863	0.511544	0.00281935	0.00281935	
Nonane	0.0922738	0.0787404	0.000367459	0.000367459	
Benzene	0.453433	0.510645	0.378015	0.378015	
Toluene	0.266248	0.27789	0.191031	0.191031	
Ethylbenzene	0.0139503	0.0132007	0.00860348	0.00860348	
o-Xylene	0.0525826	0.0592069	0.0396156	0.0396156	
H2S	0.00179951	0.00182156	0.00582271	0.00582271	
Water	0.000492959	0.604265	4.90552	4.90552	
2,2,4-Trimethylpentane	0.0741125	0.0629151	0.00106504	0.00106504	
Decanes Plus	7.48188E-05	8.84893E-05	2.31467E-05	2.31467E-05	

Mass Fraction	8 %	9 %	10 %	11 %	
Carbon Dioxide	0.039006	0.0846951	1.85931	1.85931	
Nitrogen	7.49267E-05	0.0110579	0.564684	0.564684	
Methane	0.148506	2.33032	46.203	46.203	
Ethane	12.8405	13.7359	23.4886	23.4886	
Propane	31.5368	30.2496	13.1425	13.1425	
Isobutane	8.08442	7.54965	1.50696	1.50696	
n-Butane	22.2901	20.1926	4.96341	4.96341	
Isopentane	7.05261	6.27344	0.918174	0.918174	
n-Pentane	7.75313	6.91755	0.450058	0.450058	
n-Hexane	2.13487	1.8167	0.0729064	0.0729064	
Cyclohexane	0.268982	0.250359	0.154529	0.154529	
i-C6	3.22578	2.83244	0.225328	0.225328	
i-C7	1.41901	4.31018	0.198875	0.198875	
Methylcyclohexane	0.102917	0.0949074	0.02928	0.02928	
Octane	1.36249	1.22468	0.0141803	0.0141803	
Nonane	0.235714	0.211659	0.00207513	0.00207513	
Benzene	0.705444	0.83599	1.30013	1.30013	
Toluene	0.488607	0.536636	0.775009	0.775009	
Ethylbenzene	0.0294983	0.0293726	0.0402177	0.0402177	
o-Xylene	0.111188	0.13174	0.185187	0.185187	
H2S	0.00122151	0.00130112	0.00873773	0.00873773	
Water	0.000176882	0.228157	3.89124	3.89124	
2,2,4-Trimethylpentane	0.168616	0.150624	0.00535675	0.00535675	
Decanes Plus	0.000363012	0.000451787	0.000248272	0.000248272	

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Sales	

Mass Flow	8 lb/h	9 lb/h	10 lb/h	11 lb/h	
Carbon Dioxide	0.0228796	0.332625	0.0584511	2.8641	
Nitrogen	4.39494E-05	0.043428	0.017752	0.869846	
Methane	0.0871087	9.15192	1.45248	71.1716	
Ethane	7.53179	53.9452	0.738411	36.1821	
Propane	18.4984	118.8	0.41316	20.2448	
Isobutane	4.74204	29.6499	0.0473743	2.32134	
n-Butane	13.0746	79.3031	0.156034	7.64569	
Isopentane	4.13682	24.6379	0.0288646	1.41437	
n-Pentane	4.54772	27.1675	0.0141485	0.693275	
n-Hexane	1.25224	7.13477	0.00229196	0.112306	
Cyclohexane	0.157776	0.983242	0.00485793	0.238039	
i-C6	1.89213	11.1239	0.00708363	0.347098	
i-C7	0.832342	16.9275	0.00625203	0.306349	
Methylcyclohexane	0.0603673	0.372732	0.000920473	0.0451032	
Octane	0.799192	4.80972	0.000445786	0.0218435	
Nonane	0.138262	0.831256	6.52358E-05	0.00319656	
Benzene	0.413789	3.28321	0.0408722	2.00274	
Toluene	0.2866	2.10754	0.0243639	1.19383	
Ethylbenzene	0.0173027	0.115356	0.00126432	0.0619518	
o-Xylene	0.0652188	0.517388	0.00582171	0.285264	
H2S	0.000716498	0.00510994	0.000274688	0.0134597	
Water	0.000103753	0.896047	0.122329	5.99411	
2,2,4-Trimethylpentane	0.0989043	0.59155	0.0001684	0.0082516	
Decanes Plus	0.00021293	0.00177431	7.80492E-06	0.000382441	

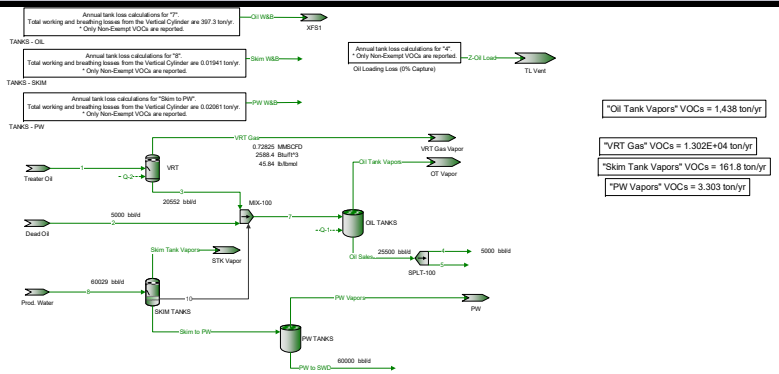
Stream Properties

Property	Units	8	9	10	11	
Temperature	°F	109.332	95	86.9396	86.9396	
Pressure	psig	10.7367	0.25	0.25	0.25	
Molecular Weight	lb/lbmol	50.2074	47.7128	22.7111	22.7111	
Mass Flow	lb/h	58.6566	392.733	3.1437	154.041	
Std Vapor Volumetric Flow	MMSCFD	0.0106403	0.0749665	0.00126069	0.0617737	
Std Liquid Volumetric Flow	sgpm	0.222257	1.51582	0.0169541	0.830752	
Gross Ideal Gas Heating Value	Btu/ft^3	2833.39	2690.88	1280.96	1280.96	

Remarks

Tankage
Plant Schematic

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	



Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Connections

	Oil Sales	Oil Tank Vapors	Oil W&B	PW to SWD	PW Vapors
From Block	OIL TANKS	OIL TANKS	--	PW TANKS	PW TANKS
To Block	SPLT-100	OT Vapor	XFS1	--	PW

Stream Composition

Mole Fraction	Oil Sales %	Oil Tank Vapors %	Oil W&B %	PW to SWD %	PW Vapors %
Carbon Dioxide	0.000872576	0.091822	0.0469615	0.000364911	0.959497
Nitrogen	2.39761E-05	0.0188339	0.000362491	4.43828E-06	0.457802
Methane	0.0259368	6.93073	0.658086	0.00130262	65.4089
Ethane	0.454009	21.7957	20.812	0.000501961	17.7409
Propane	2.36551	32.731	35.4572	0.000134185	6.76893
Isobutane	1.11203	6.19754	7.04037	7.62466E-06	0.588841
n-Butane	4.26399	16.5762	19.5465	3.53962E-05	1.93944
Isopentane	2.71139	4.1487	5.04353	3.56001E-06	0.289024
n-Pentane	3.91945	4.57465	5.56015	7.67557E-07	0.14167
n-Hexane	2.8751	1.00585	1.29246	6.91861E-08	0.0192141
Cyclohexane	0.566585	0.141937	0.167037	2.64996E-06	0.0417009
i-C6	3.17204	1.56824	1.94901	4.20515E-07	0.0593841
i-C7	11.591	2.05236	0.744915	1.9668E-07	0.0450756
Methylcyclohexane	0.381615	0.0461195	0.0549483	1.83812E-07	0.00677265
Octane	13.3478	0.511544	0.628785	3.18517E-09	0.00281935
Nonane	6.26009	0.0787404	0.0973366	3.66031E-10	0.000367459
Benzene	1.63059	0.510645	0.472147	0.0008731	0.378015
Toluene	3.04622	0.27789	0.278635	0.000334551	0.191031
Ethylbenzene	0.434843	0.0132007	0.0146621	1.2932E-05	0.00860348
o-Xylene	2.422	0.0592069	0.0553345	8.9233E-05	0.0396156
H2S	6.43241E-05	0.00182156	0.00175881	6.76044E-06	0.00582271
Water	0.0103885	0.604265	0.000503706	99.9963	4.90552
2,2,4-Trimethylpentane	0.504207	0.0629151	0.0773519	3.64293E-09	0.00106504
Decanes Plus	38.9042	8.84893E-05	8.16328E-05	3.06397E-09	2.31467E-05

Mass Fraction	Oil Sales %	Oil Tank Vapors %	Oil W&B %	PW to SWD %	PW Vapors %
Carbon Dioxide	0.000251801	0.0846951	0.0409346	0.000891389	1.85931
Nitrogen	4.40406E-06	0.0110579	0.000201125	6.90103E-06	0.564684
Methane	0.00272832	2.33032	0.209101	0.0011599	46.203
Ethane	0.0895142	13.7359	12.3947	0.000837768	23.4886
Propane	0.683957	30.2496	30.9672	0.000328423	13.1425
Isobutane	0.423805	7.54965	8.10475	2.45978E-05	1.50696
n-Butane	1.62505	20.1926	22.5016	0.000114191	4.96341
Isopentane	1.28271	6.27344	7.20718	1.42565E-05	0.918174
n-Pentane	1.85422	6.91755	7.94544	3.07378E-06	0.450058
n-Hexane	1.62459	1.8167	2.20598	3.3093E-07	0.0729064
Cyclohexane	0.312663	0.250359	0.278431	1.23787E-05	0.154529
i-C6	1.79238	2.83244	3.32659	2.0114E-06	0.225328
i-C7	7.61562	4.31018	1.47838	1.09388E-06	0.198875
Methylcyclohexane	0.245688	0.0949074	0.106858	1.00175E-06	0.02928
Octane	9.99756	1.22468	1.42259	2.01949E-08	0.0141803
Nonane	5.26458	0.211659	0.24726	2.60571E-09	0.00207513
Benzene	0.83516	0.83599	0.730461	0.00378542	1.30013
Toluene	1.84039	0.536636	0.508486	0.00171095	0.775009
Ethylbenzene	0.302707	0.0293726	0.0308305	7.62044E-05	0.0402177
o-Xylene	1.68603	0.13174	0.116354	0.000525824	0.185187
H2S	1.43745E-05	0.00130112	0.00118722	1.27885E-05	0.00873773
Water	0.00122717	0.228157	0.00017973	99.9905	3.89124
2,2,4-Trimethylpentane	0.377652	0.150624	0.175004	2.30972E-08	0.00535675
Decanes Plus	62.1415	0.000451787	0.000393862	4.14281E-08	0.000248272

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Mass Flow	Oil Sales lb/h	Oil Tank Vapors lb/h	Oil W&B lb/h	PW to SWD lb/h	PW Vapors lb/h
Carbon Dioxide	0.736663	0.332625	0.042505	7.80283	0.0584511
Nitrogen	0.0128844	0.043428	0.00020884	0.0604086	0.017752
Methane	7.98189	9.15192	0.217123	10.1533	1.45248
Ethane	261.881	53.9452	12.8702	7.33345	0.738411
Propane	2000.97	118.8	32.1552	2.87487	0.41316
Isobutane	1239.87	29.6499	8.41567	0.215318	0.0473743
n-Butane	4754.2	79.3031	23.3648	0.999578	0.156034
Isopentane	3752.66	24.6379	7.48367	0.124795	0.0288646
n-Pentane	5424.67	27.1675	8.25025	0.0269066	0.0141485
n-Hexane	4752.87	7.13477	2.29061	0.00289681	0.00229196
Cyclohexane	914.718	0.983242	0.289113	0.108358	0.00485793
i-C6	5243.73	11.1239	3.4542	0.0176069	0.00708363
i-C7	22280.1	16.9275	1.53509	0.00957534	0.00625203
Methylcyclohexane	718.778	0.372732	0.110957	0.00876886	0.000920473
Octane	29248.6	4.80972	1.47716	0.000176777	0.000445786
Nonane	15401.9	0.831256	0.256745	2.28092E-05	6.52358E-05
Benzene	2443.32	3.28321	0.758483	33.1359	0.0408722
Toluene	5384.2	2.10754	0.527992	14.9769	0.0243639
Ethylbenzene	885.591	0.115356	0.0320133	0.66706	0.00126432
o-Xylene	4932.6	0.517388	0.120817	4.60283	0.00582171
H2S	0.0420536	0.00510994	0.00123277	0.111945	0.000274688
Water	3.59017	0.896047	0.000186625	875273	0.122329
2,2,4-Trimethylpentane	1104.85	0.59155	0.181718	0.000202183	0.0001684
Decanes Plus	181800	0.00177431	0.000408972	0.000362644	7.80492E-06

Stream Properties

Property	Units	Oil Sales	Oil Tank Vapors	Oil W&B	PW to SWD	PW Vapors
Temperature	°F	95	95 *	110.616	86.9396	86.9396
Pressure	psig	0.25	0.25 *	10.4493	0.25	0.25 *
Molecular Weight	lb/lbmol	152.508	47.7128	50.4891	18.0163	22.7111
Mass Flow	lb/h	292557	392.733	103.836	875356	3.1437
Std Vapor Volumetric Flow	MMSCFD	17.4712	0.0749665	0.0187308	442.51	0.00126069
Std Liquid Volumetric Flow	sgpm	743.75	1.51582	0.392023	1750	0.0169541
Gross Ideal Gas Heating Value	Btu/ft^3	8035.75	2690.88	2848.03	50.3883	1280.96

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Connections

	PW W&B	Skim Tank Vapors	Skim to PW	Skim W&B	VRT Gas
From Block	--	SKIM TANKS	SKIM TANKS	--	VRT
To Block	--	STK Vapor	PW TANKS	--	VRT Gas Vapor

Stream Composition

Mole Fraction	PW W&B %	Skim Tank Vapors %	Skim to PW %	Skim W&B %	VRT Gas %
Carbon Dioxide	0.288052	0.959497	0.000367644	0.535811	0.107653
Nitrogen	0.00997172	0.457802	5.74251E-06	0.00274808	0.0227445
Methane	0.934125	65.4089	0.00148896	1.09637	10.9558
Ethane	0.228596	17.7409	0.000552503	0.414019	22.3331
Propane	0.0161301	6.76893	0.000153469	0.0254097	30.7372
Isobutane	0.000255743	0.588841	9.30221E-06	0.000493648	5.7479
n-Butane	0.00124276	1.93944	4.09214E-05	0.00177891	15.2933
Isopentane	4.91802E-05	0.289024	4.38341E-06	6.43019E-05	3.82991
n-Pentane	1.16039E-05	0.14167	1.17116E-06	1.18757E-05	4.2156
n-Hexane	3.65837E-07	0.0192141	1.23926E-07	3.15427E-07	0.944088
Cyclohexane	1.54103E-06	0.0417009	2.76876E-06	7.48498E-06	0.162636
i-C6	3.08953E-06	0.0593841	5.89696E-07	2.55856E-06	1.47314
i-C7	9.94639E-08	0.0450756	3.25097E-07	1.02508E-07	1.90089
Methylcyclohexane	9.33932E-08	0.00677265	2.03107E-07	2.39772E-07	0.0534373
Octane	1.93893E-09	0.00281935	1.12173E-08	1.45406E-09	0.485189
Nonane	5.66329E-11	0.000367459	1.4129E-09	4.34819E-11	0.0761261
Benzene	0.000919264	0.378015	0.000874175	0.00305445	0.473345
Toluene	0.000193634	0.191031	0.000335094	0.000359271	0.260091
Ethylbenzene	2.36327E-06	0.00860348	1.29565E-05	4.95741E-06	0.0125198
o-Xylene	1.97575E-05	0.0396156	8.93456E-05	2.34296E-05	0.0563267
H2S	0.00245505	0.00582271	6.77701E-06	0.0032967	0.00218021
Water	98.518	4.90552	99.9961	97.9165	0.799107
2,2,4-Trimethylpentane	0	0.00106504	6.67715E-09	4.16015E-09	0.0576025
Decanes Plus	4.52421E-16	2.31467E-05	3.1299E-09	4.19811E-14	9.77397E-05

Mass Fraction	PW W&B %	Skim Tank Vapors %	Skim to PW %	Skim W&B %	VRT Gas %
Carbon Dioxide	0.700146	1.85931	0.000898063	1.29612	0.103361
Nitrogen	0.0154279	0.564684	8.92897E-06	0.00423138	0.0139004
Methane	0.827652	46.203	0.00132583	0.966752	3.83441
Ethane	0.37963	23.4886	0.00092212	0.68427	14.6505
Propane	0.0392829	13.1425	0.000375621	0.0615861	29.5695
Isobutane	0.000820952	1.50696	3.00097E-05	0.00157706	7.28845
n-Butane	0.00398935	4.96341	0.000132016	0.00568308	19.3922
Isopentane	0.000195971	0.918174	1.75539E-05	0.000255	6.0284
n-Pentane	4.62385E-05	0.450058	4.69008E-06	4.70951E-05	6.63548
n-Hexane	1.74117E-06	0.0729064	5.92759E-07	1.49406E-06	1.77492
Cyclohexane	7.16285E-06	0.154529	1.29337E-05	3.46243E-05	0.298609
i-C6	1.47044E-05	0.225328	2.82062E-06	1.2119E-05	2.76956
i-C7	5.50444E-07	0.198875	1.8081E-06	5.64576E-07	4.15544
Methylcyclohexane	5.0645E-07	0.02928	1.1069E-06	1.294E-06	0.114466
Octane	1.22323E-08	0.0141803	7.11208E-08	9.12942E-09	1.20912
Nonane	4.01158E-10	0.00207513	1.00582E-08	3.06528E-10	0.213006
Benzene	0.00396578	1.30013	0.00379008	0.0131141	0.806638
Toluene	0.00098536	0.775009	0.00171372	0.00181949	0.522818
Ethylbenzene	1.38569E-05	0.0402177	7.63486E-05	2.89283E-05	0.0289977
o-Xylene	0.000115847	0.185187	0.000526487	0.000136721	0.130461
H2S	0.00462108	0.00873773	1.28198E-05	0.00617558	0.00162104
Water	98.0231	3.89124	99.9901	96.9582	0.314073
2,2,4-Trimethylpentane	0	0.00535675	4.23349E-08	2.61199E-08	0.143549

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Mass Fraction	PW W&B %	Skim Tank Vapors %	Skim to PW %	Skim W&B %	VRT Gas %
Decanes Plus	6.08685E-15	0.000248272	4.23196E-08	5.62106E-13	0.000519436

Mass Flow	PW W&B lb/h	Skim Tank Vapors lb/h	Skim to PW lb/h	Skim W&B lb/h	VRT Gas lb/h
Carbon Dioxide	0.0479158	2.8641	7.86128	0.0681258	3.78833
Nitrogen	0.00105584	0.869846	0.0781605	0.000222407	0.509467
Methane	0.0566419	71.1716	11.6058	0.0508137	140.536
Ethane	0.0259807	36.1821	8.07186	0.0359661	536.96
Propane	0.0026884	20.2448	3.28803	0.00323704	1083.76
Isobutane	5.61834E-05	2.32134	0.262693	8.28921E-05	267.131
n-Butane	0.000273019	7.64569	1.15561	0.00029871	710.75
Isopentane	1.34116E-05	1.41437	0.15366	1.34031E-05	220.949
n-Pentane	3.16442E-06	0.693275	0.041055	2.47538E-06	243.199
n-Hexane	1.1916E-07	0.112306	0.00518877	7.85298E-08	65.0533
Cyclohexane	4.90203E-07	0.238039	0.113216	1.8199E-06	10.9444
i-C6	1.00632E-06	0.347098	0.0246905	6.36988E-07	101.508
i-C7	3.76707E-08	0.306349	0.0158274	2.96748E-08	152.302
Methylcyclohexane	3.46599E-08	0.0451032	0.00968933	6.80144E-08	4.19535
Octane	8.37141E-10	0.0218435	0.000622563	4.79854E-10	44.3159
Nonane	2.7454E-11	0.00319656	8.80451E-05	1.61115E-11	7.80696
Benzene	0.000271406	2.00274	33.1768	0.000689292	29.5644
Toluene	6.74349E-05	1.19383	15.0012	9.56349E-05	19.162
Ethylbenzene	9.48325E-07	0.0619518	0.668324	1.52051E-06	1.0628
o-Xylene	7.92822E-06	0.285264	4.60866	7.18621E-06	4.78156
H2S	0.000316252	0.0134597	0.11222	0.000324597	0.0594133
Water	6.70839	5.99411	875273	5.09625	11.5112
2,2,4-Trimethylpentane	0	0.0082516	0.000370583	1.37289E-09	5.26126
Decanes Plus	4.16565E-16	0.000382441	0.000370449	2.9545E-14	0.019038

Stream Properties

Property	Units	PW W&B	Skim Tank Vapors	Skim to PW	Skim W&B	VRT Gas
Temperature	°F	107.006	86.9396	86.9396	104.818	100 *
Pressure	psig	-11.5427	0.25	0.25	-11.6098	3
Molecular Weight	lb/lbmol	18.1062	22.7111	18.0163	18.1934	45.837
Mass Flow	lb/h	6.84368	154.041	875359	5.25613	3665.13
Std Vapor Volumetric Flow	MMSCFD	0.00344244	0.0617737	442.511	0.00263123	0.728246
Std Liquid Volumetric Flow	sgpm	0.0140671	0.830752	1750.02	0.0109123	14.3881
Gross Ideal Gas Heating Value	Btu/ft^3	63.5618	1280.96	50.3918	68.5318	2588.42

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Connections

	Z-Oil Load	1	2	3	4
From Block	--	Treater Oil	Dead Oil	VRT	SPLT-100
To Block	TL Vent	VRT	MIX-100	MIX-100	--

Stream Composition

Mole Fraction	Z-Oil Load %	1 %	2 %	3 %	4 %
Carbon Dioxide	0.0444992	0.00640796	0.00150602	0.00120271	0.000872576
Nitrogen	0.000134288	0.00114543	0.000394928	3.49746E-05	2.39761E-05
Methane	0.464773	0.582281	0.0825859	0.0489569	0.0259368
Ethane	21.4402	1.60823	0.555552	0.542718	0.454009
Propane	35.9079	3.92018	2.30169	2.54146	2.36551
Isobutane	6.98352	1.38717	1.01135	1.16298	1.11203
n-Butane	19.2547	4.94554	3.91048	4.41354	4.26399
Isopentane	4.90781	2.81931	2.50879	2.76736	2.71139
n-Pentane	5.3953	3.98473	3.71025	3.97286	3.91945
n-Hexane	1.24382	2.81407	2.6866	2.91021	2.8751
Cyclohexane	0.160468	0.673334	0	0.69959	0.566585
i-C6	1.8794	3.15238	2.85715	3.23872	3.17204
i-C7	0.711011	11.0093	11.8546	11.4776	11.591
Methylcyclohexane	0.0526263	0.450522	0	0.470937	0.381615
Octane	0.598863	12.5679	13.7281	13.1891	13.3478
Nonane	0.0922738	5.89279	6.40898	6.19184	6.26009
Benzene	0.453433	1.57566	1.59847	1.63233	1.63059
Toluene	0.266248	2.88563	3.09209	3.02062	3.04622
Ethylbenzene	0.0139503	0.408951	0.448578	0.429333	0.434843
o-Xylene	0.0525826	2.27902	2.4899	2.39329	2.422
H2S	0.00179951	0.000191237	0	8.89793E-05	6.43241E-05
Water	0.000492959	0.0543035	0	0.0160115	0.0103885
2,2,4-Trimethylpentane	0.0741125	0.47032	0.547493	0.491539	0.504207
Decanes Plus	7.48188E-05	36.5106	40.2054	38.3877	38.9042

Mass Fraction	Z-Oil Load %	1 %	2 %	3 %	4 %
Carbon Dioxide	0.039006	0.00192861	0.000427927	0.00034964	0.000251801
Nitrogen	7.49267E-05	0.000219439	7.14294E-05	6.47192E-06	4.40406E-06
Methane	0.148506	0.0638827	0.00855403	0.00518799	0.00272832
Ethane	12.8405	0.33071	0.107855	0.107797	0.0895142
Propane	31.5368	1.18217	0.655293	0.740274	0.683957
Isobutane	8.08442	0.55138	0.379523	0.446506	0.423805
n-Butane	22.2901	1.96578	1.46746	1.69451	1.62505
Isopentane	7.05261	1.39108	1.16866	1.31889	1.28271
n-Pentane	7.75313	1.96611	1.72833	1.89342	1.85422
n-Hexane	2.13487	1.65843	1.49479	1.65662	1.62459
Cyclohexane	0.268982	0.387536	0	0.388921	0.312663
i-C6	3.22578	1.85781	1.58968	1.84362	1.79238
i-C7	1.41901	7.54423	7.66935	7.59698	7.61562
Methylcyclohexane	0.102917	0.302514	0	0.305441	0.245688
Octane	1.36249	9.81788	10.1246	9.9519	9.99756
Nonane	0.235714	5.16862	5.3071	5.24576	5.26458
Benzene	0.705444	0.841701	0.806146	0.842247	0.83516
Toluene	0.488607	1.81828	1.83944	1.83845	1.84039
Ethylbenzene	0.0294983	0.296915	0.307478	0.301085	0.302707
o-Xylene	0.111188	1.65466	1.7067	1.67838	1.68603
H2S	0.00122151	4.4572E-05	0	2.00315E-05	1.43745E-05
Water	0.000176882	0.00669034	0	0.00190541	0.00122717
2,2,4-Trimethylpentane	0.168616	0.367407	0.403782	0.370891	0.377652
Decanes Plus	0.000363012	60.824	63.2348	61.7708	62.1415

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Mass Flow	Z-Oil Load lb/h	1 lb/h	2 lb/h	3 lb/h	4 lb/h
Carbon Dioxide	0.0228796	4.61155	0.246073	0.823215	0.144444
Nitrogen	4.39494E-05	0.524705	0.0410744	0.0152379	0.00252635
Methane	0.0871087	152.751	4.91887	12.2149	1.56508
Ethane	7.53179	790.766	62.0201	253.806	51.3491
Propane	18.4984	2826.71	376.816	1742.95	392.347
Isobutane	4.74204	1318.41	218.239	1051.28	243.112
n-Butane	13.0746	4700.41	843.841	3989.66	932.197
Isopentane	4.13682	3326.23	672.019	3105.28	735.817
n-Pentane	4.54772	4701.19	993.849	4457.99	1063.66
n-Hexane	1.25224	3965.5	859.556	3900.45	931.936
Cyclohexane	0.157776	926.645	0	915.701	179.357
i-C6	1.89213	4442.24	914.121	4340.73	1028.18
i-C7	0.832342	18039.1	4410.14	17886.8	4368.64
Methylcyclohexane	0.0603673	723.346	0	719.15	140.937
Octane	0.799192	23475.7	5822.01	23431.4	5735.02
Nonane	0.138262	12358.8	3051.77	12351	3019.98
Benzene	0.413789	2012.61	463.563	1983.04	479.083
Toluene	0.2866	4347.72	1057.75	4328.56	1055.73
Ethylbenzene	0.0173027	709.958	176.81	708.896	173.645
o-Xylene	0.0652188	3956.48	981.414	3951.7	967.176
H2S	0.000716498	0.106577	0	0.0471636	0.00824582
Water	0.000103753	15.9974	0	4.48621	0.703955
2,2,4-Trimethylpentane	0.0989043	878.513	232.189	873.251	216.637
Decanes Plus	0.00021293	145437	36362.2	145437	35647

Stream Properties

Property	Units	Z-Oil Load	1	2	3	4
Temperature	°F	109.332	113.779	85.9447	100	95
Pressure	psig	10.7367	3	25	3	0.25
Molecular Weight	lb/lbmol	50.2074	146.225	154.884	151.386	152.508
Mass Flow	lb/h	58.6566	239112	57503.5	235447	57364.2
Std Vapor Volumetric Flow	MMSCFD	0.0106403	14.8931	3.38137	14.1648	3.42574
Std Liquid Volumetric Flow	sgpm	0.222257	613.82	145.833	599.432	145.833 *
Gross Ideal Gas Heating Value	Btu/ft^3	2833.39	7715.03	8156.66	7978.6	8035.75

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Connections

	5	7	8	10	
From Block	SPLT-100	MIX-100	Prod. Water	SKIM TANKS	
To Block	--	OIL TANKS	SKIM TANKS	MIX-100	

Stream Composition

Mole Fraction	5 %	7 %	8 %	10 %	
Carbon Dioxide	0.000872576	0.00126116	0.000501518		
Nitrogen	2.39761E-05	0.000104342	6.9641E-05		
Methane	0.0259368	0.0554376	0.0106184		
Ethane	0.454009	0.545192	0.00302867		
Propane	2.36551	2.49525	0.00109824		
Isobutane	1.11203	1.13376	9.14905E-05		
n-Butane	4.26399	4.3166	0.000311619		
Isopentane	2.71139	2.71753	4.47243E-05		
n-Pentane	3.91945	3.92225	2.09451E-05		
n-Hexane	2.8751	2.86712	2.80579E-06		
Cyclohexane	0.566585	0.56477	8.58892E-06		
i-C6	3.17204	3.16518	8.87836E-06		
i-C7	11.591	11.5502	6.61664E-06		
Methylcyclohexane	0.381615	0.380182	1.14839E-06		
Octane	13.3478	13.293	4.04736E-07		
Nonane	6.26009	6.23368	5.27021E-08		
Benzene	1.63059	1.6258	0.000926815		
Toluene	3.04622	3.03439	0.000361711		
Ethylbenzene	0.434843	0.433041	1.41555E-05		
o-Xylene	2.422	2.41191	9.48626E-05		
H2S	6.43241E-05	7.18319E-05	7.58879E-06		
Water	0.0103885	0.0129259	99.9828		
2,2,4-Trimethylpentane	0.504207	0.502322	1.55333E-07		
Decanes Plus	38.9042	38.738	6.36024E-09		

Mass Fraction	5 %	7 %	8 %	10 %	
Carbon Dioxide	0.000251801	0.000365007	0.00122504		
Nitrogen	4.40406E-06	1.92225E-05	0.00010828		
Methane	0.00272832	0.00584871	0.00945472		
Ethane	0.0895142	0.107809	0.00505463		
Propane	0.683957	0.723593	0.00268789		
Isobutane	0.423805	0.433358	0.000295145		
n-Butane	1.62505	1.64994	0.00100527		
Isopentane	1.28271	1.2894	0.000179098		
n-Pentane	1.85422	1.86101	8.38742E-05		
n-Hexane	1.62459	1.62485	1.34201E-05		
Cyclohexane	0.312663	0.312579	4.01198E-05		
i-C6	1.79238	1.79377	4.24652E-05		
i-C7	7.61562	7.61119	3.67986E-05		
Methylcyclohexane	0.245688	0.245486	6.25833E-06		
Octane	9.99756	9.9858	2.56605E-06		
Nonane	5.26458	5.2578	3.75163E-07		
Benzene	0.83516	0.835161	0.00401816		
Toluene	1.84039	1.83864	0.00184978		
Ethylbenzene	0.302707	0.30234	8.34112E-05		
o-Xylene	1.68603	1.68394	0.000558977		
H2S	1.43745E-05	1.60995E-05	1.43549E-05		
Water	0.00122717	0.00153139	99.9732		
2,2,4-Trimethylpentane	0.377652	0.377347	9.84815E-07		
Decanes Plus	62.1415	62.0582	8.59941E-08		

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	
Flowsheet:	Tankage	

Mass Flow	5 lb/h	7 lb/h	8 lb/h	10 lb/h	
Carbon Dioxide	0.592219	1.06929	10.7254		
Nitrogen	0.010358	0.0563124	0.948006		
Methane	6.41682	17.1338	82.7773		
Ethane	210.531	315.826	44.254		
Propane	1608.62	2119.77	23.5329		
Isobutane	996.76	1269.52	2.58403		
n-Butane	3822	4833.5	8.8013		
Isopentane	3016.85	3777.3	1.56803		
n-Pentane	4361.01	5451.84	0.73433		
n-Hexane	3820.93	4760	0.117495		
Cyclohexane	735.361	915.701	0.351254		
i-C6	4215.55	5254.85	0.371789		
i-C7	17911.4	22297	0.322177		
Methylcyclohexane	577.841	719.15	0.0547925		
Octane	23513.6	29253.4	0.0224661		
Nonane	12381.9	15402.7	0.0032846		
Benzene	1964.24	2446.61	35.1796		
Toluene	4328.47	5386.3	16.1951		
Ethylbenzene	711.945	885.706	0.730276		
o-Xylene	3965.42	4933.11	4.89392		
H2S	0.0338078	0.0471636	0.125679		
Water	2.88621	4.48621	875279		
2,2,4-Trimethylpentane	888.212	1105.44	0.00862218		
Decanes Plus	146153	181800	0.00075289		

Stream Properties

Property	Units	5	7	8	10	
Temperature	°F	95	97.2936	86.9396		
Pressure	psig	0.25	3	0.25	0.25	
Molecular Weight	lb/lbmol	152.508	152.06	18.017		
Mass Flow	lb/h	235193	292950	875513	0	
Std Vapor Volumetric Flow	MMSCFD	14.0455	17.5462	442.573	0	
Std Liquid Volumetric Flow	sgpm	597.916	745.266	1750.85	0	
Gross Ideal Gas Heating Value	Btu/ft^3	8035.75	8012.91	50.5636		

Remarks

User Value Sets Report

Client Name:	XTO ENERGY INC	Job: DELAWARE DEVELOPMENT
Location:	CC New TB	

TANKS - OIL

User Value [TVP]

* Parameter	9.71304	psia	Upper Bound	psia
Lower Bound		psia	* Enforce Bounds	False

User Value [MaxVP]

* Parameter	11.9225	psia	Upper Bound	psia
Lower Bound		psia	* Enforce Bounds	False

User Value [AvgLiqSurfaceT]

* Parameter	93.9699	°F	Upper Bound	°F
Lower Bound		°F	* Enforce Bounds	False

User Value [MaxLiqSurfaceT]

* Parameter	110.616	°F	Upper Bound	°F
Lower Bound		°F	* Enforce Bounds	False

Remarks
This User Value Set was programmatically generated. GUID={4DEEA3E7-0953-4810-A14D-88889C99647F}

TANKS - PW

User Value [TVP]

* Parameter	0.674383	psia	Upper Bound	psia
Lower Bound		psia	* Enforce Bounds	False

User Value [MaxVP]

* Parameter	1.11194	psia	Upper Bound	psia
Lower Bound		psia	* Enforce Bounds	False

User Value [AvgLiqSurfaceT]

* Parameter	88.1716	°F	Upper Bound	°F
Lower Bound		°F	* Enforce Bounds	False

User Value [MaxLiqSurfaceT]

* Parameter	104.818	°F	Upper Bound	°F
Lower Bound		°F	* Enforce Bounds	False

Remarks
This User Value Set was programmatically generated. GUID={BC4BB441-5186-429B-A142-EF766CBF7865}

June 27, 2019

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

Attention: To Whom It May Concern

Subject: Compliance with 40 CFR 60.18 Flare Requirements and Destruction Removal Efficiency Confirmation

The Tornado Combustion Technologies Inc. (TCTI) designed a high pressure gas assisted flare system for XTO Energy Inc. Facilities designed on February 20, 2018 (TCTI Design Reference No.: TOR1017D Rev. 2).

The flare has a 14-inch outer diameter tip, with a set of twelve (12) high pressure gas assisted injection nozzles for facility emergency relieving cases and heater treater off gas. The tip as previously described is mounted on a riser and guy wire supporting structure so that the overall flare height is 145-feet tall. To date TCTI has provided twenty-nine (29) flares of this design to XTO Energy Inc. Facilities, under the following job numbers:

- 14144/16470;
- 14184/16523;
- 14203/16519;
- 14204/16520;
- 14205/16521;
- 14330/16628;
- 14464/16785;
- 14490/16805;
- 14530/16847;
- 14532/16849;
- 14549/16867;
- 14550/16868;
- 14551/16869;
- 14555/16885;
- 14571/16890;
- 14572/16891;
- 14586/16928;
- 14587/16929;
- 14588/16930;
- 14634/16977;
- 14643/16987;
- 14652/16992;
- 14707/17042;
- 14708/17043;
- 14709/17044;
- 14710/17045;
- 14711/17046;
- 14743/17099;
- 14766/17129.

This flare design is intended to operate such that:

i) The maximum emergency flow rate does not exceed a maximum flow rate of 60,000,000 SCFD, and a maximum net heat release of 3,572,833,240.71 BTU/h; and,
ii) The maximum continuous flowrate from the heater treater of 2,000,000 SCFD which will operate without visible emissions (i.e. excessive soot formation) and a maximum net heat release of 219,758,943.81 BTU/h.

For more detailed information please refer to the design datasheets of the flare stack.

Due to the volume of sales of this flare design to XTO Energy specifically TCTI has provided this flare with the following model designation moving forward:

- TOR1017DR2-145FT.

Thus either the above provided TCTI job numbers or above model number can be used to relate back to this design and the intended operating parameters of the flare system design.

To meet the requirements of 40 CFR 60.18 and industry best practices Tornado has designed the flare to operate as follows:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2019 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Power Solutions International, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: KPSIB11.1NGP-011

Effective Date: 10/02/2018

Expiration Date: 12/31/2019

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 10/02/2018

Revision Date: N/A

Manufacturer: Power Solutions International, Inc.
Engine Family: KPSIB11.1NGP
Mobile/Stationary Certification Type: Mobile and Stationary
Fuel : LPG/Propane
Natural Gas (CNG/LNG)
Emission Standards :
Part 60 Subpart JJJJ Table 1
VOC (g/Hp-hr) : 0.7
NOx (g/Hp-hr) : 1.0
CO (g/Hp-hr) : 2.0
Stationary Part 1048
NMHC + NOx (g/kW-hr) : 2.7
CO (g/kW-hr) : 4.4
HC + NOx (g/kW-hr) : 2.7
Mobile Part 1048
HC + NOx (g/kW-hr) : 2.7
CO (g/kW-hr) : 4.4
NMHC + NOx (g/kW-hr) : 2.7
Emergency Use Only : N

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 1048, 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 1048, 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 1048, 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 1048, 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 1048, 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 1048, 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

PSI HEAVY-DUTY

11.1L

	Rev:	E				
	Units		11.1L			
	Std	Metric	1500		1800	
General Engine Data						
Type	N/A		In-Line 4 cycle			
Number of cylinders	N/A		6			
Aspiration	N/A		Turbo Charge Air Cooled			
Bore	in	mm	4.84	123	4.84	123
Stroke	in	mm	6.1	155	6.1	155
Displacement	in^3	L	673	11.1	673	11.1
Compression Ratio	N/A		10.5			
Mean Piston Speed	ft/min	m/s	1525	7.75	1830	9.3
Gross Standby Power Rating[1,2,3] Per ISO 3046 at the Flywheel						
NG	Hp	kW	268	200	315	235
LP	Hp	kW	180	134	208	155
MEP (@ rated Load on NG)	psi	bar	210	14	206	14
MEP (@ rated Load on LP)	psi	bar	141	10	136	9
Gross Prime Power Rating[1,2,3] Per ISO 3046 at the Flywheel						
NG	Hp	kW	241	180	268	200
LP	Hp	kW	162	121	177	132
MEP (@ rated Load on NG)	psi	bar	189	13	175	12
MEP (@ rated Load on LP)	psi	bar	127	8.7	115	8.0
RPM Range (Min-Max)	RPM		1500-2000			
Rotation Viewed from Flywheel	N/A		Counter Clockwise			
Firing Order	N/A		1-5-3-6-2-4			
Dry Weight						
Fan to Flywheel	lb	kg	2600	1179	2600	1179
Rad to Flywheel	lb	kg	3125	1417	3125	1417
Wet Weight						
Fan to Flywheel	lb	kg	2695	1206	2695	2627
Rad to Flywheel	lb	kg	3377	1530	3377	1530
CG						
Distance from FW housing	in	mm	24	605	24	605
Distance above center of crankshaft	in	mm	6	160	6	160
Engine Mounting						
Maximum Allowable Bending Moment at Rear of Block	lb ft	N m	4425	6000	4425	6000
Moment of Inertia About Roll Axis	lb ft^2	kg m^2				
Flywheel housing	N/A		SAE No.1			
Flywheel	N/A		No. 14			
Number of Flywheel Teeth	N/A		152			
Exhaust System						
Type			Water Cooled Manifold			
Maximum allowable Back pressure	in HG	kPa	3	10.2	3	10.2
Standard Catalyst Back pressure	in HG	kPa	1.5	5.1	1.5	5.1
Exhaust Outlet Pipe Size						
Maximum Turbine Inlet Temperature	F	C	1382	750	1382	750
Exhaust Flow at Rated Power	lb/hr	kg/hr	1654	750	1869	848
Exhaust Flow at Rated Power @1350F	cfm	m^3/min	1261.13	35.7	1425	40.3
Air Induction System						
Maximum allowable Intake Air Restriction with Air Cleaner						
Clean	inH2O	kPa	5	1.24	5	1.24
Dirty	inH2O	kPa	15	3.74	15	3.74
Combustion Air required (entire engine)	lb/hr	kg/hr	1561	708	1764	800
Combustion Air required (entire engine)	cfm	m^3/min	396	11	448	13

Rating

Discharge

PSI HEAVY-DUTY

11.1L

	Rev:	E				
	Units		11.1L			
	Std	Metric	1500		1800	
Electrical System						
Minimum Recommended Battery Capacity	AH		150			
Cold Cranking Current						
Engine only	CCA		900			
Engine with Drive train	CCA		900			
Maximum Allowable Resistance of Starting Circuit	Ohms		0.002			
Starting Motor Power	HP	kW	9.4	7	9.4	7
Battery Charging Alternator						
Voltage	Volts		24			
Current	Amps		45			
Coil primary Resistance	Ohms		0.59Ω ± 10%			
Spark Plug p/n			IFR7F-4D			
Spark plug gap	inches	mm	.015" (-0/+.008") .38mm (-0/+.2mm)			
Cooling System						
Coolant Capacity						
Engine only	gal	L	5.5	25.0	5.5	25.0
Engine with Radiator	gal	L	23	105	23	105
Engine Coolant Flow	gal/min	L/min	69	260	82	310
Water Pump Speed	RPM		1862		2235	
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	9285	39	11071	46.5
Maximum Intake Air Temperature (IAT)	F	C	155	68	155	68
ECU IAT Warning	F	C	140	60	140	60
ECU IAT Shutdown	F	C	155	69	155	69
Maximum Coolant Friction Head External to the engine	psi	bar	5.8	0.4	5.8	0.4
Maximum Air Restriction Across a Radiator	inH2O	mmH2O	0.5	12.8	0.5	12.8
Standard Thermostat Range						
Cracking Temperature	F	C	160	71	160	71
Full Open Temperature	F	C	185	85	185	85
Maximum Output Pressure of Engine Water Pump						
Maximum Allowable Pressure Cap	psi	bar	14.7	1	14.7	1
Ambient Clearance Open Genset (water) (Air-to-Boil)						
Specified	F	C	142	61	142	61
Acutal	F	C			150	66
Ambient Clearance (Oil)						
Specified	F	C	142	61	142	61
Acutal	F	C			139	59
CAC Rise over Ambient (Charge)						
Specified	F	C	15	9	15	9
Acutal	F	C			4	2
Maximum Allowable Top Tank Temperature	F	C	230	110	230	110
ECU Warning	F	C	220	104	220	104
ECU Shutdown	F	C	230	110	230	110
Fan Power	HP	kW	5	4.0	9	6.7
Fan Diameter, including blades	in	mm	38	965	38	965
Fan Speed	RPM		1500		1800	
Cooling Fan Air Flow @ 1" Static H2O Pressure and 125F @ radiator	CFM	m^3/min	15,429	437	18,000	510
Charge Air Cooler						
Compressor Outlet Temperature	F	C	235	114	255	125
Compressor Flow Rate per CAC	lb/hr	kg/hr	1654	750	1869	848
Heat Rejection per CAC	btu/min	kW	TBD		1460	25.7

PSI HEAVY-DUTY

11.1L

	Rev:	E				
	Units		11.1L			
	Std	Metric	1500		1800	
Lubrication System						
Oil Specification			SAE 15W-40 Low Ash Gas engine oil (.25-.5% by wt), API CD/CF or higher			
Oil Pressure						
Idle						
Min	Psi	Bar	11	0.8	11	0.8
Max	Psi	Bar	20.3	1.4	20.3	1.4
Rated Speed						
Min	Psi	Bar	20.3	1.4	20.3	1.4
Max	Psi	Bar	70	4.8	70	4.8
Maximum Allowable Oil Temperature	F	C	250	121	250	121
Engine Oil Capacity						
Min	Qts	L	20	19	20	19
Max	Qts	L	26.5	25	26.5	25
Oil Filter Capacity	Qts	L	3.75	3.5	3.75	3.5
ECU Oil Pressure Warning[5]	psi		30			
ECU Oil Pressure Shut Down[5]	psi		25			
Fuel System						
Fuel Consumption[6]						
NG	Ft^3/hr	kg/hr	2028	41	2431	49
LP	Ft^3/hr	kg/hr	591	32	706	38
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9
Maximum Running pressure to Electronic Pressure Regulator (EPR)	inH2O	kPa	11.0	2.7	11.0	2.7
Minimum Running pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7
Minimum Gas Supply Pipe Size			2" NPT			
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9
Maximum Running Pressure to EPR	inH2O	kPa	11.0	2.7	11.0	2.7
Minimum Running Pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7
Minimum LPG Supply Pipe Size[4]			2" NPT			

Fuel use

[1]Standby and overload ratings based on ISO3046.

[2] All ratings are gross flywheel horsepower corrected to 77^oF at an altitude of 328feet with no cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

[3] Production tolerances in engines and installed components can account for power variations of +/- 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations.

[4] The preceeding pipe sizes are only suggestions and piping sizes may vary with temperature, pressure, distance from supply and application of local codes. Gas must be available at adequate volume and pressure for engine at the EPR.

[5] >1400RPM

[6] See PSI HD Technical Spec. 56300002 - Fuel Specification. Gas properties for fuel consumption data: NG: Density =0.717 kg/m3, LHV = 927 BTU/scf; Propane: Density = 1.882 kg/m3, LHV = 2316 BTU/scf

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from $1b/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

[c] NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

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

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 \text{ scf}] = (3.67)(CON)(C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2×10^4 $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

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

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

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

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

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

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

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

where:

L_L = loading loss, pounds per 1000 gallons ($lb/10^3$ gal) of liquid loaded
S = a saturation factor (see Table 5.2-1)
P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) (see Figure 7.1-5, Figure 7.1-6, and Table 7.1-2)
M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Table 7.1-2)
T = temperature of bulk liquid loaded, °R (°F + 460)

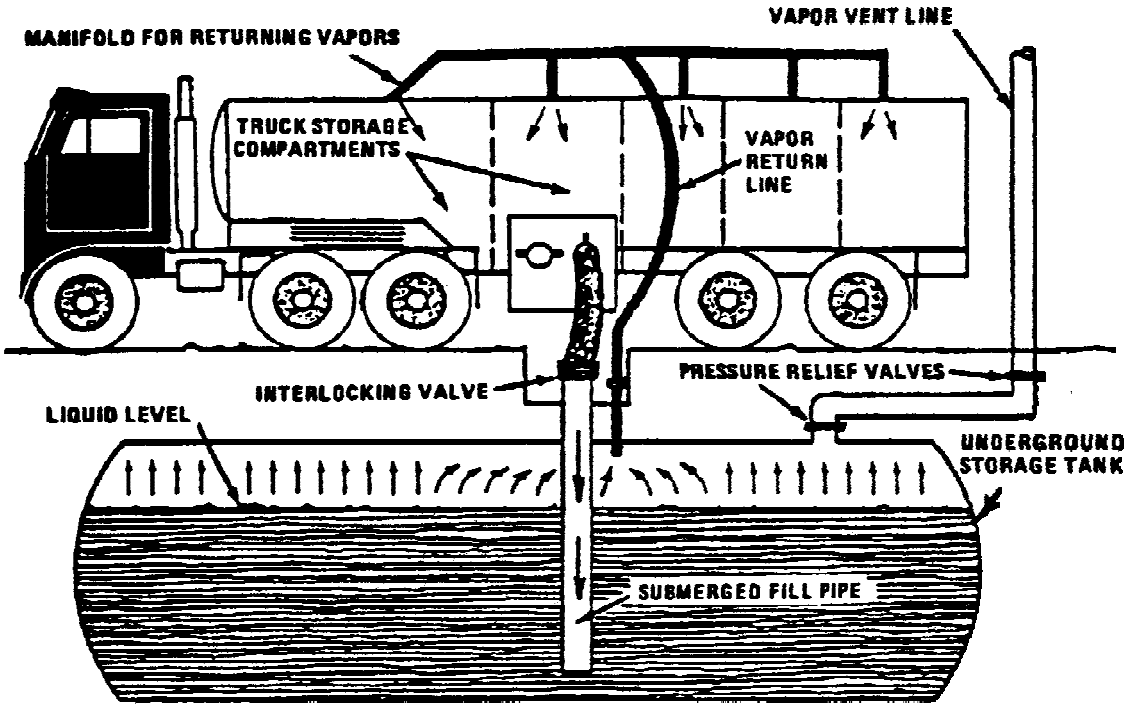


Figure 5.2-5. Tank truck unloading into a service station underground storage tank and practicing "vapor balance" form of emission control.

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

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

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

Development of TNRCC Emission Factors

In 1994, the TNRCC published emission factors primarily based on statistical data from the original study performed by the CMA and EPA in 1983. To achieve higher accuracy for estimating actual emissions from elevated flares, the TNRCC emission factors accounted for the flare type and lower heating value of the relief gas. The emission factors developed by the TNRCC are shown below in Table 1.

Table 1. Emission factors developed by the TNRCC for NOx and CO

Type	Waste Gas	NOx lb/MM Btu of Waste Gas	CO lb/MM Btu of Waste Gas
Steam-Assisted	High Btu (>1000/scf	0.0485	0.3503
Steam-Assisted	Low Btu (192-1000/scf)	0.0680	0.3465
Air and Non-Assisted	High Btu (>1000/scf	0.1380	0.2755
Air and Non-Assisted	Low Btu (184-1000/scf)	0.0641	0.5496

Upon reviewing the statistical data collected during the CMA testing, the emission factors shown in Table 1 reflect an average of the derived NO_x and CO emission factors pertaining to the flare type and lower heating value of the relief gas. When calculating the emission factors for steam-assisted flares relieving a low Btu waste gas and air-assisted flares relieving a high Btu waste gas, all test data collected during the CMA testing was included in the average of the derived emission factors.

In order to calculate emission factors for the remaining categories, multiple tests had to be disregarded due to various reasons. For instance, during testing in the high Btu steam-assisted category, the emission probe was placed into the flare flame during test 67, resulting in a substantial increase in the concentration level of both THC and carbon monoxide. During tests 61 and 55, it was noted that the flare was capped by the assist steam, contributing to destruction efficiencies well below 98%. Omitting tests 67, 61 and 55 from the high Btu steam-assisted waste gas data, the average of the derived NO_x and CO emission factor of the remaining tests resulted in the values shown above in Table 1.

To calculate the emission factor for air and non-assisted flares relieving low Btu waste gas, certain CMA test data were excluded in the calculation performed by TNRCC. Upon detailed review of the CMA test data, one possible method for calculating the emission factors in Table 1 entails disregarding tests 66, 29, 29a, 29b, and 62. Reasoning for this assumption may be due to the lower heating value of the relief gas being below 184 Btu/SCF. However, data from test 33 appears to be included in the overall average

Tab 8
Section 8 - Map(s)

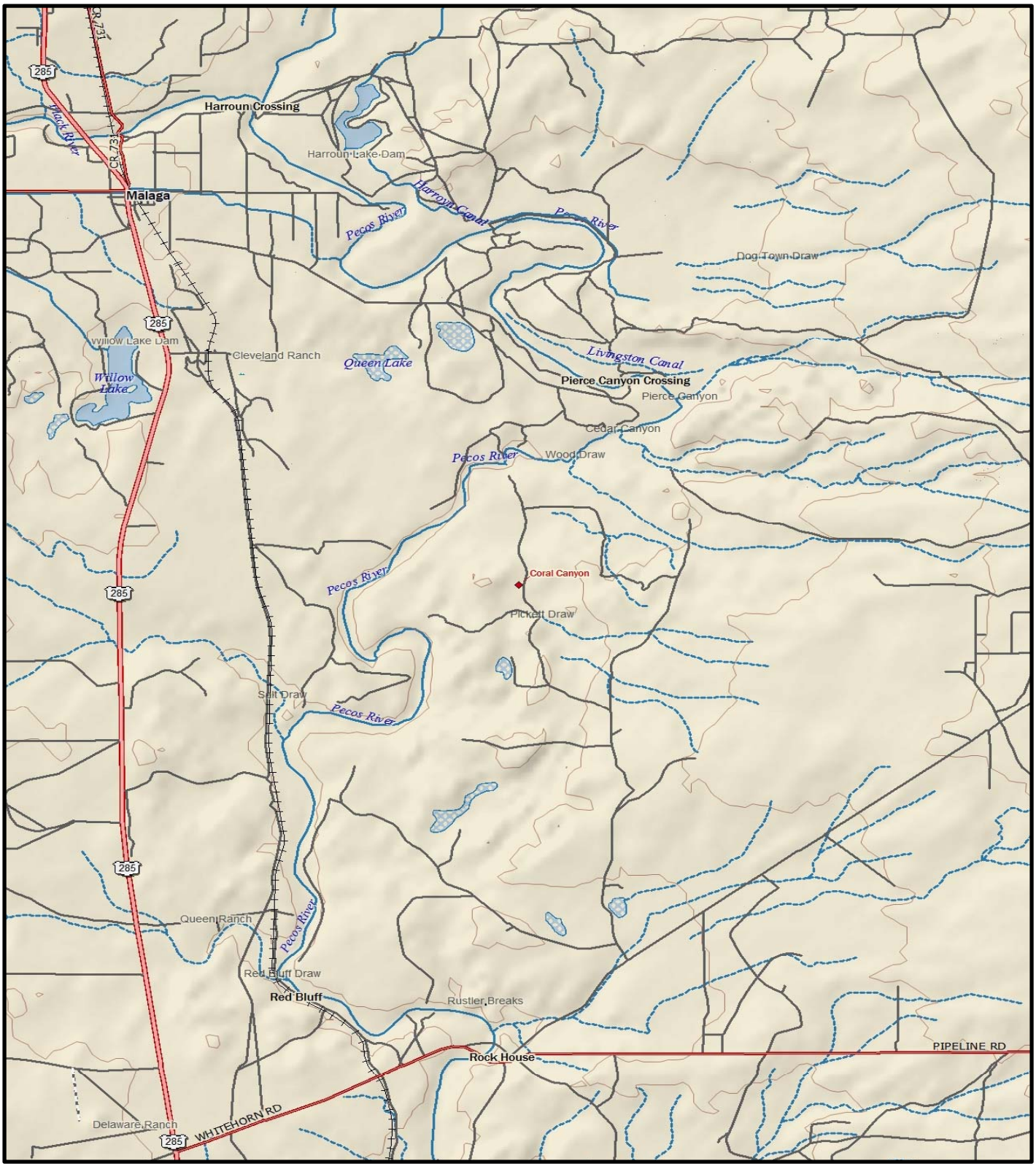
Section 8

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 access roads are provided.



KEY:

PROJECT	14204.1		
PREPARED FOR	XTO Energy, Inc.		
LOCATION	32.1519N, 103.9982W		
SHEET *1 of 1*	***DRAWN BY*** *ET*	***REVIEWED BY*** *TLJ*	***DATE*** *3/4/15*

PEI

GENERAL VICINITY MAP
Coral Canyon Tank Battery


Corral Canyon Tank Battery
Aerial Image with Access Roads
Legend
Corral Canyon CTB
Corral Canyon CTB
Google Earth
© 2018 Google
N
4000 ft

Tab 9
Section 9 - Proof of Public Notice

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.)
    a. Site
    b. Albertson's Carlsbad
    c. Carlsbad Post Office
    d. Carlsbad Library
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.
    a. BLM – Federal Official
    b. Eddy County – County Manager
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.

U.S. Postal Service

CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

CARLSBAD, NM 88220

OFFICIAL USE

Certified Mail Fee $3.50	0425 03
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $0.00	
☐ Return Receipt (electronic) $0.00	
☐ Certified Mail Restricted Delivery $0.00	
☐ Adult Signature Required $0.00	
☐ Adult Signature Restricted Delivery $	
Postage $0.55	
Total Postage and Fees $4.05	

EDWARDSVILLE IL 62025 NOV 21 2019 USPS

Postmark Here

11/21/2019

Sent To: Eddy County Manager

Street and Apt. No., or PO Box No.: 101 W. Greene St

City, State, ZIP+4®: Carlsbad, NM 88220

7017 3040 0000 9587 9695

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™

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OFFICIAL USE

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Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $0.00	
☐ Return Receipt (electronic) $0.00	
☐ Certified Mail Restricted Delivery $0.00	
☐ Adult Signature Required $0.00	
☐ Adult Signature Restricted Delivery $	
Postage $0.55	
Total Postage and Fees $4.05	

EDWARDSVILLE IL 62025 NOV 21 2019 USPS

Postmark Here

11/21/2019

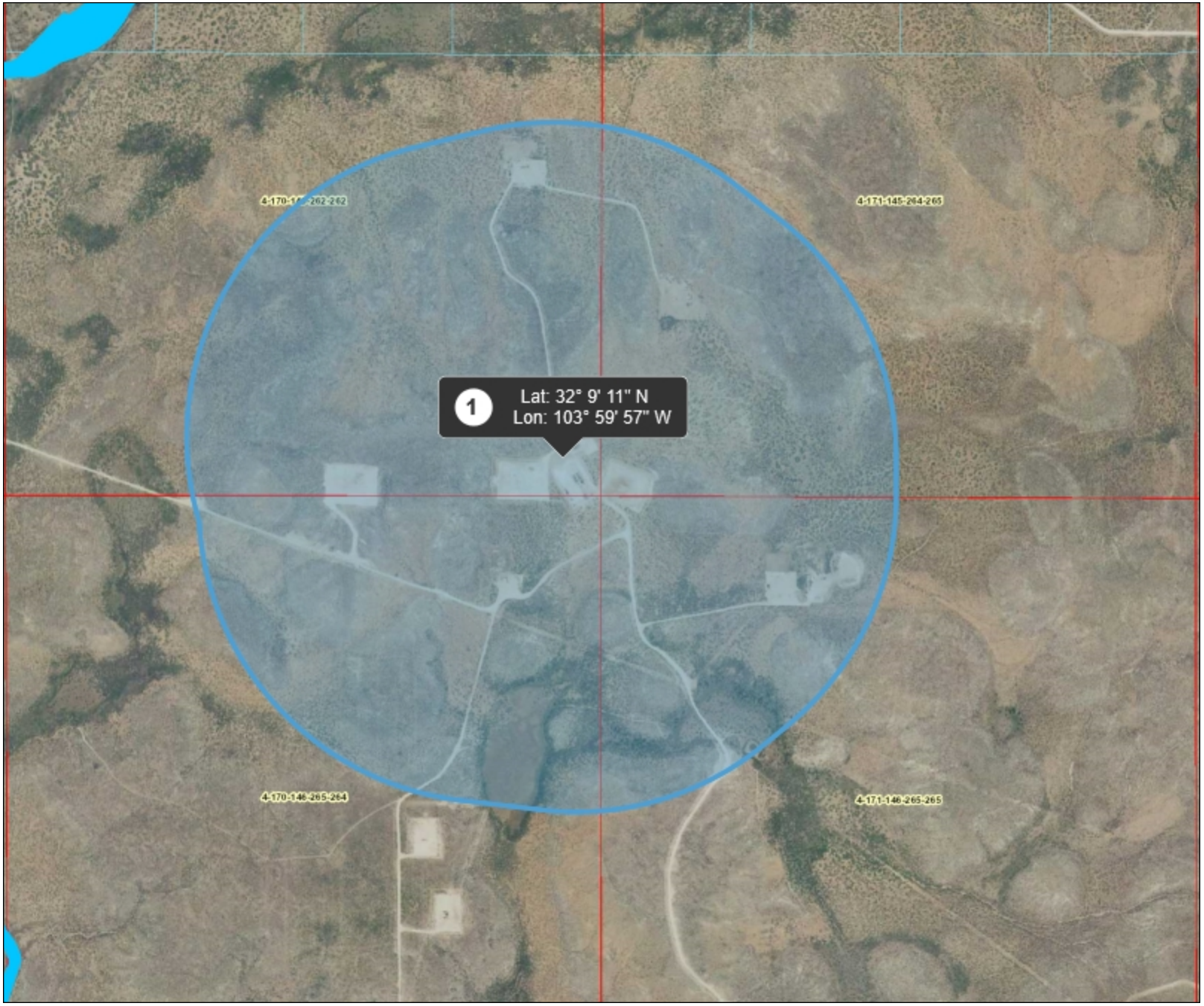
Sent To: BLM

Street and Apt. No., or PO Box No.: 620 E Greene St

City, State, ZIP+4®: Carlsbad, NM 88220-6292

7017 3040 0000 9587 9701

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



Legend

Cartography

- <all other values>
- Govt Lot Lines
- Dimension Tic
- Leader Lines
- Misc Carto
- Owner Hooks
- Sub Corners

Roads

Railroads

Water

Geographic

Section

Subdivision

Parcel

Corral Canyon Surrounding Properties

Web Print: 11/08/2019

0 1,505 3,009 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.

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LANDACTUAL: 1152
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LANDACTUAL: 1152
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OWNER_OCCURENCE: 0
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LANDCODE: 139_1_8
TAXAREA: CO_NR
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VERSIONSTART_1: 1511265318248

November 21, 2019 Certified Mail 7017 3040 0000 9587 9701

Bureau of Land Management
620 Greene St.
Suite 110
Carlsbad, New Mexico 88220-6292

RE: NSR Permit Application
Corral Canyon Tank Battery
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 construction of the Corral Canyon Tank Battery on your property in Eddy County, NM. A public notice will be posted 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 me at (865) 8502007 or etullos@pei-tx.com should you have any questions.

Sincerely,

Evan Tullos
Vice President

Attachment: Public Notice

November 21, 2019 Certified Mail 7017 3040 0000 9587 9695

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

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Sincerely,

Evan Tullos
Vice President

Attachment: Public Notice

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 a tank battery. The application will be submitted to the Air Quality Bureau around November 22, 2019. The exact location for the facility known as the Corral Canyon Tank Battery will be latitude 32 deg, 09 min, 11 sec and longitude -103 deg, 59 min, 57 sec. The approximate location of this facility is 7 miles southeast of Malaga in Eddy County, New Mexico. The facility is a typical tank battery with storage tanks, separation equipment, and flares. The permit is being updated to include produced gas flaring and remove certain equipment.

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)	25	5
PM_{10}	25	5
$PM_{2.5}$	25	5
Sulfur Dioxide (SO_2)	5	2
Nitrogen Oxides (NO_x)	550	90
Carbon Monoxide (CO)	1100	170
Volatile Organic Compounds (VOC)	1100	245
Total sum of all Hazardous Air Pollutants (HAPs)	45	12
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	< 75,000

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-W4.6B.344; 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

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

Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

NOTICE

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Carbon Monoxide (CO)	1100	170
Volatile Organic Compounds (VOC)	1100	245
Total sum of all Hazardous Air Pollutants (HAPs)	45	12
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	< 75,000

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-W4.6B.344; Spring, Texas 77389.

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Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

Submittal of Public Service Announcement – Certification

I, _Evan Tullos, the undersigned, certify that on **November 21, 2019**, submitted a public service announcement to **Carlsbad Radio** that serves Carlsbad, **Eddy** County, New Mexico, in which the source is or is proposed to be located and that Carlsbad Radio did not respond regarding the airing of the announcement.

Signed this 22nd day of November, 2019,

Signature

11/22/19
Date

Evan Tullos
Printed Name

Vice President
Title

Evan Tullos

From: Evan Tullos
Sent: Thursday, November 21, 2019 2:12 PM
To: 'psa@carlsbadradio.com'
Subject: Request for PSA
Attachments: Public Service Announcement_XTO Corral.pdf

Please note the attached request for PSA. Thank you.

EVAN TULLOS

PEI

m: (865) 850-2007
e: etullos@pei-tx.com
w: www.pei-tx.com

November 21, 2019

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 a tank battery. The application will be submitted to the Air Quality Bureau around November 7, 2019. The exact location for the facility known as the Corral Canyon will be latitude 32 deg, 09 min, 11 sec and longitude -103 deg, 59 min, 57 sec. The approximate location of this facility is 7 miles southeast of Malaga in Eddy County, New Mexico. The facility is a typical tank battery with storage tanks, separation equipment, and flares. The permit is being updated to include produced gas flaring and update onsite equipment.

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

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
GCI0311688

PORTNOY ENVIRONMENTAL, INC
5 CARDINAL CT
EDWARDSVILLE, IL 62025

I, a legal clerk of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

11/15/2019

Legal Clerk

Subscribed and sworn before me this
22ND of NOVEMBER 2019.

State of WI, County of Brown
NOTARY PUBLIC

My Commission Expires

VICKY FELTY
NOTARY
PUBLIC
STATE OF WISCONSIN

Ad#:GCI0311688
P O :
# of Affidavits :1

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 a tank battery. The application will be submitted to the Air Quality Bureau around November 22, 2019. The exact location for the facility known as the Corral Canyon Tank Battery will be latitude 32 deg, 09 min, 11 sec and longitude -103 deg, 59 min, 57 sec. The approximate location of this facility is 7 miles southeast of Malaga in Eddy County, New Mexico. The facility is a typical tank battery with storage tanks, separation equipment, and flares. The permit is being updated to include produced gas flaring and remove certain equipment.

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)	25	5
PM 10	25	5
PM 2.5	25	5
Sulfur Dioxide (SO2)	5	2
Nitrogen Oxides (NOx)	550	90
Carbon Monoxide (CO)	1100	170
Volatile Organic Compounds (VOC)	1100	245
Total sum of all Hazardous Air Pollutants (HAPs)	45	12
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO2e	n/a	< 75,000

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-W4.6B.344; 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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Carlsbad Current Argus.

PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # 0003900062

PORTNOY ENVIRONMENTA L, INC.
5 CARDINAL CT

EDWARDSVILLE, IL 62025

I, a legal clerk of the **Carlsbad Current Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

November 15, 2019

Legal Clerk

Subscribed and sworn before me this November 15, 2019:

State of WI, County of Brown
NOTARY PUBLIC

9-19-21
My commission expires

VICKY FELTY
NOTARY PUBLIC
STATE OF WISCONSIN

Ad # 0003900062
PO #: XTO Corral #2
# of Affidavits : 1

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Carbon Monoxide (CO)	1100	170
Volatile Organic Compounds (VOC)	1100	245
Total sum of all Hazardous Air Pollutants (HAPs)	45	12
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO2e	n/a	< 75,000

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#3900062, Current Argus, Nov. 15, 2019

Tab 10
Section 10 - Written Description of the Routine Operations of the Facility

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.

Mixed hydrocarbons (20,500 BOPD/60,000 BWPD) enter the facility through inlet separators, flowing next to heater treaters (HTR1/HTR2). The site can also accept up to 5,000 BOPD of dead oil from the surrounding area. The low pressure gas is picked up by electric booster compressors (BC1/BC2) to increase the line pressure for sales. During booster downtime (876 hours), all of the gas is flared at the HPF1. Some of the sales gas can be routed to electric compressors (GLC1/GLC2) and reinjected for gas lift.

Water from the inlet is routed to water skim tanks (SKTK1/SKTK2), then to six (6) water storage tanks (PWTK1-PWTK6). The water skim tank is used to collect any residual oils from the incoming water. All tank vapors are controlled using a low pressure flare (LPF1). Any skimmed oil is piped to the heater treaters. Water is piped offsite.

Oil flows from the heaters to vapor recovery towers (VRT1-VRT2), then to six (6) sales tanks (TK1-TK6). Most flashing occurs in the VRT since it drops the pressure to approximately 1.5-2 psig. Gas from the VRT is routed to an electric VRU (VRU1/VRU2). Any remaining vapors in the closed vent system would be routed to the LPF1. During VRU downtime (438 hours), all of the gas is routed to LPF1. Gas from the oil tanks is routed to a VRU/flare closed vent system (VRU3/LPF1) for emissions control. The VRU recovers 98% of the gas with the remaining 2% routed to LPF1. During VRU downtime (438 hours), all vapors are routed to LPF1. Oil is normally shipped offsite via pipeline LACT; however, a volume of 5,000 BOPD was included, with emissions being routed to LPF1.

HPF1 is also used to flare inlet gas from this portion of the facility if necessary. For conservative emissions estimation, XTO assumed a maximum of 60.90 mmscfd instantaneous flow could be routed to the flare for approximately 210 hours per year. HPF1 would also be used in the event of an emergency that required gas flaring.

Tab 11
Section 11 -Source Determination

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):

Tab 12
Section 12 - PSD Applicability Determination for All Sources

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.**

Tab 13
Section 13 - Determination of State & Federal Air Quality Regulations

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	Yes	Facility	20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC
20.2.7 NMAC	Excess Emissions	Yes	Facility	XTO will comply with this regulation, as appropriate.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	None of the equipment has a rating greater than 1,000,000 MMBtu/hr.
20.2.34 NMAC	Oil Burning Equipment: NO_2	No	N/A	This facility has no oil burning equipment.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	The facility is not a gas processing plant.
20.2.38 NMAC	Hydrocarbon Storage Facility	Yes	All Oil Storage Tanks	The site uses VRUs and flares to comply with 20.2.38.112 NMAC.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	The facility does not operate a sulfur recovery plant.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	HPF1, LPF1, HTR1-HTR2	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	XTO is submitting a Title V permit application.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	XTO will pay appropriate Title V fees.
20.2.72 NMAC	Construction Permits	Yes	Facility	This application requests a NSR permit in accordance with 20.2.72.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The site is subject to the emissions inventory requirements of 20.2.72.300 NMAC.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is not a major PSD site.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	A permit fee is included with this application.
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	The facility does not fit into any of the source categories.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	The facility is not located in a nonattainment area.

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.)
20.2.80 NMAC	Stack Heights	No	N/A	There are no stacks to which this regulation would apply.
20.2.82 NMAC	MACT Standards for source categories of HAPS	No	N/A	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	Modeling was conducted to ensure compliance with NAAQS.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Facility	See regulatory discussion 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	Petroleum Liquids 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	Volatile Organic Liquid Storage 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	There are no turbines.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No	N/A	This is not a gas plant.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO2 Emissions	No	N/A	The facility does not operate a sweetening unit.
NSPS 40 CFR Part 60 Subpart JJJJ	Spark Ignition Internal Combustion Engines	No	N/A	The facility does not operate any affected sources.

NSPS 40 CFR Part 60 Subpart OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution commenced after August 23, 2011 and before September 18, 2015	No	N/A	The site was 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 enforceable emissions are less than 6 tpy. • The site uses low-bleed pneumatic controllers. • By definition in 60.5430, the screw compressors on the VRUs are exempt. The electric booster and sales compressors may use screw or reciprocating compressors; however, per 60.5365a(b) and (c), compressors at well sites or servicing well sites are not affected facilities. • The site will be 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 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.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	The facility does not operate any affected sources.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	The facility does not operate any affected sources.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No	N/A	The facility does not operate any affected sources.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No	N/A	The facility does not operate any affected sources.
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	No	N/A	The facility does not operate any affected sources.
MACT 40 CFR 63 Subpart HHH		No	N/A	The facility does not operate any affected sources.
MACT 40 CFR 63 Subpart DDDDD	NESHAP for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	The facility does not operate any affected sources.
MACT 40 CFR 63 Subpart UUUUU	NESHAP Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	The facility does not operate any affected sources.
MACT 40 CFR 63 Subpart ZZZZ	RICE MACT	No	N/A	The facility does not operate any affected sources.
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 does not store any chemicals above threshold quantities.
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.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No	N/A	The facility does not service, maintain, or repair equipment containing refrigerants.

Tab 14
Section 14 - Operational Plan to Mitigate Emissions

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 application of industry standards and /or manufacturer recommended operating practices as described below. Trained technicians are responsible for the timely and effective implementation of these actions.

Tab 15
Section 15 - Alternative Operating Scenarios

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.

Tab 16
Section 16 - Air Dispersion Modeling

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.	X
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.	
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.

Tab 17
Section 17 - Compliance Test History

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

Compliance testing has not been required.

Tab 18
Section 18 - Addendum for Streamline Applications (Not Applicable)

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 is not a streamline permit application.

Tab 19
Section 19 - Requirements for Title V Program

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 not a Title V application.

Tab 20
Section 20 - Other Relevant Information

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

No other relevant information is provided.

Tab 21
Section 21 - Addendum for Landfill Applications (Not Applicable)

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.

Tab 22
Section 22 - Certification

Section 22: Certification

Company Name: XTO Energy, Inc.

I, Raymond P. Tole Jr., 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 20 day of Dec, 2019 upon my oath or affirmation, before a notary of the State of Texas.

*Signature

December 20, 2019
Date

Raymond P. Tole Jr.
Printed Name

Environmental Engineer
Title

Scribed and sworn before me on this 20 day of December, 2019.

My authorization as a notary of the State of Texas expires on the 4 day of August, 2022.

Notary's Signature

12/20/19
Date

Kimberly McQuillen
Notary's Printed Name

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

Kimberly Sue McQuillen
Notary Public, State of Texas
My Comm. Exp. 8/4/22
Notary ID 12990808-2

Tab 23
Section 23 - UA4

Universal Application 4

Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

16-A: Identification

1	Name of facility: Corral Canyon Tank Battery
2	Name of company: XTO Energy Inc
3	Current Permit number: 6275
4	Name of applicant's modeler: Bruce Ferguson
5	Phone number of modeler: (601) 824-1860
6	E-mail of modeler: bferguson@fce-engineering.com

16-B: Brief

1	Why is the modeling being done? Other (describe below) Production rates are adjusted, and engine is being added, and a portion of the facility is being shut down.		
2	Describe the permit changes relevant to the modeling. Adding engine, removing equipment and changing flare emissions.		
3	What geodetic datum was used in the modeling? NAD83		
4	How long will the facility be at this location? Indefinite		
5	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes	No X

16-B: Brief

6	Identify the Air Quality Control Region (AQCR) in which the facility is located. 155-Pecos Permian Basin
7	List the PSD baseline dates for this region (minor or major, as appropriate).

Pollutant	Major Source Baseline Date	Minor Source Baseline Date
PM	January 6, 1975	February 20, 1979
SO_2	January 6, 1975	July 28, 1978
NO_2	February 8, 1988	March 16, 1988
$PM_{2.5}$	October 20, 2010	November 13, 2013

8	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). Carlsbad Cavern NP is located 35 km to the West of the tank battery.
9	Is the facility located in a non-attainment area? If so, describe. No
10	Describe any special modeling requirements, such as streamline permit requirements.

16-C: Modeling History of Facility

1	Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQS), and PSD increments modeled. (Do not include modeling waivers).

Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
CO	6275M2	2018	
NO_2	6275M2	2018	
SO_2	6275M2	2018	
H_2S			
PM2.5	6275M2	2018	
PM10	6275M2	2018	
~~TSP~~[1]			
Lead			
Ozone (PSD only)			
NM Toxic Air Pollutants (20.2.72.402 NMAC)			

1. The New Mexico Ambient Air Quality Standard for TSP was repealed by the Environmental Improvement Board effective November 30, 2018.

16-D: Modeling performed for this application

1 For each pollutant, indicate the modeling performed and submitted with this application.
Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.

Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
CO	X	**			
NO_2	X	X			
SO_2	X	**			
H_2S					X
PM2.5	X	X			
PM10	X	X			
Lead					X
Ozone					*
State air toxic(s) (20.2.72.402 NMAC)					X

*Ozone is not required for minor source application.
** Cumulative impact determined by adding monitored background to the SIA impact.

16-E: New Mexico toxic air pollutants modeling

1 List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application.

None

List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.

Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor

16-F: Modeling options

1	What model(s) were used for the modeling? Why? AERMOD Version 19191. The preferred regulatory model for near field impacts.
2	What model options were used and why were they considered appropriate to the application? Default regulatory options were used.

16-G: Surrounding source modeling

1	If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the unmerged list of sources to describe the changes.	
2	Date of surrounding source retrieval. 10/28/2019 email from Eric Peters	
	AQB Source ID	Description of Corrections
	39104E1	Flare effective diameter of 14.3646 meters was used instead of the actual flare diameter included in NMED inventory.
	39103E1	Flare effective diameter of 14.3646 meters was used instead of the actual flare diameter included in NMED inventory.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	1	
2	How many above ground storage tanks are present at the facility?	14	
3	Was building downwash modeled for all buildings?	Yes X	No
4	If not, explain why.		
5	Building comments 40 structures were included in the downwash analysis including ASTs, building and process vessels		

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area. On-site receptors were included at 10-meter spacing; no fence was considered.		
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?	Yes	No X
3	Are restricted area boundary coordinates included in the modeling files?	Yes	No X
4	Describe the receptor grids and their spacing. 10 meters within 0.25 km of facility center 50 meters within 0.5 km of facility center 100 meters from 0.5 km to 3km 250 meters from 3 km to 6km 500 meters from 6km to 10 km 1000 meters from 10 km to 50 km		
5	Describe receptor spacing along the fence line. No fence line was considered. Onsite receptors at 10-meter spacing was used.		
6	Describe the PSD Class I area receptors. The Class I area is within the 1-km coarse grid used for the Class I modeling. The Class I area is approximately 35 km from the XTO facility. The radius of impact to the Class I significance level was well below 35 km for all pollutants.		

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes	No X
2	If so, describe.		
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes	No X

16-K: Modeling Scenarios

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).		
2	Which scenario produces the highest concentrations? Why?		
3	Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)	Yes	No
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources:		

5

Hour of Day	Factor	Hour of Day	Factor								
1		13									
2		14									
3		15									
4		16									
5		17									
6		18									
7		19									
8		20									
9		21									
10		22									
11		23									
12		24									

If hourly, variable emission rates were used that were not described above, describe them here:

6	Were different emission rates used for short-term and annual modeling?	Yes X	No
7	If yes, describe. The maximum short-term emission rate was used for all analyses except for the NO_2 annual average. The facility flare emissions (HPF & LPF) hourly emissions were adjusted to the maximum TPY emissions divided by 8760 hours.		

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
		100% NO_X to NO_2 conversion
		ARM
		PVMRM
		OLM
	X	ARM2
		Other:
2	Describe the NO_2 modeling. Ox emissions levels were converted within the model using ARM2 at the in-stack ratios stated below.	
3	In-stack NO_2/NO_X ratio(s) used in modeling.	
4	Equilibrium NO_2/NO_X ratio(s) used in modeling. 0.5 minimum, 0.9 maximum	
5	Describe/justify the use of the ratios chosen. Default	
6	Describe the design value used for each averaging period modeled. 1-hour: High eighth high Annual: Highest annual average	

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.			
		PM2.5		
		PM10		
	X	None		
2	Describe the particle size distributions used. Include the source of information.			
3	Was secondary PM modeled for PM2.5? Only required for PSD major modifications that are significant for NOx and/or SOx. Optional for minor sources but allows use of high eighth high.		Yes X	No
	$[PM_{2.5}]$ annual = ((NO_X emission rate (tons/year) /3184) + (SO_2 emission rate (tons/year) /2289)) x 0.2 $\mu g/m^3$ ((89.77/3184) + (0.96/2289)) x 0.2 $\mu g/m^3$ =0.006 $\mu g/m^3$ $[PM_{2.5}]$24-hour = ((NO_X emission rate (tons/year) /1155) + (SO_2 emission rate (tons/year) /225)) x 1.2 $\mu g/m^3$ ((89.77/1155) + (0.96/225)) x 1.2 $\mu g/m^3$ 0.098 $\mu g/m^3$			

16-N: Setback Distances and Source Classification

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location.		
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling.		
3	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match?	Yes X	No
4	Provide a cross-reference table between unit numbers if they do not match. It's ok to place the table below section 16-N for easier formatting.		
5	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match?	Yes X	No
6	If not, explain why.		
7	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	Yes	No X
8	Which units consume increment for which pollutants? All of the minor source baseline dates have been set and all of the units consume increment..		
9	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).		
10	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling.	Yes X	No
11	If not please explain how increment consumption status is determined for the missing installation dates.		

16-O: Flare Modeling

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	HPF			
	Pilot	23.57	38837.31395	13.83
	Booster Compressor	32.83	3088475.646	
	Sales Gas Flaring	23.57	246356544.4	
	LPF			
	Pilot	23.57	19418.65698	2..12
	Vapor Recovery Tower (VRT)	45.84	5497945.257	
	Oil Storage Tanks	50.49	778319.6155	
	Truck Loading of Oil	50.21	87931.96531	
	Skim & Water Tanks	22.71	258196.6251	

16-P: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?	Yes	No X
2	If the dimensions of volume sources are different from standard dimensions in the AQB Modeling Guidelines, describe how the dimensions were determined.		
3	Describe the determination of sigma-Y and sigma-Z for fugitive sources. Road sources used the NMED guideline values for large trucks.		
4	Describe how the volume sources are related to unit numbers. Or say they are the same. The only volume sources used were for the haul road. The model IDs L1-L24 represent the haul road.		
5	Describe any open pits.		
6	Describe emission units included in each open pit.		

16-Q: Background Concentrations

1 Identify and justify the background concentrations used.
Background values were selected from the NMED Air Dispersion Modeling Guidelines, Revised June 6, 2019

Pollutant	Monitor ID	Monitor Location	Avg. Period	Concentration	Units
CO	350010023	Del Norte High School	1-hour	2203	µg/m³
			8-hour	1524	µg/m³
NO_2	350151005	Outside Carlsbad	1-hour	38.7	µg/m³
			Annual	5.0	µg/m³
$PM_{2.5}$	350250008	Hobbs-Jefferson	24-hour	13.4	µg/m³
			Annual	5.9	µg/m³
PM_{10}			24-hour	37.3	µg/m³
			Annual	24	µg/m³
SO_2	483751025	Amarillo, 24th Ave	1-hour	47	µg/m³
			Annual	0.67	µg/m³

2	Were background concentrations refined to monthly or hourly values?	Yes	No X

16-R: Meteorological Data

1 Identify and justify the meteorological data set(s) used.

Carlsbad 2015. The Carlsbad data is posted on the NMED website and is located approximately 31 km northwest of the project site. The year 2015 is the only year processed with default options. The project site and Carlsbad monitor are within the same terrain feature.

2 Discuss how missing data were handled, how stability class was determined, and how the data were processed, if the Bureau did not provide the data.

The meteorological file was used as downloaded from the NMED website

16-S: Terrain

1	Was complex terrain used in the modeling? If no, describe why. Yes
2	What was the source of the terrain data? USGS NED data, downloaded from https://www.mrlc.gov/viewerjs/

16-T: Modeling Files

Describe the modeling files:
The significance analysis was run with only the Corral Canyon sources. Impacts were found to be insignificant for CO and the SO2 3-hr averaging period.

Cumulative NO2 NAAQS and NMAAQS impacts for the 1-hr and annual averaging periods were determined using the SIA analysis and monitored background. An additional NOx SIA analysis was run with the flaring emissions annualized (NOx_Ann) to determine compliance with the PSD increment. Receptors with significant annual impacts were carried forward to the NOx cumulative analysis. The sources identified in the NMED inventory with IDs less than 10,000 were removed from the inventory prior to the analysis.

Cumulative SO2 1-hr impacts were determined from the SIA analysis using the H1H and monitored background. Cumulative SO2 PSD impacts were determined by using significant receptors from the SIA analysis and the inventory provided by the NMED. No sources were removed from the NMED inventory.

The cumulative impacts for PM10 and PM2.5 were determined using significant receptors from the SIA analysis, modeling the surrounding sources provided by the NMED and adding monitored background. Estimates of secondary PM2.5 formation were added to the PM2.5 impacts.

1

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
SIA\CO\ *.ADI, *.ADO, *.SUM	CO	ROI & cumulative input/output and summary files
SIA\CO\CO.AD		Plot files Ex: [01][H1]G[ALL].PLT [Avg][Rank]G[Source grp].PLT
SIA\NOx\ *.ADI, *.ADO, *.SUM	NO2 1-hr	ROI & Cumulative input/output and summary files
SIA\NOx\NOx.AD		Plot Files
SIA\NOx_Ann*.ADI, *.ADO, *.SUM	NO2 Annual average	ROI input/output and summary files
SIA\NOx_Ann.AD		Plot Files
SIA\PM10*.ADI, *.ADO, *.SUM	PM10	ROI input/output and summary files
SIA\PM10\PM10.AD		Plot Files
SIA\PM25*.ADI, *.ADO, *.SUM	PM25	ROI input/output and summary files
SIA\PM25\PM10.AD		Plot Files
SIA\SO2*.ADI, *.ADO, *.SUM	SO2	ROI input/output and summary files
SIA\SO2\SO2.AD\		Plot Files
Surrounding Sources\NOx *.ADI, *.ADO, *.SUM	NO2 Annual	CIA input/output and summary files
Surrounding Sources\NOx\NOx.AD		Plot Files
Surrounding Sources\PM10 *.ADI, *.ADO, *.SUM	PM10	CIA input/output and summary files
Surrounding Sources\PM10\PM10.AD		Plot Files
Surrounding Sources\PM25 *.ADI, *.ADO, *.SUM	PM2.5	CIA input/output and summary files
Surrounding Sources\PM25\PM25.AD		Plot Files
Surrounding Sources\SO2 *.ADI, *.ADO, *.SUM	SO2	CIA input/output and summary files
Surrounding Sources\SO2\SO2.AD		Plot Files

16-U: PSD New or Major Modification Applications

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes	No
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes	No
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption.		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed?		

16-V: Modeling Results

1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant.
2	Identify the maximum concentrations from the modeling analysis.

Pollutant	Period	Facility Concentration (µg/m3)	Total Modeled Concentration (µg/m3)	Total Modeled Concentration (PPM)	Background Concentration	Cumulative Concentration	Standard	Value of Standard	Units of Standard, Background, and Total	Percent of Standard
CO	1-hr	427.24983	427.24983		N/A	427.24983	SIL	2000	µg/m^3	21.4
CO	8-hr	322.55422	322.55422		N/A	322.55422	SIL	500	µg/m^3	64.5
SO_2	1-hr	9.71262	9.71262		47	56.1	NAAQS	196.4	µg/m^3	28.6
SO_2	3-hr	8.08214	8.08214		N/A	8.08214	SIL	25	µg/m^3	32.3
SO_2	24-hr	5.67460	5.70750		N/A	5.70750	PSD	91	µg/m^3	6.3
SO_2	Annual	1.04436	1.32757		N/A	1.32757	PSD	20	µg/m^3	6.6
NO_2	1-hr	134.37925	134.37925		38.7	173.08	NAAQS	188.03	µg/m^3	92.0
NO_2	Annual	20.90006	20.90006		5.0	25.9	NMAAQS	94.02	µg/m^3	27.5
NO_2	Annual	5.89500	8.85298		N/A	8.85298	PSD	25	µg/m^3	35.4
PM_{10}	24-hr	33.39695	40.69324		37.3	77.99	NAAQS	150	µg/m^3	52.0
PM_{10}	24-hr	28.91388	29.79795		N/A	29.79795	PSD	30	µg/m^3	99.3
PM_{10}	Annual	12.51699	13.15767		N/A	13.15767	PSD	17	µg/m^3	77.4
$PM_{2.5}$	24-hr	6.72485	6.73505		0.089*	6.82	PSD	9	µg/m^3	75.8
$PM_{2.5}$	Annual	1.58701	1.76858		0.002*	1.7688	PSD	4	µg/m^3	44.2
$PM_{2.5}$	24-hr	3.14650	8.49991		13.489*	21.099	NAAQS	35	µg/m^3	62.8
$PM_{2.5}$	Annual	1.58701	3.58269		5.902*	9.48	NAAQS	12	µg/m^3	79.0

16-W: Location of maximum concentrations

1	Identify the locations of the maximum concentrations.

Pollutant	Period	UTM East (m)	UTM North (m)	Elevation (ft)	Distance (m)	Radius of Impact (ROI) (m)
CO	1-hr	594750.00	3557950.00	899.74	404	0
CO	8-hr	594340.00	3557930.00	900.88	On-site	0
SO_2	1-hr	594340.00	3557930.00	900.88	On-site	On-site
SO_2	3-hr	594340.00	3557930.00	900.88	On-site	0 (Class I 544 m)
SO_2	24-hr	594340.00	3557930.00	900.88	On-site	On-site
SO_2	Annual	594330.00	3557920.00	900.88	On-site	On-site (Class I 174 m)
NO_2	1-hr	594320.00	3557910.00	900.88	On-site	50,000
NO_2	Annual	594360.00	3557940.00	901.90	On-site	428 m (Class I 21,724 m)
PM_{10} PSD	24-hr	594470.00	3557740.00	896.82	On-site	417 m (Class I 3,365 m)
PM_{10} NAAQS	24-hr	594440.00	3557800.00	897.74	On-site	417 m
PM_{10}	Annual	594360.00	3557830.00	898.43	On-site	306 m (Class I 796 m)
$PM_{2.5}$ PSD	24-hr	594340.00	3557930.00	900.88	On-site	559 m (Class I 1,155 m)
$PM_{2.5}$ PSD	Annual	594330.00	3557920.00	900.88	On-site	305 m (Class I 3,323)
$PM_{2.5}$ NAAQS	24-hr	594470.00	3557760.00	897.05	On-site	559 m
$PM_{2.5}$ NAAQS	Annual	594330.00	3557920.00	900.88	On-site	305 m

Distance to maximum determined from center of facility source locations (594348.8, 3557898.8).
Maximum concentration locations on the site pad are indicted by "On-site"

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued. Modeling has been performed following the guidance "New Mexico Air Quality Bureau Air Dispersion Modeling Guidelines, Revised June 6, 2019." Modeled impacts were found to be below the modeling significance levels or the ambient air quality standards. The facility will not cause or contribute to an exceedance of the ambient air quality standards and the permit can be issued.