



March 3, 2020

UPS Tracking #1Z5V32103595763310

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

Re: **NSR Permit Application**
Maverick Compressor Station NSR Permit No. 7474-M2
Tiger Compressor Station NSR Permit No. 7623-M1
Spartan Compressor Station NSR Permit No. 7681-M1
XTO Energy Inc.

Dear Ms. Olson,

XTO Energy Inc. is submitting the NSR Permit applications for the Maverick, Tiger, & Spartan Compressor Station. The electronic files will be provided via email or secure file transfer. Also included is a check for the filling fee.

If you have any questions concerning this application, please call me at 832-624-4426 or at Raymond.Tole@ExxonMobil.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. P. Tole Jr.' with a stylized flourish at the end.

Raymond P. Tole Jr. P.E.
Environmental Engineer
XTO Energy Inc.

SPARTAN COMPRESSOR STATION
Eddy County, NM
NSR Permit Modification Application



PREPARED BY:
RAYMOND P TOLE JR
ENVIRONMENTAL ENGINEER
XTO ENERGY INC.
2/22/2021

SPARTAN COMPRESSOR STATION

NSR Permit Modification Application

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Tab 1

UA1 Form - Company and Facility Information

<p>Mail Application To:</p> <p>New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505</p> <p>Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb</p>		<p>For Department use only:</p> <p>AIRS No.:</p>
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Universal Air Quality Permit Application

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

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. 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.: **XX** 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.B.1.d 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 1 st 3 to 5 #s of permit IDEA ID No.): 38274	Updating Permit/NOI #: 7681-M1
1	Facility Name: Spartan Compressor Station	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits): 211120	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): See 1-D.4.		
2	Plant Operator Company Name: XTO Energy Inc.	Phone/Fax: (832) 624-4426	
a	Plant Operator Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389		
b	Plant Operator's New Mexico Corporate ID or Tax ID: 1522747		

3	Plant Operator Company Name: XTO Energy Inc.	Phone/Fax: (832) 624-4426
a	Plant Owner(s) Mailing Address(s): 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	
4	Bill To (Company): XTO Energy Inc.	Phone/Fax: (832) 624-4426
a	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	E-mail: raymond.tole@exxonmobil.com
5	<input checked="" type="checkbox"/> Preparer: TJ Tole <input type="checkbox"/> Consultant:	Phone/Fax: (865) 850-2007
a	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	E-mail: raymond.tole@exxonmobil.com
6	Plant Operator Contact: T.J. Tole	Phone/Fax: (832) 624-4426
a	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	E-mail: raymond.tole@exxonmobil.com
7	Air Permit Contact: T.J. Tole	Title: Environmental Engineer
a	E-mail: raymond.tole@exxonmobil.com	Phone/Fax: (832) 624-2768
b	Mailing Address: 22777 Springwoods Village Parkway, W4.6B.374, Spring, TX 77389	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the permit No. is: P-
7	Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: 7681-M1
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the register No. is:

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: 22.5 barrels; 8.8 MMscf	Daily: 539.0 barrels; 210.1 MMscf	Annually: 196,750 barrels; 76.7 Bscf
b	Proposed	Hourly: 76.5 barrels; 10 MMscf	Daily: 1,836 barrels; 240 MMscf	Annually: 670,115 barrels; 87.6 Bscf
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: 22.5 barrels; 8.8 MMscf	Daily: 539.0 barrels; 210.1 MMscf	Annually: 196,750 barrels; 76.7 Bscf
b	Proposed	Hourly: 76.5 barrels; 10 MMscf	Daily: 1,836 barrels; 240 MMscf	Annually: 670,115 barrels; 87.6 Bscf

Section 1-D: Facility Location Information

1	Section: 24	Range: 30E	Township: 24S	County: Eddy	Elevation (ft): 3434
2	UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13			Datum: <input type="checkbox"/> NAD 27 <input type="checkbox"/> NAD 83 <input checked="" type="checkbox"/> WGS 84	
a	UTM E (in meters, to nearest 10 meters): 609512			UTM N (in meters, to nearest 10 meters): 3563566	
b	AND Latitude (deg., min., sec.): 32° 12' 12"			Longitude (deg., min., sec.): -103° 50' 17"	
3	Name and zip code of nearest New Mexico town: Malaga - 88263				
4	Detailed Driving Instructions from nearest NM town: Drive N on US 285 for 5.4 mi. to R on Carter Rd./8th St. Go 1.2 mi. to R on NM-31. Go 6.5 mi. to R on NM-128. Go 12.8 mi. to R on Twin Wells Rd. Go 4.7 mi. to L into site.				
5	The facility is 13.5 miles E of Malaga				
6	Status of land at facility (check one): <input type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input checked="" type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input type="checkbox"/> Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: 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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: Texas - 13				
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): 44.44				
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? <input checked="" type="checkbox"/> No <input type="checkbox"/> 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:		<input type="checkbox"/> AM <input type="checkbox"/> PM	End: <input type="checkbox"/> AM <input type="checkbox"/> PM
3	Month and year of anticipated start of construction: Already started			
4	Month and year of anticipated construction completion: Facility Completed Construction 12/2020			
5	Month and year of anticipated startup of new or modified facility: Facility Commenced Operation 12/2020			
6	Will this facility operate at this site for more than one year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify:
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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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
a	If Yes, what type of source? <input checked="" type="checkbox"/> Major (<input checked="" type="checkbox"/> ≥10 tpy of any single HAP OR <input checked="" type="checkbox"/> ≥25 tpy of any combination of HAPS) OR <input type="checkbox"/> Minor (<input type="checkbox"/> <10 tpy of any single HAP AND <input type="checkbox"/> <25 tpy of any combination of HAPS)	
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> I have filled out Section 18, "Addendum for Streamline Applications." <input checked="" type="checkbox"/> N/A (This is not a Streamline application.)
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Section 1-H: 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-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB’s secure file transfer service.

Electronic files sent by (check one):

CD/DVD attached to paper application

secure electronic transfer. Air Permit Contact Name T.J. Tole

Email raymond.tole@exxonmobil.com

Phone number (832) 624-2768

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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Section 19:	Requirements for the Title V (20.2.70 NMAC) Program (Title V applications only)
Section 20:	Other Relevant Information
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Section 22:	Certification Page

Tab 2
UA2 Form - Application Tables

Table 2-A: Regulated Emission Sources

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

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
ENG1	Natural Gas Compressor Engine	Caterpillar	G3616	ZZY00909	5000	5000	1/1/2019	ENG1	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							1/1/2019	CAT1				
ENG2	Natural Gas Compressor Engine	Caterpillar	G3616	ZZY00830	5000	5000	12/1/2019	ENG2	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							12/1/2019	CAT2				
ENG3	Natural Gas Compressor Engine	Caterpillar	G3616	ZZY00831	5000	5000	1/1/2019	ENG3	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							1/1/2019	CAT3				
ENG4	Natural Gas Compressor Engine	Caterpillar	G3616	ZZY00853	5000	5000	2/1/2019	ENG4	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							2/1/2019	CAT4				
ENG5	Natural Gas Compressor Engine	Caterpillar	G3616	ZZY00916	5000	5000	1/1/2019	ENG5	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							1/1/2019	CAT5				
ENG6	Natural Gas Compressor Engine	Caterpillar	G3616	ZZY00908	5000	5000	11/1/2018	ENG6	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							11/1/2018	CAT6				
ENG7	Natural Gas Compressor Engine	Caterpillar	G3616	TBD	5000	5000	TBD	ENG7	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							TBD	CAT7				
ENG8	Natural Gas Compressor Engine	Caterpillar	G3616	TBD	5000	5000	TBD	ENG8	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							TBD	CAT8				
ENG9	Natural Gas Compressor Engine	Caterpillar	G3616	TBD	5000	5000	TBD	ENG9	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							TBD	CAT9				
ENG11	Natural Gas Compressor Engine	Caterpillar	3516J TA	N6W01211	1380	1380	11/1/2018	ENG11	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							11/1/2018	CAT11				
ENG12	Natural Gas Compressor Engine	Caterpillar	3516J TA	N6W01043	1380	1380	10/1/2018	ENG12	20200254	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							10/1/2018	CAT12				
ENG10	Natural Gas Compressor Engine	Caterpillar	G3606TA	TBD	1775	1775	TBD	ENG10	20200254	<input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							TBD	CAT10				
ENG13	Natural Gas Compressor Engine	Caterpillar	G3306TA	TBD	203	203	TBD	ENG13	20200254	<input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SRB	N/A
							TBD	CAT13				
HTR1	Fuel Line Heater	TBD	TBD	11831	0.75 MMBtu/hr	0.75 MMBtu/hr	2019	N/A	31000228	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	HTR1				
RB1	Glycol Regenerator Reboiler	TBD	TBD	18-8806D-4	2.0 MMBtu/hr	2.0 MMBtu/hr	2018	N/A	31000404	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2018	RB1				
RB2	Glycol Regenerator Reboiler	TBD	TBD	19-8825C-6	2.0 MMBtu/hr	2.0 MMBtu/hr	2019	N/A	31000404	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	RB2				
RB3	Glycol Regenerator Reboiler	TBD	TBD	TBD	2.0 MMBtu/hr	2.0 MMBtu/hr	TBD	N/A	31000404	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							TBD	RB3				
HTR2	Fuel Line Heater	N/A	N/A	N/A	0.75 MMBtu/hr	0.75 MMBtu/hr	TBD	N/A	31000228	<input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	HTR2				
HTR3	Fuel Line Heater	N/A	N/A	N/A	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD	N/A	31000228	<input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	HTR3				

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/ Reconstruction ²	Emissions vented to Stack #				
FL1	Flare 1	Tornado	TBD	14718/17059	70 MMscf/d	70 MMscf/d	2019	N/A	31000205	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1				
FL2	Flare 2	Tornado	TBD	14740/17094	70 MMscf/d	70 MMscf/d	2019	N/A	31000205	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL2				
FL3	Flare 3	Tornado	TBD	TBD	70 MMscf/d	70 MMscf/d	TBD	N/A	31000205	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							TBD	FL3				
SKT1	Skim Tank	Palmer	TK-5051	ST1942066	1000 bbl	1000 bbl	2019	FL1-FL3	40400315	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
SKT2	Skim Tank (Backup)	TBD	TBD	TBD	1000 bbl	1000 bbl	TBD	FL1-FL3	40400315	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							TBD	FL1-FL3				
OT1	Condensate Tank	Palmer	TK-5053	ST1942070	500 bbl	500 bbl	2019	FL1-FL3	40400311	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
OT2	Condensate Tank	Palmer	TK-5054	ST19422071	500 bbl	500 bbl	2019	FL1-FL3	40400311	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
OT3	Condensate Tank	Palmer	TK-5063	ST1942068	500 bbl	500 bbl	2019	FL1-FL3	40400311	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
OT4	Condensate Tank	Palmer	TK-5064	ST1942069	500 bbl	500 bbl	2019	FL1-FL3	40400311	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
WT1	Produced Water Tank	Palmer	TK-5052	ST1942067	500 bbl	500 bbl	2019	FL1-FL3	40400315	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
WT2	Produced Water Tank	Palmer	TK-5062	ST19422072	500 bbl	500 bbl	2019	FL1-FL3	40400315	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
VRU1	Low Pressure Separator VRU #1	TBD	NA	NA	125 HP	125 HP	2019	FL1-FL2	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
VRU2	Low Pressure Separator VRU Backup	TBD	NA	NA	125 HP	125 HP	2019	FL1-FL2	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
DEHY1	TEG Dehydrator with Condenser	TBD	TBD	CLB19-128	80 MMscfd	80 MMscfd	2019	COND1	31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
DEHY2	TEG Dehydrator with Condenser	TBD	TBD	CLB19-126	80 MMscfd	80 MMscfd	TBD	COND2	31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							TBD	FL1-FL3				
DEHY3	TEG Dehydrator with Condenser	TBD	TBD	TBD	80 MMscfd	80 MMscfd	TBD	COND3	31000227	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							TBD	FL1-FL3				
LPS	Low Pressure Separator	TBD	TBD	19-007	N/A	N/A	2019	FL1-FL3	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2019	FL1-FL3				
LOAD	Condensate Truck Loading	N/A	N/A	N/A	1836 bbl/d	1836 bbl/d	N/A	N/A	40400250	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				
LOAD2	Water Truck Loading	N/A	N/A	N/A	521 bbl/d	521 bbl/d	N/A	N/A	40400250	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				
FUG	Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31088811	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				
SSM	SSM Activities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31088811	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				
Malfunction	Malfunction Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31088811	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				

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

² Specify dates required to determine regulatory applicability.

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

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

Table 2-B: Insignificant Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

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

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²	
ROAD	Haul Road Emissions	N/A	N/A	N/A	20.2.72.202.B.5	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
			N/A	N/A	20.2.72.202.B.5	N/A	
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced

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

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

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. The permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions. Flares, Enclosed Combustion Devices, Catalytic Converters and Air Fuel Ratio (AFR) Controllers shall be reported on Table 2-C. For each AFR, note whether the AFR are aftermarket or integral to the engine.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s) ¹	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
FL1	Flare 1	2020	VOC, HAP	Facility Inlet, OT1-OT4, WT1-WT2, SKTK1/SKTK2, LPS, DEHY1-3	98	Engineering Est.
FL2	Flare 2	2020	VOC, HAP	Facility Inlet, OT1-OT4, WT1-WT2, SKTK1/SKTK2, LPS, DEHY1-3	98	Engineering Est.
FL3	Flare 3	TBD	VOC, HAP	Facility Inlet, OT1-OT4, WT1-WT2, SKTK1/SKTK2, LPS, DEHY1-3	98	Engineering Est.
VRU1	Low Pressure Separator VRU #1	2019	VOC, HAPs	LPS	98	Engineering Est.
VRU2	Low Pressure Separator VRU Backup	2019	VOC, HAPs	LPS	98	Engineering Est.
COND1-COND3	BTEX Condenser	2019	VOC, HAP	DEHY1-DEHY3	98	Engineering Est.
CAT1-CAT6, CAT11-12	Engine Catalysts	2019	CO, VOC, HAP	ENG1-6, ENG11-12	CO-87, VOC-65, HAP-74	Engineering Est.
CAT7-CAT9	Engine Catalysts	TBD	CO, VOC, HAP	ENG7-9	CO-90, VOC-48, HAP-90	Engineering Est.

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

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

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, 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.	NO _x		CO		VOC		SO _x		PM ¹		PM ₁₀ ¹		PM _{2.5} ¹		H ₂ S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG1	4.13	18.11	38.25	167.53	11.23	49.17	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG2	4.13	18.11	38.25	167.53	11.23	49.17	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG3	4.13	18.11	38.25	167.53	11.23	49.17	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG4	4.13	18.11	38.25	167.53	11.23	49.17	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG5	4.13	18.11	38.25	167.53	11.23	49.17	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG6	4.13	18.11	38.25	167.53	11.23	49.17	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG7	4.13	18.11	29.21	127.94	3.84	16.80	0.48	2.10	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG8	4.13	18.11	29.21	127.94	3.84	16.80	0.48	2.10	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG9	4.13	18.11	29.21	127.94	3.84	16.80	0.48	2.10	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG11	1.90	8.33	7.91	34.65	4.35	19.06	0.14	0.61	0.11	0.48	0.11	0.48	0.11	0.48	-	-	-	-
ENG12	1.90	8.33	7.91	34.65	4.35	19.06	0.14	0.61	0.11	0.48	0.11	0.48	0.11	0.48	-	-	-	-
HTR1	0.10	0.44	0.08	0.37	0.01	0.02	0.01	0.05	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
RB1	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.02	0.09	0.02	0.09	-	-	-	-
RB2	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.02	0.09	0.02	0.09	-	-	-	-
RB3	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.02	0.09	0.02	0.09	-	-	-	-
FL1-FL3 Pilot	1.42	6.20	2.83	12.39	1.93	8.47	0.02	0.07	0.07	0.31	0.07	0.31	0.07	0.31	-	-	-	-
FL1-FL3 Norm	Emissions are not routed to flare in uncontrolled scenario.																	
FL1-FL3 SSM	Emissions are not routed to flare in uncontrolled scenario.																	
SKT1	-	-	-	-	8.53	29.29	-	-	-	-	-	-	-	-	-	-	-	-
SKT2	-	-	-	-	8.53	29.29	-	-	-	-	-	-	-	-	-	-	-	-
OT1	-	-	-	-	147.27	290.80	-	-	-	-	-	-	-	-	-	-	-	-
OT2	-	-	-	-	147.27	290.80	-	-	-	-	-	-	-	-	-	-	-	-
OT3	-	-	-	-	147.27	290.80	-	-	-	-	-	-	-	-	-	-	-	-
OT4	-	-	-	-	147.27	290.80	-	-	-	-	-	-	-	-	-	-	-	-
WT1	-	-	-	-	0.15	0.66	-	-	-	-	-	-	-	-	-	-	-	-
WT2	-	-	-	-	0.15	0.66	-	-	-	-	-	-	-	-	-	-	-	-
DEHY1	-	-	-	-	65.21	130.90	-	-	-	-	-	-	-	-	-	-	-	-
DEHY2	-	-	-	-	65.21	130.90	-	-	-	-	-	-	-	-	-	-	-	-
DEHY3	-	-	-	-	65.21	130.90	-	-	-	-	-	-	-	-	-	-	-	-
LPS	-	-	-	-	706.29	357.88	-	-	-	-	-	-	-	-	-	-	-	-
LOAD	-	-	-	-	63.91	10.14	-	-	-	-	-	-	-	-	-	-	-	-
LOAD2	-	-	-	-	0.46	0.09	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	5.06	22.16	-	-	-	-	-	-	-	-	-	-	-	-
SSM	-	-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	0.15	0.03	0.15	0.03	0.15	0.03	-	-	-	-
MALFUNCTION	-	-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	43.33	189.78	336.54	1474.05	1667.30	2398.29	4.70	20.56	-	-	3.75	16.42	3.75	16.42	-	-	-	-

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 it 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 1.41E⁴).

Unit No.	NO _x		CO		VOC		SO _x		PM ¹		PM ₁₀ ¹		PM _{2.5} ¹		H ₂ S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG1	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG2	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG3	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG4	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG5	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG6	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG7	4.13	18.11	2.92	12.79	2.00	8.74	0.48	2.10	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG8	4.13	18.11	2.92	12.79	2.00	8.74	0.48	2.10	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG9	4.13	18.11	2.92	12.79	2.00	8.74	0.48	2.10	0.38	1.65	0.38	1.65	0.38	1.65	-	-	-	-
ENG11	1.90	8.33	1.03	4.50	1.43	6.25	0.14	0.61	0.11	0.48	0.11	0.48	0.11	0.48	-	-	-	-
ENG12	1.90	8.33	1.03	4.50	1.43	6.25	0.14	0.61	0.11	0.48	0.11	0.48	0.11	0.48	-	-	-	-
HTR1	0.10	0.44	0.08	0.37	0.01	0.02	0.01	0.05	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
RB1	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.02	0.09	0.02	0.09	-	-	-	-
RB2	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.02	0.09	0.02	0.09	-	-	-	-
RB3	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.02	0.09	0.02	0.09	-	-	-	-
FL1-FL3 Pilot	1.42	6.20	2.83	12.39	1.93	8.47	0.02	0.07	0.07	0.31	0.07	0.31	0.07	0.31	-	-	-	-
FL1-FL3 Norm	2.44	9.69	4.87	19.35	16.32	33.41	0.26	1.09	0.05	0.22	0.05	0.22	0.05	0.22	-	-	-	-
SKT1	Emissions Represented at FL1-FL3																	
SKT2	Emissions Represented at FL1-FL3																	
OT1	Emissions Represented at FL1-FL3																	
OT2	Emissions Represented at FL1-FL3																	
OT3	Emissions Represented at FL1-FL3																	
OT4	Emissions Represented at FL1-FL3																	
WT1	Emissions Represented at FL1-FL3																	
WT2	Emissions Represented at FL1-FL3																	
DEHY1	Emissions Represented at FL1-FL3																	
DEHY2	Emissions Represented at FL1-FL3																	
DEHY3	Emissions Represented at FL1-FL3																	
LPS	Emissions Represented at FL1-FL3																	
LOAD	-	-	-	-	63.91	10.14	-	-	-	-	-	-	-	-	-	-	-	-
LOAD2	-	-	-	-	0.46	0.09	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	5.06	22.16	-	-	-	-	-	-	-	-	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	0.60	0.11	0.15	0.03	0.15	0.03	-	-	-	-
MALFUNCTION	-	-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	45.77	199.48	49.12	213.15	120.14	226.44	4.95	21.65	4.40	16.75	3.95	16.67	3.95	16.67	-	-	-	-

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 it 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 scheduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

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

Unit No.	NO _x		CO		VOC		SO _x		PM ¹		PM ₁₀ ¹		PM _{2.5} ¹		H ₂ S		Lead		
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	
SSM	-	-	-	-	-	10.00													
FL1-FL3 SSM	478.28	14.34	954.82	28.62	858.52	29.57	5.08	0.19	22.33	0.65	22.33	0.65	22.33	0.65	-	-	-	-	-
DEHY1 SSM	0.19	0.03	0.39	0.06	19.56	1.34	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
DEHY2 SSM	0.19	0.03	0.39	0.06	19.56	1.34	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
DEHY3 SSM	0.19	0.03	0.39	0.06	19.56	1.34	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
Totals	478.86	14.43	955.99	28.80	917.21	43.60	5.32	0.22	22.34	0.65	22.34	0.65	22.34	0.65					

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	NO _x		CO		VOC		SO _x		PM		PM ₁₀		PM _{2.5}		☐ H ₂ S 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:		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
ENG1	ENG1	V	No	32	722	523.58	Unknown	Unknown	83.04	2.83
ENG2	ENG2	V	No	32	722	523.58	Unknown	Unknown	83.04	2.83
ENG3	ENG3	V	No	32	722	523.58	Unknown	Unknown	83.04	2.83
ENG4	ENG4	V	No	32	722	523.58	Unknown	Unknown	83.04	2.83
ENG5	ENG5	V	No	32	722	523.58	Unknown	Unknown	83.04	2.83
ENG6	ENG6	V	No	32	722	523.58	Unknown	Unknown	83.04	2.83
ENG7	ENG7	V	No	32	809	520.70	Unknown	Unknown	82.59	2.83
ENG8	ENG8	V	No	32	809	520.70	Unknown	Unknown	82.59	2.83
ENG9	ENG9	V	No	32	809	520.70	Unknown	Unknown	82.59	2.83
ENG11	ENG11	V	No	20	848	120.53	Unknown	Unknown	153.47	1.00
ENG12	ENG12	V	No	20	848	120.53	Unknown	Unknown	153.47	1.00
HTR1	HTR1	V	No	15	1000	5.75	Unknown	Unknown	7.32	1.00
RB1	RB1	V	No	15	1000	15.32	Unknown	Unknown	8.67	1.50
RB2	RB2	V	No	15	1000	15.32	Unknown	Unknown	8.67	1.50
RB3	RB3	V	No	15	1000	15.32	Unknown	Unknown	8.67	1.50
FL1	FL1	V	No	145	1832	4686.97	Unknown	Unknown	65.60	2.21
FL2	FL2	V	No	145	1832	4686.97	Unknown	Unknown	65.60	2.21
FL3	FL3	V	No	145	1832	4686.97	Unknown	Unknown	65.60	2.21

Table 2-1: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

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

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde ☑ HAP or ☐ TAP		n-Hexane ☑ HAP or ☐ TAP		Benzene ☑ HAP or ☐ TAP		Acetaldehyde ☑ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG1	ENG1	0.63	2.74	0.5	2.3	-	-	-	-	0.1	0.5								
ENG2	ENG2	0.63	2.74	0.5	2.3	-	-	-	-	0.1	0.5								
ENG3	ENG3	0.63	2.74	0.5	2.3	-	-	-	-	0.1	0.5								
ENG4	ENG4	0.63	2.74	0.5	2.3	-	-	-	-	0.1	0.5								
ENG5	ENG5	0.63	2.74	0.5	2.3	-	-	-	-	0.1	0.5								
ENG6	ENG6	0.63	2.74	0.5	2.3	-	-	-	-	0.1	0.5								
ENG7	ENG7	0.32	1.39	0.2	0.7	-	-	-	-	0.2	0.7								
ENG8	ENG8	0.32	1.39	0.2	0.7	-	-	-	-	0.2	0.7								
ENG9	ENG9	0.32	1.39	0.2	0.7	-	-	-	-	0.2	0.7								
ENG11	ENG11	0.31	1.35	0.3	1.2	-	-	-	-	0.0	0.1								
ENG12	ENG12	0.31	1.35	0.3	1.2	-	-	-	-	0.0	0.1								
HTR1	HTR1	1.9E-03	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
RB1	RB1	0.01	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
RB1	RB2	0.01	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
RB1	RB3	0.01	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
FL1-FL3 Pilot	FL1-FL3 Pilot	0.03	0.12	-	-	0.027	0.116	0.001	0.005	-	-								
FL1-FL3 Norm	FL1-FL3 Norm	1.69	2.17	-	-	0.66	1.30	0.42	0.44	-	-								
FL1-FL3 SSM	FL1-FL3 SSM	32.05	1.15	-	-	28.65	1.01	1.18	0.05	-	-								
FL1-FL3	DEHY1	0.39	0.31	-	-	0.08	0.09	0.13	0.12	-	-								
FL1-FL3	DEHY2	0.39	0.31	-	-	0.08	0.09	0.13	0.12	-	-								
FL1-FL3	DEHY3	0.39	0.31	-	-	0.08	0.09	0.13	0.12	-	-								
RB1	DEHY1 SSM	5.83	0.16	-	-	1.25	0.05	1.91	0.06	-	-								
RB2	DEHY2 SSM	5.83	0.16	-	-	1.25	0.05	1.91	0.06	-	-								
RB3	DEHY3 SSM	5.83	0.16	-	-	1.25	0.05	1.91	0.06	-	-								

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		n-Hexane <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Benzene <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Acetaldehyde <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> 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		
FL1-FL3	SKT1	Emissions Represented at FL1-FL3																			
FL1-FL3	SKT2	Emissions Represented at FL1-FL3																			
FL1-FL3	OT1	Emissions Represented at FL1-FL3																			
FL1-FL3	OT2	Emissions Represented at FL1-FL3																			
FL1-FL3	OT3	Emissions Represented at FL1-FL3																			
FL1-FL3	OT4	Emissions Represented at FL1-FL3																			
FL1-FL3	WT1	Emissions Represented at FL1-FL3																			
FL1-FL3	WT2	Emissions Represented at FL1-FL3																			
FL1-FL3	LPS	Emissions Represented at FL1-FL3																			
LOAD	LOAD	2.9	0.5	-	-	-	-	-	-	-	-										
LOAD2	LOAD2	1.5E-04	2.8E-05	-	-	-	-	-	-	-	-										
FUG	FUG	0.40	1.76	-	-	0.11	0.48	0.04	0.18	-	-										
SSM	SSM	-	-	-	-	-	-	-	-	-	-										
ROAD	ROAD	-	-	-	-	-	-	-	-	-	-										
Totals:		61.0	30.5	4.1	18.0	33.4	3.4	7.8	1.2	1.2	5.3										

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 (btu/scf)	Hourly Usage (scf)	Annual Usage (mmscf)	% Sulfur	% Ash
ENG1	Natural Gas	Field Gas	1018	36745.0	321.89	Negligible	0
ENG2	Natural Gas	Field Gas	1018	36745.0	321.89	Negligible	0
ENG3	Natural Gas	Field Gas	1018	36745.0	321.89	Negligible	0
ENG4	Natural Gas	Field Gas	1018	36745.0	321.89	Negligible	0
ENG5	Natural Gas	Field Gas	1018	36745.0	321.89	Negligible	0
ENG6	Natural Gas	Field Gas	1018	36745.0	321.89	Negligible	0
ENG7	Natural Gas	Residue Gas	1018	36838.3	322.70	Negligible	0
ENG8	Natural Gas	Residue Gas	1018	36838.3	322.70	Negligible	0
ENG9	Natural Gas	Residue Gas	1018	36838.3	322.70	Negligible	0
ENG11	Natural Gas	Field Gas	1018	10793.7	94.55	Negligible	0
ENG12	Natural Gas	Field Gas	1018	10793.7	94.55	Negligible	0
HTR1	Natural Gas	Field Gas	1018	669.8	5.87	Negligible	0
RB1	Natural Gas	Field Gas	1018	1786.1	15.65	Negligible	0
RB2	Natural Gas	Field Gas	1018	1786.1	15.65	Negligible	0
RB3	Natural Gas	Field Gas	1018	1786.1	15.65	Negligible	0
FL1	Natural Gas	Field Gas	1018	3055.6	26.77	Negligible	0
FL2	Natural Gas	Field Gas	1018	3055.6	26.77	Negligible	0
FL3	Natural Gas	Field Gas	1018	3055.6	26.77	Negligible	0

Table 2-N: CEM Equipment

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

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

Table 2-O: Parametric Emissions Measurement Equipment

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

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

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.

Unit No.	GWP ¹	CO ₂ ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²									Total GHG Mass Basis ton/yr ⁴	Total CO ₂ e ton/yr ⁵
		1	298	25	22,800	footnote 3										
ENG1	mass GHG	23802.25	0.04	0.36											23802.6	
	CO ₂ e	23802.249	10.765362	9.0313437												23822.0
ENG2	mass GHG	23802.25	0.04	0.36											23802.6	
	CO ₂ e	23802.25	10.77	9.03												23822.0
ENG3	mass GHG	23802.25	0.04	0.36											23802.6	
	CO ₂ e	23802.249	10.765362	9.0313437												5000000.0
ENG4	mass GHG	23802.25	0.04	0.36											23802.6	
	CO ₂ e	23802.25	10.77	9.03												23822.0
ENG5	mass GHG	23802.25	0.04	0.36											23802.6	
	CO ₂ e	23802.249	10.765362	9.0313437												23822.0
ENG6	mass GHG	23802.25	0.04	0.36											23802.6	
	CO ₂ e	23802.25	10.77	9.03												23822.0
ENG7	mass GHG	21581.35	0.04	0.36											21581.7	
	CO ₂ e	21581.349	10.765362	9.0313437												21601.1
ENG8	mass GHG	21581.35	0.04	0.36											21581.7	
	CO ₂ e	21581.35	10.77	9.03												21601.1
ENG9	mass GHG	21581.35	0.04	0.36											21581.7	
	CO ₂ e	21581.349	10.765362	9.0313437												21601.1
ENG11	mass GHG	7062.46	0.01	0.11											7062.6	
	CO ₂ e	7062.46	3.16	2.65												7068.3
ENG12	mass GHG	7062.46	0.01	0.11											7062.6	
	CO ₂ e	7062.4603	3.1622793	2.6529189												7068.3
HTR1	mass GHG	566.96	0.00	0.39											567.3	
	CO ₂ e	566.96	0.22	9.74												576.9
RB1	mass GHG	1511.89	0.00	1.04											1512.9	
	CO ₂ e	1511.8853	0.5755123	25.966972												1538.4
RB2	mass GHG	1511.89	0.00	1.04											1512.9	
	CO ₂ e	1511.89	0.58	25.97												1538.4
RB3	mass GHG	1511.89	0.00	1.04											1512.9	
	CO ₂ e	1511.8853	0.5755123	25.966972												1538.4
FL1	mass GHG	11497.84	0.01	20.52											11518.4	
	CO ₂ e	11497.84	4.39	513.04												12015.3
FL2	mass GHG	11497.84	0.01	20.52											11518.4	
	CO ₂ e	11497.842	4.3919171	513.04086												12015.3
FL3	mass GHG	11497.84	0.01	20.52											11518.4	
	CO ₂ e	11497.84	4.39	513.04												12015.3
Total	mass GHG	261,279	0	69											261,348	
	CO ₂ e	261,279	118	1,713												263,110

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

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

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

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

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

⁶ For Heaters/Boilers, CO₂ CH₄, N₂O emissions calculated according to §98.233(z)(1) and (2).

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 Inc. is planning modification of the Spartan Compressor Station in Eddy County, NM. The facility is a typical compressor station with natural gas engines, dehydration, storage tanks, and flares. Site construction is planned under NSR Permit 7681-M1. This is a New Source Review permit application being submitted in accordance with 20.2.72 NMAC.

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

The facility is proposing the following modifications:

- 1) Remove HTR2 and HTR3;
- 2) Remove ENG10 and ENG13;
- 3) Increase glycol circulation rate for DEHY1-3;
- 4) Decrease glycol regenerator reboiler (RB1-RB3) unit heat input from 3 MMBtu/hr to 2.0 MMBtu/hr;
- 5) Increase Dehy SSM from 200 hrs to 300 hrs
- 6) Add SSM for dehy flash tank vapors to be combusted in FL1 – FL3
- 7) Increase flare purge gas rates;
- 8) Update FL1-FL3 heights to 145';
- 9) Update tank throughputs;
- 10) Decrease condensate truck loading;
- 11) Add inlet gas flaring;
- 12) Increasing steady state flaring associated with increased tank throughput and glycol circulation rate; update sources that vent to flare.
- 13) Change sources that vent to VC1, only combusts vapors from DEHY1-3 still vent and pilot gas.
- 14) Update ENG1-9 and ENG11-12 VOC/formaldehyde/CO control efficiencies and update emissions factors from Caterpillar Gas Engine Rating Pro (GERP) analysis.
- 15) Update nomenclature of GB1a and GB2a to SKT1 and SKT2.
- 16) Update facility location coordinates
- 17) Update low pressure separator pressure from 2 psig to 15 psig.
- 18) Added VOC malfunction emissions.

Cross reference table of all units in both permits

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

Previous Unit Number	Previous Source Description	New Unit Number	New Source Description	Notes
ENG1	Natural Gas Engine	ENG1	Natural Gas Compressor Engine	Updated Caterpillar Gas Engine Rating Pro (GERP) analysis with new fuel gas analysis, which resulted in changes to VOC/CO/formaldehyde emission factors. Updated catalyst control efficiencies with updated fuel gas specifications.
ENG2	Natural Gas Engine	ENG2	Natural Gas Compressor Engine	
ENG3	Natural Gas Engine	ENG3	Natural Gas Compressor Engine	
ENG4	Natural Gas Engine	ENG4	Natural Gas Compressor Engine	
ENG5	Natural Gas Engine	ENG5	Natural Gas Compressor Engine	
ENG6	Natural Gas Engine	ENG6	Natural Gas Compressor Engine	
ENG7	Natural Gas Engine	ENG7	Natural Gas Compressor Engine	
ENG8	Natural Gas Engine	ENG8	Natural Gas Compressor Engine	
ENG9	Natural Gas Engine	ENG9	Natural Gas Compressor Engine	
ENG10	Natural Gas Engine			
ENG11	Natural Gas Engine	ENG11	Natural Gas Compressor Engine	Same as ENG1-9.
ENG12	Natural Gas Engine	ENG12	Natural Gas Compressor Engine	
ENG13	Natural Gas Engine			Removed
HTR1	Hot Oil Heater 1	HTR1	Fuel Line Heater	
HTR2	Hot Oil Heater 2			Removed
HTR3	Hot Oil Heater 3			Removed
RB1	Glycol Regenerator Reboiler	RB1	Glycol Regenerator Reboiler	
RB2	Glycol Regenerator Reboiler	RB2	Glycol Regenerator Reboiler	
RB3	Glycol Regenerator Reboiler	RB3	Glycol Regenerator Reboiler	
FL1	Flare 1	FL1	Flare 1	Changed combustion sources
FL2	Flare 2	FL2	Flare 2	Changed combustion sources
FL3	Flare 3	FL3	Flare 3	Changed combustion sources
GB1a	Gun Barrel Separator (Primary)	SKT1	Skim Tank	Renamed
GB1b	Gun Barrel Separator (Backup)	SKT2	Skim Tank (Backup)	Renamed
OT1	Condensate Tank	OT1	Condensate Tank	
OT2	Condensate Tank	OT2	Condensate Tank	
OT3	Condensate Tank	OT3	Condensate Tank	
OT4	Condensate Tank	OT4	Condensate Tank	
WT1	Produced Water Tank	WT1	Produced Water Tank	
WT2	Produced Water Tank	WT2	Produced Water Tank	
		VRU1	Low Pressure Separator VRU #1	Added control efficiency
		VRU2	Low Pressure Separator VRU Backup	Added control efficiency
DEHY1	TEG Dehydrator with Condenser	DEHY1	TEG Dehydrator with Condenser	
DEHY2	TEG Dehydrator with Condenser	DEHY2	TEG Dehydrator with Condenser	
DEHY3	TEG Dehydrator with Condenser	DEHY3	TEG Dehydrator with Condenser	
LPS	Low Pressure Separator	LPS	Low Pressure Separator	
LOAD	Truck Loading	LOAD	Condensate Truck Loading	
		LOAD2	Water Truck Loading	Added
FUG	Fugitives	FUG	Fugitive Emissions	
SSM	SSM Activities	SSM	SSM Activities	
ROAD	HAUL ROAD EMISSIONS	ROAD	HAUL ROAD EMISSIONS	
		MALFUNCTION	HAUL ROAD EMISSIONS	Added

Section 4

Process Flow Sheet

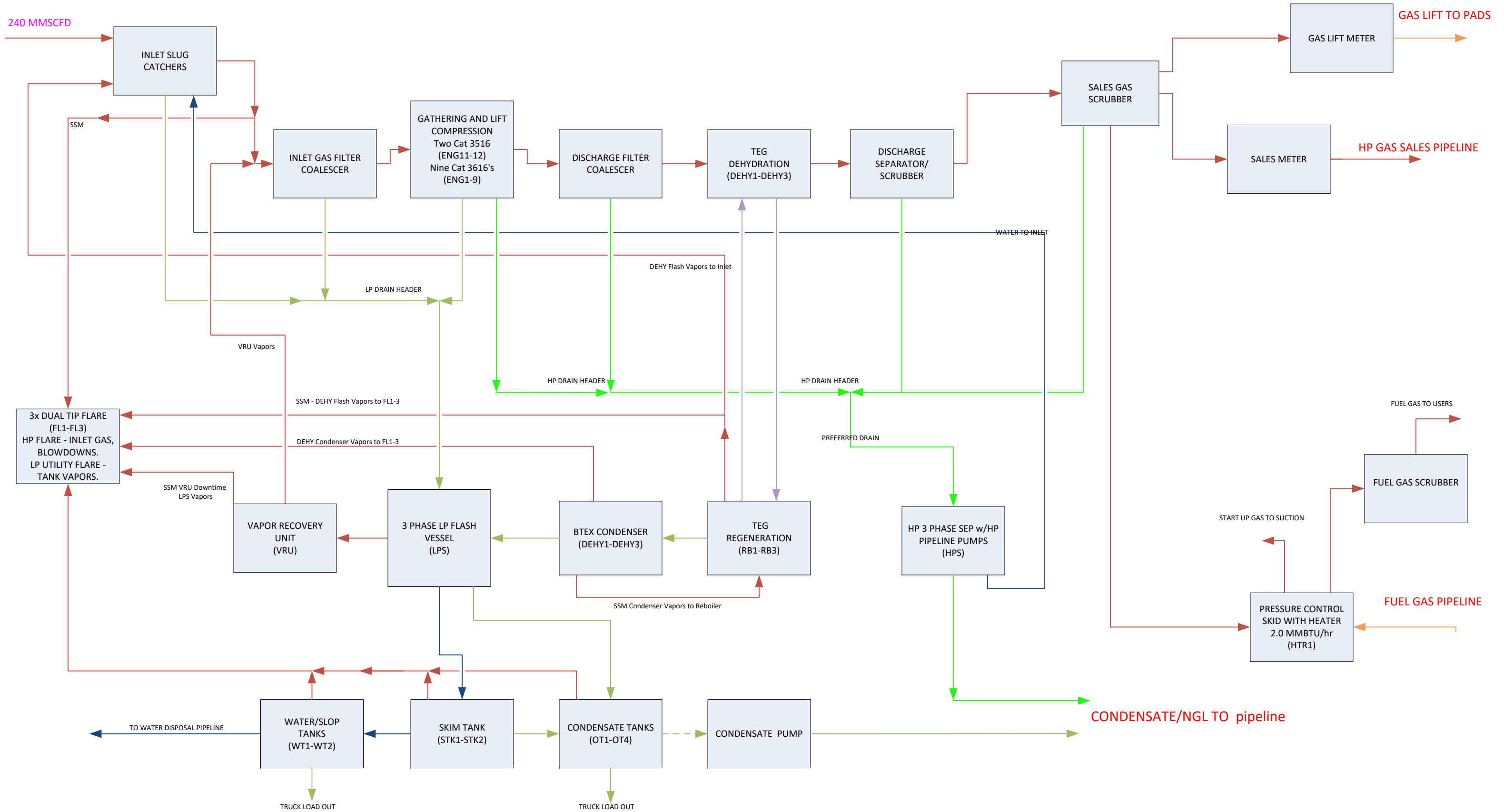
A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

A process flow diagram is presented on the following page.

Permitted compressor dump configuration

- Cat 3616 - 1st through 3rd stage scrubber dumps to LPS
- Cat 3616 - 4th stage and discharge scrubber dumps to HPS
- Cat 3516 - 1st and 2nd stage scrubber dumps to LPS
- Cat 3516 - 3rd and discharge scrubber dumps to HPS

SPARTAN COMPRESSOR STATION



Section 5

Plot Plan Drawn To Scale

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

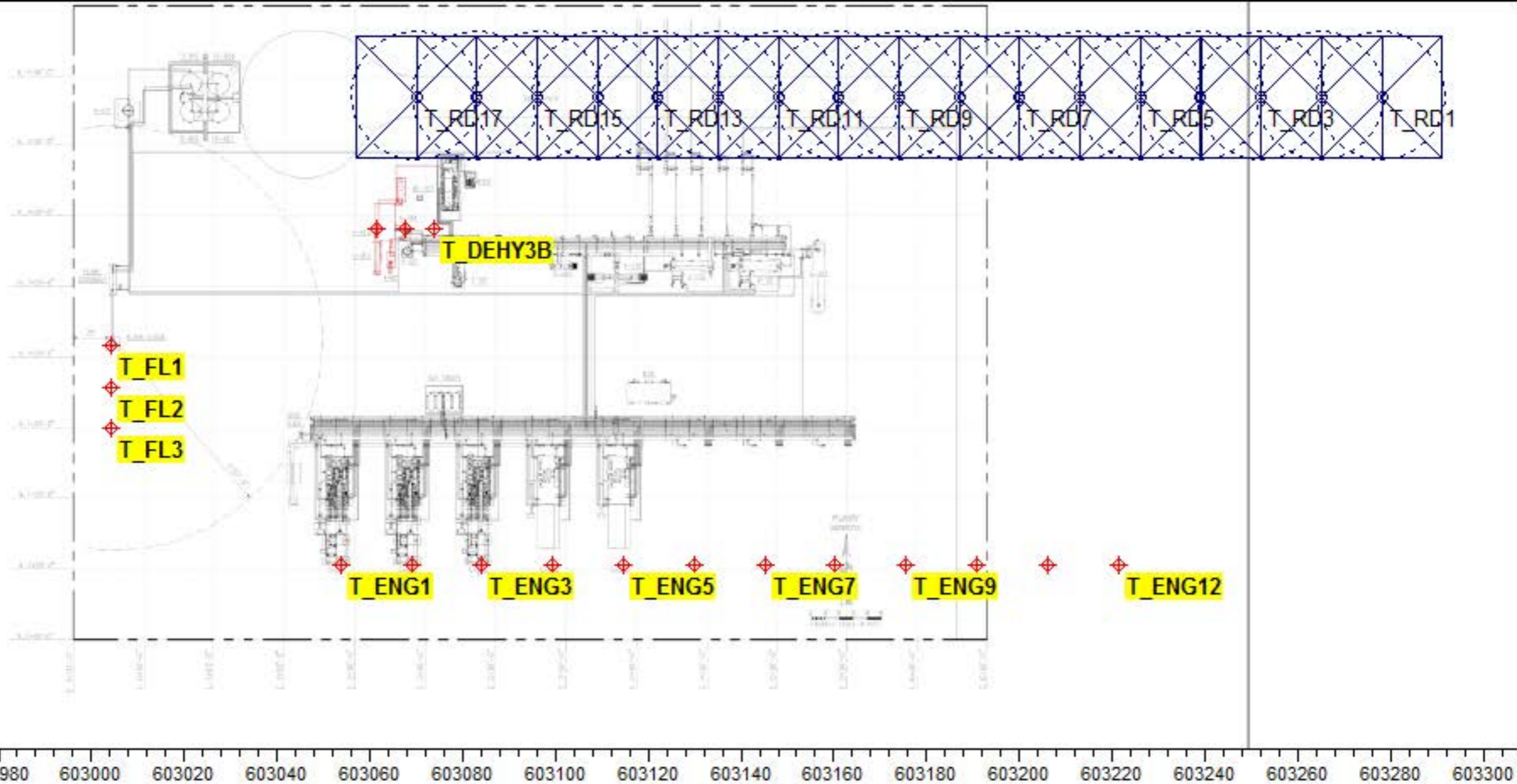
A proposed plot plan is presented on the following page.

UTM North [m]

3554000 3554020 3554040 3554060 3554080 3554100 3554120 3554140

602980 603000 603020 603040 603060 603080 603100 603120 603140 603160 603180 603200 603220 603240 603260 603280 603300

UTM East [m]



Section 6

All Calculations

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

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

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

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

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

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

Significant Figures:

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

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

Caterpillar 3616TA (ENG-1 to ENG-9) and 3516TA (ENG-11 to ENG-12)

Emission factors for nitrogen oxides (NO_x), carbon monoxide (CO), formaldehyde, and volatile organic compounds (VOC) are based on manufacturer's data. Emissions of particulate matter (PM/PM₁₀ and PM_{2.5}) were calculated using AP-42 Table 3.2-3 factors. PM₁₀ and PM_{2.5} emissions are set equal to PM emissions. SO₂ emissions are based on the units' fuel consumption and a sulfur content of 5 grains per 100 standard cubic feet (5 gr/100 scf). Hazardous Air Pollutants (HAPs) except for formaldehyde were calculated using AP-42 factors.

Line Heater (HTR1) and Glycol Regenerator Heaters (RB1 to RB3)

Emission of NO_x, CO, VOC, HAP, and PM/PM₁₀/PM_{2.5} are based on AP-42 Table 3.2-3 emission factors. PM₁₀ and PM_{2.5} emissions are set equal to PM emissions. SO₂ emissions were based on the unit's fuel consumption and a maximum sulfur content of 5 grains per 100 standard cubic feet (5 gr/100 scf).

SSM/Emergency Flares (FL1 – FL3)

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

Triethylene Glycol Dehydrators (DEHY1-DEHY3)

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

Storage Tanks (SKT1-SKT2, OT1-OT4, WT1-WT2)

Flashing, working and breathing emissions from the skim tank, oil tanks, and water tanks were calculated using BR&E ProMax simulation software. Emissions from the tanks are controlled using FL1-FL3. The simulation reports are included in Section 7.

Truck Loading (LOAD)

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

Water Truck Loading (LOAD2)

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

Piping Component Fugitive Emissions (FUG)

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

Startup, Shutdown, and Maintenance (SSM)

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

Haul Road Fugitive Emissions

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

Malfunction Emissions (MALFUNCTION)

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

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
FACILITY EMISSIONS SUMMARY

EMISSIONS SUMMARY TABLE

EMISSION SOURCE DESCRIPTION	FACILITY IDENTIFICATION NUMBER	STACK NUMBER	NOx		CO		VOC (INCLUDES HAPs)		SO ₂		PM _{10 & 2.5}		HAPs		CO _{2e}
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
Caterpillar G3616 Natural Gas Compressor Engine	ENG1	ENG1	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.63	2.74	23822
Caterpillar G3616 Natural Gas Compressor Engine	ENG2	ENG2	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.63	2.74	23822
Caterpillar G3616 Natural Gas Compressor Engine	ENG3	ENG3	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.63	2.74	23822
Caterpillar G3616 Natural Gas Compressor Engine	ENG4	ENG4	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.63	2.74	23822
Caterpillar G3616 Natural Gas Compressor Engine	ENG5	ENG5	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.63	2.74	23822
Caterpillar G3616 Natural Gas Compressor Engine	ENG6	ENG6	4.13	18.11	4.97	21.78	3.93	17.21	0.48	2.09	0.38	1.65	0.63	2.74	23822
Caterpillar G3616 Natural Gas Compressor Engine	ENG7	ENG7	4.13	18.11	2.92	12.79	2.00	8.74	0.48	2.10	0.38	1.65	0.32	1.39	21601
Caterpillar G3616 Natural Gas Compressor Engine	ENG8	ENG8	4.13	18.11	2.92	12.79	2.00	8.74	0.48	2.10	0.38	1.65	0.32	1.39	21601
Caterpillar G3616 Natural Gas Compressor Engine	ENG9	ENG9	4.13	18.11	2.92	12.79	2.00	8.74	0.48	2.10	0.38	1.65	0.32	1.39	21601
Caterpillar 3516j TA Natural Gas Compressor Engine	ENG11	ENG11	1.90	8.33	1.03	4.50	1.43	6.25	0.14	0.61	0.11	0.48	0.31	1.35	7068
Caterpillar 3516j TA Natural Gas Compressor Engine	ENG12	ENG12	1.90	8.33	1.03	4.50	1.43	6.25	0.14	0.61	0.11	0.48	0.31	1.35	7068
Fuel Line Heater (2.0 MMBtu/hr)	HTR1	HTR1	0.10	0.44	0.08	0.37	0.01	0.02	0.01	0.05	0.01	0.03	0.002	0.01	577
Glycol Regenerator Reboiler (2.0 MMBtu/hr)	RB1	RB1	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.005	0.02	1538
Glycol Regenerator Reboiler (2.0 MMBtu/hr)	RB2	RB1	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.005	0.02	1538
Glycol Regenerator Reboiler (2.0 MMBtu/hr)	RB3	RB1	0.27	1.18	0.23	0.99	0.01	0.06	0.03	0.13	0.02	0.09	0.005	0.02	1538
Total Flare Pilot/Purge Emissions	FL1-FL3 Pilot	FL1-FL3 Pilot	1.42	6.20	2.83	12.39	1.93	8.47	0.02	0.07	0.07	0.31	0.03	0.12	8118
Total Flare Normal Operations	FL1-FL3 Norm	FL1-FL3 Norm	2.44	9.69	4.87	19.35	16.32	33.41	0.26	1.09	0.05	0.22	1.69	2.17	9849
Total Flare SSM	FL1-FL3 SSM	FL1-FL3 SSM	478.28	14.34	954.82	28.62	858.52	29.57	5.08	0.19	22.33	0.65	32.05	1.15	19537
TEG Dehydrator with Condenser	DEHY1	FL1-FL3	Emissions Represented at FL1-FL3												
TEG Dehydrator with Condenser	DEHY2	FL1-FL3	Emissions Represented at FL1-FL3												
TEG Dehydrator with Condenser	DEHY3	FL1-FL3	Emissions Represented at FL1-FL3												
TEG Dehydrator with Condenser SSM	DEHY1 SSM	RB1	0.19	0.03	0.39	0.06	19.56	1.34	0.08	0.01	0.00	0.00	5.83	0.16	13
TEG Dehydrator with Condenser SSM	DEHY2 SSM	RB2	0.19	0.03	0.39	0.06	19.56	1.34	0.08	0.01	0.00	0.00	5.83	0.16	13
TEG Dehydrator with Condenser SSM	DEHY3 SSM	RB3	0.19	0.03	0.39	0.06	19.56	1.34	0.08	0.01	0.00	0.00	5.83	0.16	13
Skim Tank	SKT1	FL1-FL3	Emissions Represented at FL1-FL3												
Skim Tank (Backup)	SKT2	FL1-FL3	Emissions Represented at FL1-FL3												
Condensate Tank	OT1	FL1-FL3	Emissions Represented at FL1-FL3												

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
FACILITY EMISSIONS SUMMARY

EMISSIONS SUMMARY TABLE

EMISSION SOURCE DESCRIPTION	FACILITY IDENTIFICATION NUMBER	STACK NUMBER	NOx		CO		VOC (INCLUDES HAPs)		SO ₂		PM _{10 & 2.5}		HAPs		CO _{2e}
			lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
Condensate Tank	OT2	FL1-FL3	Emissions Represented at FL1-FL3												
Condensate Tank	OT3	FL1-FL3	Emissions Represented at FL1-FL3												
Condensate Tank	OT4	FL1-FL3	Emissions Represented at FL1-FL3												
Produced Water Tank	WT1	FL1-FL3	Emissions Represented at FL1-FL3												
Produced Water Tank	WT2	FL1-FL3	Emissions Represented at FL1-FL3												
Low Pressure Separator	LPS	FL1-FL3	Emissions Represented at FL1-FL3												
Condensate Truck Loading	LOAD	N/A	-	-	-	-	63.91	10.14	-	-	-	-	2.85	0.45	-
Water Truck Loading	LOAD2	N/A	-	-	-	-	0.46	0.09	-	-	-	-	0.00	0.00	-
Fugitive Emissions	FUG	N/A	-	-	-	-	5.06	22.16	-	-	-	-	0.40	1.76	-
SSM Activities	SSM	N/A	-	-	-	-	-	10.00	-	-	-	-	-	-	-
ROAD EMISSIONS	ROAD	ROAD	-	-	-	-	-	-	-	-	0.15	0.03	-	-	-
Malfunction Emissions	MALFUNCTION	MALFUNCTION	-	-	-	-	-	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
			524.63	213.90	1005.11	241.95	1037.35	270.04	10.28	21.87	26.29	17.32	59.85	29.53	264,607

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
Methodology for Burner Calculations

Burner Emission Calculations

AP 42 Emission Factors: Tables 1.4-1, 1.4-2, & 1.4-3

$$\text{Emission Rate}_x (\text{lb/hr}) = \text{Burner Rating (MMBTU/hr)} * \text{EF}_x (\text{lb/MMSCF}) / 1020 (\text{Btu/scf}) * \text{Heating Value of Fuel Gas (BTU/SCF)} / 1020 (\text{Btu/scf}) + 25\%$$

$$\text{Annual Emission Rate}_x (\text{TPY}) = \text{Emission Rate (lb/hr)} * 8760 (\text{hour/year}) / 2000 (\text{lb/ton})$$

Mass Balance - SO₂ & H₂S Calculations

$$\text{H}_2\text{S Mass Flow Rate (lb/hr)} = P * V / 10.73 / T * \text{MW}_{\text{GAS}} * \text{H}_2\text{S}_{\text{WEIGHT \%}} * (1 - \text{DRE})$$

P = Pressure (psia), V = Fuel Consumed in a hour (ft³/hr), 10.73 = Ideal Gas Constant, T = Temperature (°R)

$$\text{Uncontrolled H}_2\text{S Mass Flow Rate (lb/hr)} = P * V / 10.73 / T * \text{MW}_{\text{GAS}} * \text{H}_2\text{S}_{\text{WEIGHT \%}}$$

$$\text{SO}_2 \text{ Emission Rate (lb/hr)} = \text{Uncontrolled H}_2\text{S Mass Rate (lb/hr)} * \text{SO}_2 \text{ Conversion Efficiency} * (\text{MW of SO}_2 (\text{lb/lb-mol}) / \text{MW of H}_2\text{S (lb/lb-mol)})$$

$$\text{Annual Emission Rate (TPY)} = \text{Emission Rate (lb/hr)} * 8760 (\text{hour/year}) / 2000 (\text{lb/ton})$$

MW_{GAS} = Molecular Weight of the Gas, H₂S_{WEIGHT%} = Weight Percent of the H₂S in the Fuel Gas, DRE = Burner Combustion Efficiency of H₂S

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
Methodology for Engine Calculations

Engine Emission Calculations

Manufacturer's Data or NSPS Subpart JJJJ Limit Calculations

$$\text{Emission Rate}_x (\text{lb/hr}) = \text{Emission Factor}_x (\text{g/hp-hr}) * \text{Rated hp} / 453.6 (\text{g/lb})$$

$$\text{Annual Emission Rate}_x (\text{TPY}) = \text{Emission Rate} (\text{lb/hr}) * 8760 (\text{hour/year}) / 2000 (\text{lb/ton})$$

AP 42 Emission Factors

$$\text{Emission Rate}_x (\text{lb/hr}) = \text{Fuel Consumption} (\text{MMBTU/hp-hr}) * \text{EF}_x (\text{lb/MMBTU}) * \text{Rated hp}$$

$$\text{Annual Emission Rate}_x (\text{TPY}) = \text{Emission Rate}_x (\text{lb/hr}) * 8760 (\text{hour/year}) / 2000 (\text{lb/ton})$$

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
Methodology for Flare Calculations

Flare Calculations

VOC Flare Calculations - Uses the Ideal Gas Law for Mixtures

The mass flow rate of VOCs to the flare were modeled using Promax. The mass rate was then reduced by the destruction efficiency of the flare (98%).

NOx & CO Calculations - TCEQ Emission Factors Used

$$\text{NOx (lb/day)} = \text{Heating Value (BTU/ft}^3) * \text{EF (lb/MMBTU)} * \text{V (ft}^3/\text{Day)} / 10^6 \text{ (BTU/MMBTU)}$$

$$\text{CO (lb/day)} = \text{Heating Value (BTU/ft}^3) * \text{EF (lb/MMBTU)} * \text{V (ft}^3/\text{Day)} / 10^6 \text{ (BTU/MMBTU)}$$

COEF = 0.5496 or 0.2755, NOxEF = 0.138, EF = Emission Factor, V = Volume of Gas in a Day

SO₂ & H₂S Calculations - Mass Balance

$$\text{H}_2\text{S Mass Flow Rate (lb/hr)} = P * V / 10.73 / T * \text{MW}_{\text{GAS}} * \text{H}_2\text{S}_{\text{WEIGHT \%}} * (1 - \text{DRE})$$

P = Pressure (psia), V = Fuel Consumed in a hour (ft³/hr), 10.73 = Ideal Gas Constant, T = Temperature (°R)

$$\text{Uncontrolled H}_2\text{S Mass Flow Rate (lb/hr)} = P * V / 10.73 / T * \text{MW}_{\text{GAS}} * \text{H}_2\text{S}_{\text{WEIGHT \%}}$$

$$\text{SO}_2 \text{ Emission Rate (lb/hr)} = \text{Uncontrolled H}_2\text{S Mass Rate (lb/hr)} * \text{SO}_2 \text{ Conversion Efficiency} * (\text{MW of SO}_2 \text{ (lb/lb-mol)} / \text{MW of H}_2\text{S (lb/lb-mol)})$$

$$\text{Annual Emission Rate (TPY)} = \text{Emission Rate (lb/hr)} * 8760 \text{ (hour/year)} / 2000 \text{ (lb/ton)}$$

MW_{GAS} = Molecular Weight of the Gas, H₂S_{WEIGHT%} = Weight Percent of the H₂S in Gas Stream, DRE = Flare Destruction Efficiency of H₂S

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
COMPRESSOR ENGINES

Uncontrolled Emissions Calculations

Source ID	Unit Description	Gas Type	Annual Hours	Rated HP	MMBtu/hp-hr ¹ (HHV)	Manufacturer's Data				AP-42 Factors			lb/hr ^{5,6}						tpy ^{5,6}							
						g/hp-hr ²				lb/MMBtu ^{3,4}			NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde	NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde
						NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde														
ENG1	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	0.30	3.47	0.99	0.18	0.01276	0.01006	0.00836	4.13	38.25	11.23	1.98	0.48	0.38	0.31	18.11	167.53	49.17	8.69	2.09	1.65	1.37
ENG2	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	0.30	3.47	0.99	0.18	0.01276	0.01006	0.00836	4.13	38.25	11.23	1.98	0.48	0.38	0.31	18.11	167.53	49.17	8.69	2.09	1.65	1.37
ENG3	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	0.30	3.47	0.99	0.18	0.01276	0.01006	0.00836	4.13	38.25	11.23	1.98	0.48	0.38	0.31	18.11	167.53	49.17	8.69	2.09	1.65	1.37
ENG4	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	0.30	3.47	0.99	0.18	0.01276	0.01006	0.00836	4.13	38.25	11.23	1.98	0.48	0.38	0.31	18.11	167.53	49.17	8.69	2.09	1.65	1.37
ENG5	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	0.30	3.47	0.99	0.18	0.01276	0.01006	0.00836	4.13	38.25	11.23	1.98	0.48	0.38	0.31	18.11	167.53	49.17	8.69	2.09	1.65	1.37
ENG6	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	0.30	3.47	0.99	0.18	0.01276	0.01006	0.00836	4.13	38.25	11.23	1.98	0.48	0.38	0.31	18.11	167.53	49.17	8.69	2.09	1.65	1.37
ENG7	Caterpillar G3616 Natural Gas Compressor Engine	Residue Gas	8760	5000	0.0075	0.30	2.65	0.25	0.14	0.01276	0.01006	0.00836	4.13	29.21	3.84	1.54	0.48	0.38	0.31	18.11	127.94	16.80	6.76	2.10	1.65	1.37
ENG8	Caterpillar G3616 Natural Gas Compressor Engine	Residue Gas	8760	5000	0.0075	0.30	2.65	0.25	0.14	0.01276	0.01006	0.00836	4.13	29.21	3.84	1.54	0.48	0.38	0.31	18.11	127.94	16.80	6.76	2.10	1.65	1.37
ENG9	Caterpillar G3616 Natural Gas Compressor Engine	Residue Gas	8760	5000	0.0075	0.30	2.65	0.25	0.14	0.01276	0.01006	0.00836	4.13	29.21	3.84	1.54	0.48	0.38	0.31	18.11	127.94	16.80	6.76	2.10	1.65	1.37
ENG11	Caterpillar 3516j TA Natural Gas Compressor Engine	Field Gas	8760	1380	0.007962	0.50	2.60	1.05	0.35	0.01276	0.01006	0.00836	1.90	7.91	4.35	1.06	0.14	0.11	0.09	8.33	34.65	19.06	4.66	0.61	0.48	0.40
ENG12	Caterpillar 3516j TA Natural Gas Compressor Engine	Field Gas	8760	1380	0.007962	0.50	2.60	1.05	0.35	0.01276	0.01006	0.00836	1.90	7.91	4.35	1.06	0.14	0.11	0.09	8.33	34.65	19.06	4.66	0.61	0.48	0.40

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

²The VOC emission factor (g/hp-hr) includes HCHO. Emission factors based on Gas Engine Rating Pro Report @ 100% Load.

³SO₂ Emissions were calculated using 5 grains H₂S per 100 scf fuel gas.

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

⁵25% safety factor was added to NOx on all engines. 25% safety factor was added to VOC on 3516. VOC lb/hr rates include acetaldehyde emissions.

⁶25% safety factor was added to VOC pollutants for compressor engines running on residue gas.

Total Emissions Per Pollutant (TPY)	NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde
		179.60	1458.32	383.53	81.75	20.06	15.81

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
COMPRESSOR ENGINES

Controlled Emissions Calculations

Source ID	Unit Description	Gas Type	Annual Hours	Rated HP	MMBtu/hp-hr ¹ (HHV)	Control Efficiency (%)			Manufacturer's Data (w/ control) g/hp-hr ²				AP-42 Factors lb/MMBtu ^{3,4}			lb/hr ^{5,6}						tpy ^{5,6}							
						CO	VOC	HCOH	NOx	CO	VOC ²	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde	NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde	NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde
ENG1	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	87.0	65.0	74.0	0.30	0.45	0.35	0.05	0.0128	0.01006	0.00836	4.13	4.97	3.93	0.52	0.48	0.38	0.11	18.11	21.78	17.21	2.26	2.09	1.65	0.48
ENG2	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	87.0	65.0	74.0	0.30	0.45	0.35	0.05	0.0128	0.01006	0.00836	4.13	4.97	3.93	0.52	0.48	0.38	0.11	18.11	21.78	17.21	2.26	2.09	1.65	0.48
ENG3	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	87.0	65.0	74.0	0.30	0.45	0.35	0.05	0.0128	0.01006	0.00836	4.13	4.97	3.93	0.52	0.48	0.38	0.11	18.11	21.78	17.21	2.26	2.09	1.65	0.48
ENG4	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	87.0	65.0	74.0	0.30	0.45	0.35	0.05	0.0128	0.01006	0.00836	4.13	4.97	3.93	0.52	0.48	0.38	0.11	18.11	21.78	17.21	2.26	2.09	1.65	0.48
ENG5	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	87.0	65.0	74.0	0.30	0.45	0.35	0.05	0.0128	0.01006	0.00836	4.13	4.97	3.93	0.52	0.48	0.38	0.11	18.11	21.78	17.21	2.26	2.09	1.65	0.48
ENG6	Caterpillar G3616 Natural Gas Compressor Engine	Field Gas	8760	5000	0.007481	87.0	65.0	74.0	0.30	0.45	0.35	0.05	0.0128	0.01006	0.00836	4.13	4.97	3.93	0.52	0.48	0.38	0.11	18.11	21.78	17.21	2.26	2.09	1.65	0.48
ENG7	Caterpillar G3616 Natural Gas Compressor Engine	Residue Gas	8760	5000	0.0075	90.0	48.0	90.0	0.30	0.27	0.13	0.01	0.0128	0.01006	0.00836	4.13	2.92	2.00	0.15	0.48	0.38	0.16	18.11	12.79	8.74	0.68	2.10	1.65	0.71
ENG8	Caterpillar G3616 Natural Gas Compressor Engine	Residue Gas	8760	5000	0.0075	90.0	48.0	90.0	0.30	0.27	0.13	0.01	0.0128	0.01006	0.00836	4.13	2.92	2.00	0.15	0.48	0.38	0.16	18.11	12.79	8.74	0.68	2.10	1.65	0.71
ENG9	Caterpillar G3616 Natural Gas Compressor Engine	Residue Gas	8760	5000	0.0075	90.0	48.0	90.0	0.30	0.27	0.13	0.01	0.0128	0.01006	0.00836	4.13	2.92	2.00	0.15	0.48	0.38	0.16	18.11	12.79	8.74	0.68	2.10	1.65	0.71
ENG11	Caterpillar 3516j TA Natural Gas Compressor Engine	Field Gas	8760	1380	0.007962	87.0	65.0	74.0	0.50	0.34	0.37	0.09	0.0128	0.01006	0.00836	1.90	1.03	1.43	0.28	0.14	0.11	0.03	8.33	4.50	6.25	1.21	0.61	0.48	0.14
ENG12	Caterpillar 3516j TA Natural Gas Compressor Engine	Field Gas	8760	1380	0.007962	87.0	65.0	74.0	0.50	0.34	0.37	0.09	0.0128	0.01006	0.00836	1.90	1.03	1.43	0.28	0.14	0.11	0.03	8.33	4.50	6.25	1.21	0.61	0.48	0.14

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

²The VOC emission factor (g/hp-hr) includes HCHO. Emission factors based on Gas Engine Rating Pro Report.

³SO2 Emissions were calculated using 5 grains H2S per 100 scf fuel gas.

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

⁵25% safety factor was added to NOx on all engines. 25% safety factor was added to VOC on 3516. VOC lb/hr rates include acetaldehyde emissions.

⁶25% safety factor was added to VOC pollutants for compressor engines running on residue gas.

Total Emissions Per Pollutant (TPY)							
NOx	CO	VOC	HCHO	SO ₂	PM _{10 & 2.5}	Acetaldehyde	
179.60	178.07	141.97	18.01	20.06	15.81	5.30	

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
HEATERS - BURNER CALCULATIONS & EXHAUST STACK FLOW & FUEL CONSUMPTION RATES

CRITERIA & REGULATED POLLUTANTS EMISSIONS

Source ID	Promax Fuel Gas Stream	Fuel Gas HHV (BTU/SCF)	Operating Hours	Burner Rating (MMBTU/Hr)	AP-42 Factors ¹ lb/MMBtu					lb/hr ²					tpy 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	3. Fuel Gas	1,120	8,760	0.75	0.10	0.08	0.01	0.01	0.01	0.10	0.08	0.01	0.01	0.01
RB1	3. Fuel Gas	1,120	8,760	2.00	0.10	0.08	0.01	0.01	0.01	0.27	0.23	0.01	0.03	0.02	1.18	0.99	0.06	0.13	0.09
RB2	3. Fuel Gas	1,120	8,760	2.00	0.10	0.08	0.01	0.01	0.01	0.27	0.23	0.01	0.03	0.02	1.18	0.99	0.06	0.13	0.09
RB3	3. Fuel Gas	1,120	8,760	2.00	0.10	0.08	0.01	0.01	0.01	0.27	0.23	0.01	0.03	0.02	1.18	0.99	0.06	0.13	0.09

¹Source: Emission factors from AP-42, Chapter 1, Tables 1.4-1, 1.4-2 and 1.4-3, converted from lb/MMscf to lb/MMbtu by dividing by 1,020 Btu/scf (per AP-42, Chapter 1 guidance).

SO₂ Emissions were calculated using 5 grains H₂S per 100 scf fuel gas.

²Burners - 25% Safety Factor

Total (tpy)	NOx	CO	VOC	SO ₂	PM _{10 & 2.5}
	3.98	3.34	0.22	0.44	0.30

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
HEATERS - BURNER CALCULATIONS & EXHAUST STACK FLOW & FUEL CONSUMPTION RATES

HAZARDOUS AIR POLLUTANTS (HAP) EMISSIONS

Source ID	Promax Stream	Fuel Gas (BTU/SCF)	Operating Hours	Burner Rating (MMBTU/Hr)	AP-42 Factors ¹ lb/MMBtu					lb/hr ²					tpy ²				
					Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene
					HTR1	3. Fuel Gas	1,120	8760	0.75	2.1E-06	3.3E-06	1.8E-03	7.4E-05	1.2E-06	<0.001	<0.001	0.00	<0.001	<0.001
RB1	3. Fuel Gas	1,120	8760	2.00	2.1E-06	3.3E-06	1.8E-03	7.4E-05	1.2E-06	<0.001	<0.001	0.00	<0.001	<0.001	<0.001	<0.001	0.02	<0.001	<0.001
RB2	3. Fuel Gas	1,120	8760	2.00	2.1E-06	3.3E-06	1.8E-03	7.4E-05	1.2E-06	<0.001	<0.001	0.00	<0.001	<0.001	<0.001	<0.001	0.02	<0.001	<0.001
RB3	3. Fuel Gas	1,120	8760	2.00	2.1E-06	3.3E-06	1.8E-03	7.4E-05	1.2E-06	<0.001	<0.001	0.00	<0.001	<0.001	<0.001	<0.001	0.02	<0.001	<0.001

¹Source: Emission factors from AP-42, Chapter 1, Tables 1.4-1, 1.4-2 and 1.4-3, converted from lb/MMscf to lb/MMBtu by dividing by 1,020 Btu/scf (per AP-42, Chapter 1 guidance). SO2 Emissions were calculated using 5 grains H2S per 100 scf fuel gas.

²Burners - 25% Safety Factor

Total Individual HAPS (tpy)	Benzene	Toluene	N-Hexane	HCHO	Dichloro benzene
	0.00	0.00	0.07	0.00	0.00

Total Combined HAPS (tpy)	0.07
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XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
HEATERS - BURNER CALCULATIONS & EXHAUST STACK FLOW & FUEL CONSUMPTION RATES

Exhaust Stack and Fuel Consumption Data

Source	HTR1	RB1	RB2	RB3		
Burner Rating (btu/hr)	750000	2000000	2000000	2000000		
Gross Heating Value (btu/scf)	1119.8	1119.8	1119.8	1119.8		
3" eclipse air mixer: (Air/Gas Ratio) ¹	5/1	5/1	5/1	5/1		
Stack Temperature (°F)	1000	1000	1000	1000		
Stack Diameter (ft)	1	1.5	1.5	1.5		
Stack Height (ft)	15	15	15	15		
Fuel Consumption (scf/hr)	670	1786	1786	1786		
Fuel Consumption (scf/day)	16075	42866	42866	42866		
Fuel Consumption (mmscf/year)	6	16	16	16		
Air Injection Rate (scf/hr)	6698	17861	17861	17861		
Total exhaust flow rate @ STP (scf/hr)	7368	19647	19647	19647		
Total exhaust flow rate @ STP (scf/sec)	2	5	5	5		
Total exhaust flow rate @ 1000 °F (acf/hr)	20686	55163	55163	55163		
Total exhaust flow rate @ 1000 °F (acf/sec)	5.75	15	15	15		
Exhaust Stack Exit Velocity @ STP (ft/sec)	2.61	3	3	3		
Exhaust Stack Exit Velocity @ 1000 °F (ft/sec)	7.32	9	9	9		
Total CH4 (ton/yr) ²	0.39	1.04	1.04	1.04		
Total N2O (ton/yr) ²	0.001	0.002	0.002	0.002		
Total CO2 (ton/yr) ²	567	1512	1512	1512		
Total CO2e (ton/yr) ²	576.91	1538	1538	1538		

Promax Stream Name	3. Fuel Gas
Component	Mass Frac
Triethylene Glycol	0.00
Water	0.00
Hydrogen Sulfide	0.00
Carbon Dioxide	0.00
Nitrogen	0.01
Methane	0.63
Ethane	0.17
Propane	0.10
Isobutane	0.02
n-Butane	0.04
Isopentane	0.01
n-Pentane	0.01
i-C6	0.01
i-C7	0.00
Octane	0.00
Nonane	0.00
Benzene	0.00
Toluene	0.00
Ethylbenzene	0.00
o-Xylene	0.00
n-Hexane	0.00
2,2,4-Trimethylpentane	0.00
Decanes Plus	0.00
Decanes Plus Sat	0.00

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

² GHG emissions source is 40 CFR § 98.233 (n), 40 CFR § 98.233(v) for CH4 and CO2 mass emissions, 40 CFR § 98.233(z) for N2O mass emissions,

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
STORAGE TANK EMISSIONS SUMMARY

VOC EMISSIONS SUMMARY

Unit Number	Source Description	Material Type (Oil/Produced Water)	Number of Tanks in Category	Controlled by Unit #	Control Efficiency (%)	Promax Stream Liquid Material	Material Throughput (bbls/day)	Uncontrolled Working & Breathing Losses				Uncontrolled Flash Losses				Uncontrolled Total Emissions		Controlled Total Emissions	
								Promax Stream (Hrly)	Promax Stream (Annual)	Lb/hr	TPY	Promax Stream (Hrly)	Promax Stream (Annual)	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY
SKT1	Skim Tank	Produced Water	2	FL1-FL3	98	14. Skim Tank Inlet	269.97	8. Skim Tank W&B	8. Skim Tank W&B	5.01	21.96	26. Skim Flashing Losses Hrly	6. Skim Tank Flash Gas	3.51	7.33	8.53	29.29	0.17	0.59
SKT2	Skim Tank (Backup)	Produced Water	2	FL1-FL3	98	14. Skim Tank Inlet	269.97	8. Skim Tank W&B	8. Skim Tank W&B	5.01	21.96	26. Skim Flashing Losses Hrly	6. Skim Tank Flash Gas	3.51	7.33	8.53	29.29	0.17	0.59
OT1	Condensate Tank	Condensate	4	FL1-FL3	98	11. Condensate Sales Liquid	458.98	10. Condensate Tank W&B	10. Condensate Tank W&B	9.53	41.76	22. Condensate Flash Losses Hrly	7. Condensate Tank Flash Gas	137.73	249.05	147.27	290.80	2.95	5.82
OT2	Condensate Tank	Condensate	4	FL1-FL3	98	11. Condensate Sales Liquid	458.98	10. Condensate Tank W&B	10. Condensate Tank W&B	9.53	41.76	22. Condensate Flash Losses Hrly	7. Condensate Tank Flash Gas	137.73	249.05	147.27	290.80	2.95	5.82
OT3	Condensate Tank	Condensate	4	FL1-FL3	98	11. Condensate Sales Liquid	458.98	10. Condensate Tank W&B	10. Condensate Tank W&B	9.53	41.76	22. Condensate Flash Losses Hrly	7. Condensate Tank Flash Gas	137.73	249.05	147.27	290.80	2.95	5.82
OT4	Condensate Tank	Condensate	4	FL1-FL3	98	11. Condensate Sales Liquid	458.98	10. Condensate Tank W&B	10. Condensate Tank W&B	9.53	41.76	22. Condensate Flash Losses Hrly	7. Condensate Tank Flash Gas	137.73	249.05	147.27	290.80	2.95	5.82
WT1	Produced Water Tank	Produced Water	2	FL1-FL3	98	12. Produced Water Liquid	260.57	9. Water Tank W&B	9. Water Tank W&B	0.13	0.55	27. WT Flashing Losses Hrly	5. Water Tank Flash Gas	0.02	0.11	0.15	0.66	0.00	0.01
WT2	Produced Water Tank	Produced Water	2	FL1-FL3	98	12. Produced Water Liquid	260.57	9. Water Tank W&B	9. Water Tank W&B	0.13	0.55	27. WT Flashing Losses Hrly	5. Water Tank Flash Gas	0.02	0.11	0.15	0.66	0.00	0.01
Storage Tank Emissions										48.41	212.05			557.99	1011.07	606.41	1223.12	12.13	24.46

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

Truck Loading Losses Calculations

Promax Stream Production	11. Condensate Sales Liquid	
Promax Stream Emissions	28. Condensate Loading Emissions	
Controlled/Uncontrolled	UNCONTROLLED	
Operating Schedule^c	41	Day / Year
Condensate Production	1836	bbls / Day

Promax Report Results

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

Saturation Factor (S) =	0.6
Average True Vapor Pressure of liquid loaded (P) ^a =	11.20
Max True Vapor Pressure of liquid loaded (P) ^a =	12.83
Average Temperature of bulk liquid loaded in Rankin (T) ^a =	535.03
Max Temperature of bulk liquid loaded in Rankin (T) ^a =	544.21
Molecular Weight (M) ^a =	49.58
Control Efficiency * Collection Efficiency (EFF)=	0
Hydrocarbon Content (%wt) ^a =	99.92
VOC Content (wt%) ^a =	82.88
HAP Content (wt%) ^a =	3.70
Average Uncontrolled LL (lb Total HC / bbl Throughput) ^b =	0.3258
Average Uncontrolled LL (lb VOC / bbl Throughput) ^b =	0.2703
Max Uncontrolled LL (lb Total HC / bbl Throughput) ^b =	0.3669
Max Uncontrolled LL (lb VOC / bbl Throughput) ^b =	0.3043
Estimated Throughput (bbls/Year) =	75000
Truck Loading Rate (bbls/hour) =	210
Estimated # of Loads (Approximately 1 hr/Load) =	357

Total Hydrocarbon Emissions	lb/hr	TPY
	77.05	12.22
Total VOC Emissions	lb/hr	TPY
	63.91	10.14
Total HAP Emissions	lb/hr	TPY
	2.85	0.45

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

Component	Total Speciated Vapors Emitted During Loading		
	Mass Percentage ^d	lb/hr ^d	ton / yr
Triethylene Glycol	0.00	0.00	0.00
Water	0.00	0.00	0.00
Hydrogen Sulfide	0.00	0.00	0.00
Carbon Dioxide	0.07	0.06	0.01
Nitrogen	0.00	0.00	0.00
Methane	0.53	0.41	0.06
Ethane	16.51	12.73	2.02
Propane	28.02	21.61	3.43
Isobutane	7.98	6.15	0.98
n-Butane	17.59	13.57	2.15
Isopentane	5.98	4.61	0.73
n-Pentane	6.87	5.30	0.84
i-C6	6.91	5.33	0.85
i-C7	4.74	3.66	0.58
Octane	0.92	0.71	0.11
Nonane	0.15	0.12	0.02
Benzene	0.14	0.11	0.02
Toluene	0.22	0.17	0.03
Ethylbenzene	0.01	0.01	0.00
o-Xylene	0.07	0.05	0.01
n-Hexane	3.27	2.52	0.40
2,2,4-Trimethylpentane	0.00	0.00	0.00
Decanes Plus	0.01	0.01	0.00
Decanes Plus Sat	0.00	0.00	0.00
Total HC	99.92	77.05	12.22
Total VOC	82.88	63.91	10.14
Total HAP	3.70	2.85	0.45
Heating Value (Btu/scf)	2581.20	2581.20	2581.20
Molecular Weight (lb/lbmol)	49.58	49.58	49.58
SO2 Emissions (lb/hr)	N/A	N/A	N/A
Operating Hours (hr/yr)	N/A	N/A	980
Mass Flow	N/A	77.05 lb/hr	12.22 ton/yr
Volumetric Flow (scf/hr)	N/A	589.78	93.53
Heat Release (MMBtu/hr)	N/A	1.52	0.24

Footnotes:

^a Values were obtained from Promax.

^b Loading emissions include total hydrocarbons as calculated using AP-42, Section 5.2.

^c Condensate tanks are only trucked out when transfer to pipeline is unavailable.

^d The component speciation was obtained from Promax Stream " and multiplied by the total hydrocarbon emissions. (VOC = 0.00 lb/hr * 0.00 wt% VOC = 0.01 lb/hr)

^e Loading emissions are uncontrolled.

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
WATER TRUCK LOADING LOSSES - UNCONTROLLED

Truck Loading Losses Calculations

Promax Stream Production	12. Produced Water Liquid	
Promax Stream Emissions	24. Water Truck Loading	
Controlled/Uncontrolled	UNCONTROLLED	
Operating Schedule	365	Day / Year
Condensate Production	521	bbls / Day

Promax Report Results

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

Saturation Factor (S) =	0.6
Average True Vapor Pressure of liquid loaded (P) ^a =	0.66
Max True Vapor Pressure of liquid loaded (P) ^a =	0.88
Average Temperature of bulk liquid loaded in Rankin (T) ^a =	1007.34
Max Temperature of bulk liquid loaded in Rankin (T) ^a =	556.85
Molecular Weight (M) ^a =	18.15
Control Efficiency * Collection Efficiency (EFF)=	0
Hydrocarbon Content (%wt) ^a =	1.41
VOC Content (wt%) ^a =	0.34
HAP Content (wt%) ^a =	0.01
Average Uncontrolled LL (lb Total HC / bbl Throughput) ^b =	0.0038
Average Uncontrolled LL (lb VOC / bbl Throughput) ^b =	0.0009
Max Uncontrolled LL (lb Total HC / bbl Throughput) ^b =	0.0090
Max Uncontrolled LL (lb VOC / bbl Throughput) ^b =	0.0022
Estimated Throughput (bbls/Year) =	190214
Truck Loading Rate (bbls/hour) =	210
Estimated # of Loads (Approximately 1 hr/Load) =	906

Total Hydrocarbon Emissions	lb/hr	TPY
	1.89	0.36
Total VOC Emissions	lb/hr	TPY
	0.46	0.09
Total HAP Emissions	lb/hr	TPY
	0.00	0.00

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
WATER TRUCK LOADING LOSSES - UNCONTROLLED

Component	Total Speciated Vapors Emitted During Loading		
	Mass Percentage ^d	lb/hr ^d	ton / yr
Triethylene Glycol	0.00	0.00	0.00
Water	98.18	1.86	0.35
Hydrogen Sulfide	0.01	0.00	0.00
Carbon Dioxide	0.41	0.01	0.00
Nitrogen	0.00	0.00	0.00
Methane	0.22	0.30	0.06
Ethane	0.84	1.13	0.21
Propane	0.26	0.35	0.07
Isobutane	0.02	0.03	0.00
n-Butane	0.04	0.06	0.01
Isopentane	0.00	0.01	0.00
n-Pentane	0.00	0.00	0.00
i-C6	0.00	0.00	0.00
i-C7	0.00	0.00	0.00
Octane	0.00	0.00	0.00
Nonane	0.00	0.00	0.00
Benzene	0.01	0.01	0.00
Toluene	0.00	0.00	0.00
Ethylbenzene	0.00	0.00	0.00
o-Xylene	0.00	0.00	0.00
n-Hexane	0.00	0.00	0.00
2,2,4-Trimethylpentane	0.00	0.00	0.00
Decanes Plus	0.00	0.00	0.00
Decanes Plus Sat	0.00	0.00	0.00
Total HC	1.41	1.89	0.36
Total VOC	0.34	0.46	0.09
Total HAP	0.01	0.01	0.00
Heating Value (Btu/scf)	13.79	13.79	13.79
Molecular Weight (lb/lbmol)	18.15	18.15	18.15
SO2 Emissions (lb/hr)	N/A	N/A	N/A
Operating Hours (hr/yr)	N/A	N/A	8760
Mass Flow	N/A	1.89 lb/hr	0.36 ton/yr
Volumetric Flow (scf/hr)	N/A	39.57	7.47
Heat Release (MMBtu/hr)	N/A	0.00	0.00

Footnotes:

^a Values were obtained from Promax.

^b Loading emissions include total hydrocarbons as calculated using AP-42, Section 5.2.

^d The component speciation was obtained from Promax Stream "1" and multiplied by the total hydrocarbon emissions. (VOC = 0.00 lb/hr * 0.00 wt% VOC = 0.00 lb/hr)

^e Loading emissions are uncontrolled.

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
FLARE 1-3 EMISSION SUMMARY

Flare Emissions Summary Table

Stream Source	Stream Source	NOx		CO		Total VOC (Includes Total HAPs)		SO ₂		PM _{10 & 2.5}		Total HAPs		CO _{2e}	n-Hexane		Benzene	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY	lb/hr	TPY	lb/hr	TPY
FL1-FL3 Pilot	FL1 Pilot/Purge	0.47	2.07	0.94	4.13	0.64	2.82	0.01	0.02	0.02	0.10	0.01	0.04	2705.87	0.01	0.04	0.00	0.00
	FL2 Pilot / Purge	0.47	2.07	0.94	4.13	0.64	2.82	0.01	0.02	0.02	0.10	0.01	0.04	2705.87	0.01	0.04	0.00	0.00
	FL3 Pilot / Purge	0.47	2.07	0.94	4.13	0.64	2.82	0.01	0.02	0.02	0.10	0.01	0.04	2705.87	0.01	0.04	0.00	0.00
FL1-FL3 Norm	PW Tank Vapors (WT1-2)	0.00	0.00	0.00	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.01	8.43	0.00	0.00	0.00	0.00
	Skim Tank Vapors (SKT1-2)	0.05	0.21	0.10	0.42	0.34	1.17	0.00	0.01	0.00	0.00	0.02	0.07	239.34	0.02	0.05	0.00	0.00
	Oil Tank Vapors (OT1-4)	1.74	6.67	3.48	13.32	11.78	23.26	0.01	0.06	0.03	0.15	0.49	1.11	7810.86	0.39	0.93	0.04	0.06
	Low Pressure Separator Vapors Normal Operation	0.06	0.25	0.12	0.49	0.28	1.09	0.00	0.00	0.00	0.01	0.01	0.05	332.41	0.01	0.04	0.00	0.00
	Dehy 1-3 Condenser Vapors	0.58	2.56	1.17	5.11	3.91	7.85	0.24	1.01	0.01	0.06	1.17	0.93	1457.82	0.25	0.28	0.38	0.37
FL1-FL3 SSM	Low Pressure Separator Vapors VRU Downtime	3.12	1.37	6.24	2.73	13.85	6.07	0.06	0.02	0.10	0.04	0.61	0.27	1846.72	0.50	0.22	0.03	0.02
	HP Flare Blowdowns	0.16	0.08	0.32	0.16	0.33	0.16	0.00	0.00	0.01	0.00	0.02	0.01	112.11	0.01	0.01	0.00	0.00
	Flash Tank Vapors	1.48	0.32	2.95	0.65	4.83	1.06	0.14	0.03	0.06	0.01	0.22	0.05	454.03	0.16	0.04	0.03	0.01
	HP Flare Inlet Gas Flaring	473.51	12.57	945.31	25.09	839.51	22.28	4.89	0.13	22.17	0.59	31.20	0.83	17124.32	27.97	0.74	1.12	0.03
Total	Total Emissions	482.14	30.24	962.52	60.36	876.77	71.44	5.35	1.34	22.45	1.17	33.77	3.45	37503.64	29.34	2.42	1.61	0.50
FL1-FL3 Pilot	Total Flare Pilot/Purge Emissions	1.42	6.20	2.83	12.39	1.93	8.47	0.02	0.07	0.07	0.31	0.03	0.12	8117.60	0.03	0.12	0.00	0.00
FL1-FL3 Norm	Total Flare Normal Operations	2.44	9.69	4.87	19.35	16.32	33.41	0.26	1.09	0.05	0.22	1.69	2.17	9848.86	0.66	1.30	0.42	0.44
FL1-FL3 SSM	Total Flare SSM	478.28	14.34	954.82	28.62	858.52	29.57	5.08	0.19	22.33	0.65	32.05	1.15	19537.19	28.65	1.01	1.18	0.05
Total	Total Emissions	482.14	30.24	962.52	60.36	876.77	71.44	5.35	1.34	22.45	1.17	33.77	3.45	37503.64	29.34	2.42	1.61	0.50
FL1-FL3 HP	High Pressure Gas Flaring (No Pilot)	473.67	12.65	945.63	25.25	839.84	22.44	4.89	0.13	22.17	0.59	31.22	0.84	17236.44	27.98	0.75	1.12	0.03
FL1-FL3 LP	Low Pressure Gas Flaring (No Pilot)	5.57	11.06	11.11	22.08	30.17	39.47	0.31	1.11	0.15	0.26	2.30	2.44	11695.58	1.17	1.52	0.46	0.46

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
FLARE 1-3 HOURLY EMISSIONS WINTER SEASON - NORMAL OPERATIONS

FLARE 1-3 HOURLY - NORMAL OPERATIONS

Stream	Uncaptured Maximum Hourly Emission Rates and Composition to Flare ^{a,b}													Total Vapors to Flare (Uncontrolled Max Hourly)	Destruction Efficiency	Total Flare Exhaust (controlled)	
	SSM				HP Flare		Oil Tank Vapors (OTI-4)		Skim Tank Vapors (SKTI-2)		PW Tank Vapors (WTI-2)		Low Pres Sep ^c				
Promax Stream Name	17. HPF Blowdowns ^d	Low Pres Sep ^d Flash (VRU OH)	Dehy Flash Tank Vapors	Inlet Gas Flaring ^e	HP Flare Pilot/Purge ^f	LP Flare Pilot/Purge ^f	Flash	W&B	Flash	W&B	Flash	W&B	Flash	W&B	1. LP Separator Gas	(%)	(lb/hr)
Component	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	15. HPF Pilot/Purge Gas	16. LPF Pilot/Purge Gas	22. Condensate Flash Losses Hly	10. Condensate Tank W&B	26. Skim Flashing Losses Hly	8. Skim Tank W&B	27. WT Flashing Losses Hly	9. Water Tank W&B	1. LP Separator Gas	(lb/hr)	(%)	(lb/hr)	
Triethylene Glycol	0.00	0.00	0.03	1.30	0.00	0.00	0.00	0.00	0.00	0.00	2.78052E-12	0.00	0.00	1.33	98%	0.03	
Water	0.00	11.70	2.26	5.59	0.01	0.01	0.00	0.00	0.19	0.21	0.00	0.20	0.23	20.40	0%	20.40	
Hydrogen Sulfide	0.00	0.03	0.07	2.60	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	2.72	98%	0.05	
Carbon Dioxide	0.17	2.54	7.05	515.88	0.90	0.75	0.12	0.04	0.02	0.02	0.00	0.01	0.05	527.54	0%	527.54	
Nitrogen	0.45	1.12	0.78	1399.05	2.48	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.02	1465.97	0%	1465.97	
Methane	30.99	216.91	175.12	96248.93	169.52	141.27	1.31	0.36	0.23	0.03	0.00	0.01	4.34	96899.03	98%	1939.78	
Ethane	8.48	214.18	108.16	26195.25	44.60	37.16	43.65	7.56	0.69	0.32	0.01	0.05	4.28	26644.38	98%	533.29	
Propane	5.64	243.07	91.07	17204.13	27.28	22.74	149.07	12.69	1.57	1.86	0.01	0.06	4.86	17764.05	98%	355.28	
Isobutane	1.30	66.09	19.49	3892.07	5.53	4.61	49.88	3.67	0.62	1.09	0.00	0.01	1.32	4045.68	98%	80.91	
n-Butane	2.71	141.47	51.31	7955.75	10.49	8.74	157.24	8.13	1.48	2.47	0.01	0.04	2.83	8342.68	98%	166.85	
Isopentane	0.99	48.84	15.90	2753.16	2.92	2.43	52.04	2.78	0.61	0.92	0.00	0.01	0.98	2881.60	98%	57.63	
n-Pentane	1.18	56.70	21.44	3181.79	3.06	2.55	61.94	3.20	0.74	1.08	0.00	0.01	1.13	3334.83	98%	66.70	
i-C6	1.32	54.99	17.48	3034.61	1.93	1.61	25.04	3.23	0.78	1.06	0.00	0.01	1.10	3143.16	98%	62.86	
i-C7	1.32	40.02	12.28	2071.09	0.69	0.58	27.40	2.21	0.60	0.76	0.00	0.00	0.80	2157.76	98%	43.16	
Octane	0.60	8.71	1.47	296.80	0.03	0.03	5.07	0.43	0.14	0.16	0.00	0.00	0.17	313.62	98%	6.27	
Nonane	0.28	1.74	0.10	26.00	0.00	0.00	0.56	0.07	0.03	0.03	0.00	0.00	0.03	28.85	98%	0.38	
Benzene	0.03	1.72	1.26	56.05	0.03	0.03	1.90	0.07	0.02	0.03	0.00	0.03	0.03	61.21	98%	1.22	
Toluene	0.09	2.72	1.60	86.40	0.02	0.02	1.57	0.10	0.04	0.05	0.00	0.05	0.05	92.71	98%	1.85	
Ethylbenzene	0.01	0.08	0.02	1.88	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	2.04	98%	0.04	
o-Xylene	0.07	0.89	0.22	17.27	0.00	0.00	0.31	0.03	0.01	0.02	0.00	0.02	0.02	18.86	98%	0.38	
n-Hexane	0.67	25.23	8.02	1398.42	0.72	0.60	17.78	1.52	0.37	0.49	0.00	0.00	0.50	1454.33	98%	29.09	
2,2,4-Trimethylpentane	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00	1.09	98%	0.02	
Decanes Plus	0.13	0.15	0.00	0.22	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.52	98%	0.01	
Decanes Plus Sat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98%	0.01	
Total	56.43	1138.91	535.16	166344.24	270.23	225.19	596.01	46.09	8.14	10.61	0.06	0.53	22.78	169254.37	--	5299.92	
Total VOC	16.34	692.44	241.68	41975.64	52.72	43.93	550.93	38.13	7.02	10.03	0.04	0.25	13.85	43629.15	--	872.58	
Total HAP	0.87	30.65	11.12	1560.02	0.78	0.65	22.69	1.73	0.45	0.59	0.10	0.61	1630.25	--	32.60		
Heating Value (Btu/scf)	1,219.09	1,784.74	1,479.67	1,176.43	1,119.76	1,119.76	2826.67	2574.72	2573.03	2904.15	2215.44	892.10	1784.74	1182.24			
Molecular Weight (lb/lbmol)	22.50	34.08	28.02	21.64	20.51	20.51	54.51	49.45	50.89	57.55	43.66	29.53	34.08	--			
Operating Hours (hr/yr)	1,000	876	438	53	8760	8760	8760	8760	8760	8760	8760	8760	7884	--			
Mass Flow (lb/hr)	56.43	1,138.91	535.16	166,344.24	270.23	225.19	596.01	46.09	8.14	10.61	0.06	0.53	22.78	169,254.37			
Volumetric Flow (scf/hr)	952	12,682	7,247	2,916,667	5,000	4,167	4,149	353.66	60.71	69.98	0.49	6.81	253.65	295,160.99			
Heat Release (MMBtu/hr)	1.16	22.63	10.72	3,431.28	5.60	4.67	11.73	0.91	0.16	0.20	0.00	0.01	0.45	3489.50			

Criteria Pollutant Emissions from Flare ^a			
Component	Emission Rate (lb/hr)	Emission Factor	Emission Factor Units
NO _x	481.55	0.138	lb/MMBtu
CO	961.36	0.2755	lb/MMBtu
SO ₂	5.11	--	--
PM ₁₀	22.43	7.60	lb/MMscf
PM _{2.5}	22.43	7.60	lb/MMscf
N ₂ O	0.77	0.00022	lb/MMBtu
H ₂ S	0.05	--	--

LPS Vapor Controls / Flare DRE	
LPS VRU Collection Efficiency (Normal Operations)	98%
LPS VRU Downtime (MSO Operations)	10.00% (876 hrs)
Flare Destruction Efficiency C4+	98%
Flare Destruction Efficiency C3	98%

H2S molecular weight	34.08
SO2 molecular weight	64.06
Molar Volume (scf/lbmol)	379.484
Flare Operating Hours	8760

Combustion Emissions from Flare														
	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Total NO _x	0.16	3.12	1.48	473.51	0.77	0.64	1.62	0.13	0.02	0.05	0.00	0.00	0.06	481.55
Total CO	0.32	6.24	2.95	945.31	1.54	1.29	3.23	0.25	0.04	0.06	0.00	0.00	0.12	961.36
Total SO ₂	0.00	0.06	0.14	4.89	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	5.11
Total PM ₁₀	0.01	0.10	0.06	22.17	0.04	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	22.43
Total PM _{2.5}	0.01	0.10	0.06	22.17	0.04	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	22.43
Total VOC after comb.	0.33	13.85	4.83	839.51	1.05	0.88	11.02	0.76	0.14	0.20	0.00	0.01	0.28	872.86
Total HAP after comb.	0.02	0.61	0.22	31.20	0.02	0.01	0.45	0.03	0.01	0.01	0.00	0.00	0.01	32.60
Total n-Hexane after comb.	0.01	0.50	0.16	27.97	0.01	0.01	0.36	0.03	0.01	0.01	0.00	0.00	0.01	29.09
Total Benzene after comb.	0.00	0.03	0.03	1.12	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Total CH ₄	0.44	2.04	2.01	1428.70	2.66	2.21	0.01	0.00	0.00	0.00	0.00	0.00	0.04	1438.11
Total N ₂ O	0.000	0.01	0.01	1.67	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.70
Total CO ₂	219.49	4323.32	2084.01	623268.42	951.76	793.13	1849.68	147.39	26.68	32.64	0.19	1.75	86.47	633,784.92
Total CO ₂ e	230.62	4577.72	2135.76	659482.85	1018.95	849.13	1851.58	147.58	26.74	32.67	0.19	1.75	87.55	670,243.09

Footnotes:
^a Uncontrolled stream properties determined via ProMax.
^b Tank emissions determined in ProMax are calculated at the maximum daily liquid surface temperature.
^c Pilot fuel gas emissions are conservatively calculated based on observed blowrates
^d Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)
^e Flare CO and NO_x emission factors from TCEQ Air Permit Technical Guidance for Chemical Sources. PM and PM_{2.5} emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO₂ emissions assume 100% conversion of H₂S to SO₂.
^f Blowdowns are estimated to be @ 952 SCF per blowdown. XTO conservatively estimates 1000 blowdowns per year and 1 blowdown per hour
^g XTO conservatively estimates 155 MMscf of inlet gas flaring per year @ 2.92 MMscf/hr max rate
^h GHG emissions source is 40 CFR § 98.233 (n), 40 CFR § 98.233(v) for CH₄ and CO₂ mass emissions, 40 CFR § 98.233(z) for N₂O mass emissions.

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
FLARE 1-3 ANNUAL EMISSIONS WINTER SEASON - NORMAL OPERATIONS

FLARE ANNUAL - NORMAL OPERATIONS

Stream	Uncaptured Maximum Hourly Emission Rates and Composition to Flare ^{a,b}													Total Vapors to Flare (uncontrolled)	Destruction Efficiency	Total Flare Exhaust (controlled)
	SSM				HP Flare Pilot/Purge ^c		Oil Tank Vapors (OTI-4)		Skim Tank Vapors (SKTI-2)		PW Tank Vapors (PWTI-2)		Low Pres Sep ^d			
	HP Flare Blowdowns ^f	Low Pres Sep ^d Flash (VRU Off)	Flash Tank Vapors	Inlet Gas Flaring ^g	HP Flare Pilot/Purge Gas	LP Flare Pilot/Purge Gas	Flash	W&B	Flash	W&B	Flash	W&B	Flash (VRU On) 98% Col Eff			
Promax Stream Name	17. HPF Blowdowns	1. LP Separator Gas	29. Dehy Flash Tank Vapors	19. Inlet Flaring	15. HPF Pilot/Purge Gas	16. LPF Pilot/Purge Gas	7. Condensate Tank Flash Gas	10. Condensate Tank W&B	6. Skim Tank Flash Gas	8. Skim Tank W&B	5. Water Tank Flash Gas	9. Water Tank W&B	1. LP Separator Gas	(ton/yr)	(%)	(ton/yr)
Component	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(%)	(ton/yr)
Triethylene Glycol	0.00	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	98%	0.00
Water	0.00	5.12	0.50	0.15	0.04	0.04	6.83	0.00	0.28	0.94	0.01	0.88	0.92	15.70	0%	15.70
Hydrogen Sulfide	0.00	0.01	0.02	0.07	0.02	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.17	98%	0.00
Carbon Dioxide	0.08	1.11	1.54	13.69	3.93	3.28	1.23	0.16	0.04	0.09	0.00	0.06	0.20	25.42	0%	25.42
Nitrogen	0.23	0.49	0.17	37.13	10.86	9.05	0.07	0.00	0.00	0.00	0.00	0.00	0.09	58.10	0%	58.10
Methane	15.50	95.01	38.35	2554.24	742.51	618.76	46.62	1.58	0.91	0.13	0.01	0.06	17.10	4130.78	98%	82.62
Ethane	4.24	93.81	23.69	695.17	195.33	162.78	171.73	33.10	2.35	1.40	0.04	0.22	16.89	1400.73	98%	28.01
Propane	2.82	106.46	19.94	456.56	119.50	99.58	307.77	55.56	4.28	8.15	0.07	0.28	19.16	1200.16	98%	24.00
Isobutane	0.65	28.95	4.27	103.29	24.22	20.19	96.53	16.05	1.41	4.76	0.02	0.06	5.21	305.61	98%	6.11
n-Butane	1.36	61.96	11.24	211.13	45.96	38.30	213.28	35.60	3.17	10.83	0.05	0.19	11.15	644.22	98%	12.88
Isopentane	0.50	21.39	3.48	73.06	12.79	10.66	76.31	12.19	1.16	4.03	0.02	0.05	3.85	219.49	98%	4.39
n-Pentane	0.59	24.84	4.70	84.44	13.40	11.17	88.95	14.03	1.36	4.73	0.01	0.02	4.47	252.70	98%	5.05
i-C6	0.66	24.09	3.83	80.53	8.44	7.03	86.68	14.13	1.33	4.66	0.02	0.03	4.34	235.77	98%	4.72
i-C7	0.66	17.53	2.69	54.96	3.02	2.52	62.46	9.69	0.96	3.34	0.01	0.01	3.15	161.02	98%	3.22
Octane	0.30	3.82	0.32	7.88	0.15	0.13	13.31	1.87	0.21	0.70	0.00	0.00	0.69	29.37	98%	0.59
Nonane	0.14	0.76	0.02	0.69	0.00	0.00	2.62	0.31	0.04	0.14	0.00	0.00	0.14	4.87	98%	0.10
Benzene	0.02	0.75	0.28	1.49	0.14	0.11	2.71	0.29	0.04	0.14	0.00	0.14	0.14	6.24	98%	0.12
Toluene	0.05	1.19	0.35	2.29	0.09	0.08	4.23	0.45	0.07	0.23	0.00	0.22	0.21	9.46	98%	0.19
Ethylbenzene	0.00	0.03	0.01	0.05	0.00	0.00	0.12	0.01	0.00	0.01	0.00	0.01	0.01	0.25	98%	0.00
o-Xylene	0.04	0.39	0.05	0.46	0.01	0.01	1.36	0.13	0.02	0.07	0.00	0.07	0.07	2.67	98%	0.05
n-Hexane	0.33	11.05	1.76	37.11	3.17	2.64	39.64	6.68	0.61	2.13	0.01	0.01	1.99	107.11	98%	2.14
2,2,4-Trimethylpentane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98%	0.00
Decanes Plus	0.07	0.06	0.00	0.01	0.00	0.00	0.22	0.02	0.00	0.01	0.00	0.00	0.01	0.41	98%	0.01
Decanes Plus Sat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98%	0.00
Total	28.22	498.84	117.20	4414.42	1183.60	986.34	1222.70	201.86	18.23	46.48	0.29	2.32	89.79	8810.30	--	273.43
Total VOC	8.17	303.29	52.93	1113.94	230.90	192.42	996.19	167.02	14.65	43.93	0.22	1.10	54.59	3179.36	--	63.59
Total HAP	0.43	13.42	2.44	41.40	3.40	2.84	48.06	7.56	0.74	2.57	0.01	0.44	2.42	125.73	--	2.51
Heating Value (Btu/cf)	1219.09	1784.74	1479.67	1176.43	1119.76	1119.76	2441.75	2574.72	2351.20	2904.15	2186.58	892.10	1784.74	1368.99		
Molecular Weight (lb/lbmol)	22.50	34.08	28.02	21.64	20.51	20.51	47.12	49.45	45.86	57.55	43.27	29.53	34.08	--		
Operating Hours (hr/yr)	1000	876	438	53	8760	8760	8760	8760	8760	8760	8760	8760	7884	--		
Mass Flow (ton/yr)	28.22	498.84	117.20	4414.42	1183.60	986.34	1222.70	201.86	18.23	46.48	0.29	2.32	89.79	8810.30		
Volumetric Flow (MMscf/yr)	0.95	11.11	3.17	154.80	43.80	36.50	36.34	3.10	0.53	1.61	0.00	0.06	2.00	292.99		
Heat Release (MMBtu/yr)	1160.05	19828.06	4697.05	182116.56	49045.42	40871.18	88744.79	7976.71	1250.33	1780.25	9.33	53.24	3569.05	401102.03		

Criteria Pollutant Emissions from Flare ^a			
Component	Emission Rate (ton/yr)	Emission Factor	Emission Factor Units
NO _x	27.68	0.138	lb/MMBtu
CO	55.25	0.2755	lb/MMBtu
SO _x	0.32	--	--
PM ₁₀	1.11	7.60	lb/MMscf
PM _{2.5}	1.11	7.60	lb/MMscf
N ₂ O	0.04	0.00022	lb/MMBtu
H ₂ S	0.00	--	--

LPS Vapor Controls / Flare DRE	
LPS VRU Collection Efficiency (Normal Operations)	98.0%
LPS VRU Downtime (MSS Operations)	10.0%
Flare Destruction Efficiency C4+	98%
Flare Destruction Efficiency C3	98%

H2S molecular weight	34.08
SO2 molecular weight	64.06
Molar Volume (scf/lbmol)	379.484
Flare Operating Hours	8760

Combustion Emissions from Flare														
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
Total NO _x	0.08	1.37	0.32	12.57	3.38	2.82	6.12	0.55	0.09	0.12	0.00	0.00	0.25	27.68
Total CO	0.16	2.73	0.65	25.09	6.76	5.63	12.22	1.10	0.17	0.25	0.00	0.01	0.49	55.25
Total SO ₂	0.00	0.02	0.03	0.13	0.04	0.03	0.05	0.01	0.00	0.00	0.00	0.00	0.01	0.32
Total PM ₁₀	0.00	0.04	0.01	0.59	0.17	0.14	0.14	0.01	0.00	0.00	0.00	0.00	0.01	1.11
Total PM _{2.5}	0.00	0.04	0.01	0.59	0.17	0.14	0.14	0.01	0.00	0.00	0.00	0.00	0.01	1.11
Total VOC after comb.	0.16	6.07	1.06	22.28	4.62	3.85	19.92	3.34	0.29	0.88	0.00	0.02	1.09	63.59
Total HAP after comb.	0.01	0.27	0.05	0.83	0.07	0.06	0.96	0.15	0.01	0.05	0.00	0.01	0.05	2.51
Total n-Hexane after comb.	0.01	0.22	0.04	0.74	0.06	0.05	0.79	0.13	0.01	0.04	0.00	0.00	0.04	2.14
Total Benzene after comb.	0.00	0.02	0.01	0.03	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.12
Total CH ₄	0.22	0.90	0.44	37.91	11.63	9.69	0.59	0.01	0.01	0.00	0.00	0.00	0.16	61.56
Total N ₂ O	0.000	0.00	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Total CO ₂	106.54	1823.68	442.88	16170.48	4135.40	3446.17	7176.29	616.46	103.96	134.98	0.81	7.60	328.26	34493.53
Total CO _{2e}	112.11	1846.72	454.03	17124.32	4427.78	3689.82	7193.87	616.98	104.28	135.06	0.81	7.62	332.41	36,045.82

Footnotes:
^a Uncontrolled stream properties determined via ProMax.
^b Tank emissions determined in ProMax are calculated at the maximum daily liquid surface temperature.
^c Pilot fuel gas emissions are conservatively calculated based on observed flowrates
^d Controlled Emissions Were Calculated by the Following: Uncontrolled Emissions * (1 - VRU Efficiency) * (1 - Flare Destruction Efficiency)
^e Flare CO and NOx emission factors from ICDQ Air Permit Technical 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.
^f Blowdowns are estimated to be @ 952 SCF per blowdown. XTO conservatively estimates 1000 blowdowns per year and 1 blowdown per hour
^g XTO conservatively estimates 155 MMscf of inlet gas flaring per year @ 2.92 MMscf/hr max rate
^h GHG emissions source is 40 CFR § 98.233 (n), 40 CFR § 98.233 (v) for CH4 and CO2 mass emissions, 40 CFR § 98.233 (z) for N2O mass emissions.

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
DEHYDRATOR 1-3 VAPORS ROUTED TO LOW PRESSURE FLARE - NORMAL OPERATIONS

VOC/HAP Emissions for Dehydration Units (DEHY1 - DEHY3) - Routed to FL1 - FL3

Uncontrolled Maximum Hourly Emission Rates and Composition to Combustion Device(s) ^a								
Stream	DEHY1-3 Still Column Emissions		Total Vapors to Combustion Device(s) (Uncontrolled)		Destruction Efficiency (%)	Total Combustion Device(s) Exhaust (controlled)		
	Promax Stream Name	25. DEHY1-3 Max Hourly (lb/hr)	13. BTX Cond Vapors to Combustion (ton/yr)	(lb/hr)		(ton/yr)	(lb/hr)	(ton/yr)
Component		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(%)	(lb/hr)	(ton/yr)
Triethylene Glycol		0.00	3.72E-08	0.00	0.00	98%	0.00	0.00
Water		10.60	5.92	10.60	5.92	0%	10.60	5.92
Hydrogen Sulfide		0.13	0.54	0.13	0.54	98%	0.00	0.01
Carbon Dioxide		2.64	11.44	2.64	11.44	0%	2.64	11.44
Nitrogen		0.01	0.04	0.01	0.04	0%	0.01	0.04
Methane		7.98	34.88	7.98	34.88	98%	0.16	0.70
Ethane		16.39	70.32	16.39	70.32	98%	0.33	1.41
Propane		25.83	105.25	25.83	105.25	98%	0.52	2.11
Isobutane		7.36	26.69	7.36	26.69	98%	0.15	0.53
n-Butane		27.59	91.76	27.59	91.76	98%	0.55	1.84
Isopentane		12.66	31.56	12.66	31.56	98%	0.25	0.63
n-Pentane		19.83	43.45	19.83	43.45	98%	0.40	0.87
i-C6		23.80	33.51	23.80	33.51	98%	0.48	0.67
i-C7		18.29	13.22	18.29	13.22	98%	0.37	0.26
Octane		1.87	0.68	1.87	0.68	98%	0.04	0.01
Nonane		0.11	0.03	0.11	0.03	98%	0.00	0.00
Benzene		19.12	18.68	19.12	18.68	98%	0.38	0.37
Toluene		23.82	12.80	23.82	12.80	98%	0.48	0.26
Ethylbenzene		0.23	0.08	0.23	0.08	98%	0.00	0.00
o-Xylene		2.66	0.93	2.66	0.93	98%	0.05	0.02
n-Hexane		12.46	14.04	12.46	14.04	98%	0.25	0.28
2,2,4-Trimethylpentane		0.00	--	0.00	0.00	98%	0.00	0.00
Decanes Plus		0.00	1.39E-04	0.00	0.00	98%	0.00	0.00
Decanes Plus Sat		0.00	--	0.00	0.00	98%	0.00	0.00
Total		233.39	1022.24	233.39	515.85	--	17.66	27.37
Total VOC		195.63	392.70	195.63	392.70	--	3.91	7.85
Total HAP		58.29	46.54	58.29	46.54	--	1.17	0.93
Heating Value (Btu/scf)		2,489.25	2,221.84	2,489.25	2,221.84			
Molecular Weight (lb/lbmol)		52.05	44.24	--	--			
Operating Hours (hr/yr)		8,760	8,760	--	--			
Mass Flow		233.39 lb/hr	1,022.24 ton/yr	233.39 lb/hr	1,022.24 ton/yr			
Volumetric Flow		1,702 scf/hr	15 MMscf/yr	1,702 scf/hr	15 MMscf/yr			
Heat Release (MMBtu/hr)		4.24 MMBtu/hr	37,104.61 MMBtu/yr	4.24 MMBtu/hr	37,104.61 MMBtu/yr			

Combustion Emissions from Combustion Device(s)				
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Total NO _x	0.58	2.56	0.58	2.56
Total CO	1.17	5.11	1.17	5.11
Total SO ₂	0.24	1.01	0.24	1.01
Total PM ₁₀	0.013	0.06	0.01	0.06
Total PM _{2.5}	0.01	0.06	0.01	0.06
Total VOC (slip)	3.91	7.85	3.91	7.85
Total HAP (slip)	1.17	0.93	1.17	0.93
Total n-Hexane (slip)	0.25	0.28	0.25	0.28
Total Benzene (slip)	0.38	0.37	0.38	0.37
Total CH ₄	0.05	0.22	0.05	0.22
Total N ₂ O	0.002	0.00	0.00	0.00
Total CO ₂	774.70	1,451.22	774.70	1,451.22
Total CO _{2e}	776.55	1,457.82	776.55	1,457.82

Criteria Pollutant Emissions Combustion Device(s) ^b			
Component	Emission Rate	Emission Factor	Emission Factor Units
	(lb/hr)		
NO _x	0.58	0.138	lb/MMBtu
CO	1.17	0.2755	lb/MMBtu
SO ₂	0.24	--	--
PM ₁₀	0.01	7.60	lb/MMscf
PM _{2.5}	0.01	7.60	lb/MMscf
N ₂ O	0.00	0.00022	lb/MMBtu
H ₂ S	0.00	--	--

Combustion Device Destruction Efficiency C4+	98%
Combustion Device Efficiency C3	98%

H2S molecular weight	34.08
SO2 molecular weight	64.06
Molar Volume (scf/lbmol)	379.484
Combustor Operating Hours	8760

Large Glycol Unit - MACT HH Check		
# of Units	3	Limit
Flow per Dehy	71,593	85,000 SCF/Day
Benzene Emissions	0.19	1 ton/yr

Footnotes:

^a Uncontrolled stream properties determined via ProMax.

^b Flare CO and NO_x emission factors from TCEQ Air Permit Technical Guidance for Chemical Sources. PM and PM_{2.5} emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO₂ emissions assume 100% conversion of H₂S to SO₂.

^c Flash tank emissions are routed back to inlet slug catcher.

XTO ENERGY INC.
SPARTAN COMPRESSOR STATION
DEHYDRATOR 1-3 VAPORS ROUTED TO REBOILER - SSM

VOC/HAP SSM Emissions for Dehydration Units (DEHY1 - DEHY3) - Routed to RB1 - RB3

Uncontrolled Maximum Hourly Emission Rates and Composition to Combustion Device(s) ^a							
Stream	DEHY1-3 Still Column Emissions		Total Vapors to Combustion Device(s) (Uncontrolled)		Destruction Efficiency	Total Combustion Device(s) Exhaust (controlled) ^d	
	Promax Stream Name	25. DEHY1-3 Max Hourly	13. BTX Cond Vapors to Combustion	(lb/hr)		(ton/yr)	(lb/hr)
Component	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(%)	(lb/hr)	(ton/yr)
Triethylene Glycol	0.00	1.27E-09	0.00	0.00	70%	0.00	0.00
Water	10.60	0.20	10.60	0.20	0%	10.60	0.20
Hydrogen Sulfide	0.13	0.02	0.13	0.02	70%	0.04	0.01
Carbon Dioxide	2.64	0.39	2.64	0.39	0%	2.64	0.39
Nitrogen	0.01	1.43E-03	0.01	0.00	0%	0.01	0.00
Methane	7.98	1.19	7.98	1.19	70%	2.40	0.36
Ethane	16.39	2.41	16.39	2.41	70%	4.92	0.72
Propane	25.83	3.60	25.83	3.60	70%	7.75	1.08
Isobutane	7.36	0.91	7.36	0.91	70%	2.21	0.27
n-Butane	27.59	3.14	27.59	3.14	70%	8.28	0.94
Isopentane	12.66	1.08	12.66	1.08	70%	3.80	0.32
n-Pentane	19.83	1.49	19.83	1.49	70%	5.95	0.45
i-C6	23.80	1.15	23.80	1.15	70%	7.14	0.34
i-C7	18.29	0.45	18.29	0.45	70%	5.49	0.14
Octane	1.87	0.02	1.87	0.02	70%	0.56	0.01
Nonane	0.11	9.60E-04	0.11	0.00	70%	0.03	0.00
Benzene	19.12	0.64	19.12	0.64	70%	5.74	0.19
Toluene	23.82	0.44	23.82	0.44	70%	7.15	0.13
Ethylbenzene	0.23	2.80E-03	0.23	0.00	70%	0.07	0.00
o-Xylene	2.66	0.03	2.66	0.03	70%	0.80	0.01
n-Hexane	12.46	0.48	12.46	0.48	70%	3.74	0.14
2,2,4-Trimethylpentane	0.00	--	0.00	0.00	70%	0.00	0.00
Decanes Plus	0.00	4.76E-06	0.00	0.00	70%	0.00	0.00
Decanes Plus Sat	0.00	--	0.00	0.00	70%	0.00	0.00
Total	233.39	35.01	233.39	17.67	--	79.30	5.72
Total VOC	195.63	13.45	195.63	13.45	--	58.69	4.03
Total HAP	58.29	1.59	58.29	1.59	--	17.49	0.48
Heating Value (Btu/scf)	2,489.25	2,221.84	2,489.25	2,221.84			
Molecular Weight (lb/lbmol)	52.05	44.24	--	--			
Operating Hours (hr/yr)	300	300	--	--			
Mass Flow	233.39 lb/hr	35.01 ton/yr	233.39 lb/hr	35.01 ton/yr			
Volumetric Flow	1,702 scf/hr	1 MMscf/yr	1,702 scf/hr	1 MMscf/yr			
Heat Release (MMBtu/hr)	4.24 MMBtu/hr	1,270.71 MMBtu/yr	4.24 MMBtu/hr	1,270.71 MMBtu/yr			

Criteria Pollutant Emissions Combustion Device(s) ^b			
Component	Emission Rate	Emission Factor	Emission Factor Units
NO _x	0.58	0.138	lb/MMBtu
CO	1.17	0.2755	lb/MMBtu
SO ₂	0.24	--	--
PM ₁₀	0.01	7.60	lb/MMscf
PM _{2.5}	0.01	7.60	lb/MMscf
N ₂ O	0.00	0.00022	lb/MMBtu
H ₂ S	0.04	--	--

Combustion Device Destruction Efficiency C4+	70%
Combustion Device Efficiency C3	70%

H2S molecular weight	34.08
SO2 molecular weight	64.06
Molar Volume (scf/lbmol)	379.484
Reboiler Operating Hours	300

Combustion Emissions from Combustion Device(s)				
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Total NO _x	0.58	0.09	0.58	0.09
Total CO	1.17	0.18	1.17	0.18
Total SO ₂	0.24	0.03	0.24	0.03
Total PM ₁₀	0.013	0.00	0.01	0.00
Total PM _{2.5}	0.01	0.00	0.01	0.00
Total VOC (slip)	58.69	4.03	58.69	4.03
Total HAP (slip)	17.49	0.48	17.49	0.48
Total n-Hexane (slip)	3.74	0.14	3.74	0.14
Total Benzene (slip)	5.74	0.19	5.74	0.19
Total CH ₄	0.74	0.11	0.74	0.11
Total N ₂ O	0.002	0.00	0.00	0.00
Total CO ₂	554.00	35.59	554.00	35.59
Total CO _{2e}	573.09	38.40	573.09	38.40

Footnotes:

- ^a Uncontrolled stream properties determined via ProMax.
- ^b Flare CO and NO_x emission factors from TCEQ Air Permit Technical Guidance for Chemical Sources. PM and PM_{2.5} emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO₂ emissions assume 100% conversion of H₂S to SO₂.
- ^c Flash tank emissions are routed back to inlet slug catcher.
- ^d Condensator Vapors are shown as routed to reboiler during SSM activities.

XTO ENERGY, INC.
 SPARTAN COMPRESSOR STATION
 ROAD EMISSIONS

Total Suspended Particle Emissions	
$E = k(sL/2)^a(W/3)^b$	
a	0.7
b	0.45
k	4.9
Silt %	4.8
Vehicle Weight (tons)	28
E (lbs/VMT)	7.05
Rain Days	70
E-Annual (lbs/VMT)	5.70
Truckloads per year	357
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	68
Control Efficiency - 15 MPH Limit	0.44
Emissions (lbs/hr)	0.60
Emissions (tpy)	0.11

PM₁₀ Emissions	
$E = k(sL/2)^a(W/3)^b$	
a	0.9
b	0.45
k	1.5
Silt %	4.8
Vehicle Weight (tons)	28
E (lbs/VMT)	1.80
Rain Days	70
E-Annual (lbs/VMT)	1.45
Truckloads per day	357
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	68
Control Efficiency - 15 MPH Limit	0.44
Emissions (lbs/hr)	0.15
Emissions (tpy)	0.03

PM_{2.5} Emissions	
$E = k(sL/2)^a(W/3)^b$	
a	0.9
b	0.45
k	0.15
Silt %	4.8
Vehicle Weight (tons)	28
E (lbs/VMT)	0.18
Rain Days	70
E-Annual (lbs/VMT)	0.15
Truckloads per day	357
Driving Distance Per Load (ft)	1000
Annual Distance (miles)	68
Control Efficiency - 15 MPH Limit	0.44
Emissions (lbs/hr)	0.02
Emissions (tpy)	0.00

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, Office of Air Quality Planning and Standards, Research Triangle Park, NC. 5th edition (11/2006).

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
FUGITIVE EMISSIONS

FUGITIVE EMISSIONS CALCULATIONS

Operating Hours:	8760 hours/year
Emission Factor Source:	Standard EFs - EPA-453/R-95-017 Table 2-4
Control Efficiency Source:	None
Emission Buffer (%):	0

Service	Component Type	Count	Emission Factor (lb/hr-source) ^a		Control (%) ^b	Pollutant	Mass Fraction ^c	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (tpy)	Controlled Emissions (lb/hr)	Controlled Emissions (tpy)
			Table 2-4	Table 2-8							
Gas	Valves	720	9.92E-03	5.51E-05	0.0%	VOC	0.319	2.8393	12.4361	2.8393	12.4361
	Pump Seals	0	5.29E-03	7.72E-04	0.0%	H2S	0.000	0.0001	0.0004	0.0001	0.0004
	Connectors	1440	4.41E-04	2.20E-05	0.0%	Benzene	0.001	0.0069	0.0304	0.0069	0.0304
	Flanges	720	8.60E-04	1.26E-05	0.0%	Toluene	0.001	0.0102	0.0449	0.0102	0.0449
	Open-Ended Lines	72	4.41E-03	3.31E-05	0.0%	E-Benzene	0.000	0.0004	0.0020	0.0004	0.0020
	Other	10	1.94E-02	2.65E-04	0.0%	Xylenes	0.001	0.0053	0.0230	0.0053	0.0230
	Relief Valves	0	1.94E-02	2.65E-04	0.0%	n-Hexane	0.011	0.0951	0.4167	0.0951	0.4167
					2,2,4 Trimethylpentane	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy Oil	Valves	0	1.85E-05	1.85E-05	0.0%	VOC	0.978	0.0000	0.0000	0.0000	0.0000
	Pump Seals	0	0.00E+00	0.00E+00	0.0%	H2S	0.000	0.0000	0.0000	0.0000	0.0000
	Connectors	0	1.65E-05	1.65E-05	0.0%	Benzene	0.015	0.0000	0.0000	0.0000	0.0000
	Flanges	0	8.60E-06	8.60E-07	0.0%	Toluene	0.005	0.0000	0.0000	0.0000	0.0000
	Open-Ended Lines	0	3.09E-04	1.59E-05	0.0%	E-Benzene	0.012	0.0000	0.0000	0.0000	0.0000
	Other	0	3.09E-04	7.05E-05	0.0%	Xylenes	0.001	0.0000	0.0000	0.0000	0.0000
	Relief Valves	0	3.09E-04	7.05E-05	0.0%	n-Hexane	0.007	0.0000	0.0000	0.0000	0.0000
					2,2,4 Trimethylpentane	0.085	0.0000	0.0000	0.0000	0.0000	0.0000
Light Oil	Valves	236	5.51E-03	4.19E-05	0.0%	VOC	0.978	1.9625	8.5958	1.9625	8.5958
	Pump Seals	15	2.87E-02	1.12E-03	0.0%	H2S	0.000	0.0000	0.0000	0.0000	0.0000
	Connectors	472	4.63E-04	2.14E-05	0.0%	Benzene	0.015	0.0303	0.1327	0.0303	0.1327
	Flanges	236	2.43E-04	5.29E-06	0.0%	Toluene	0.005	0.0100	0.0438	0.0100	0.0438
	Open-Ended Lines	0	2.87E-03	3.09E-05	0.0%	E-Benzene	0.012	0.0242	0.1058	0.0242	0.1058
	Other	0	1.65E-02	2.43E-04	0.0%	Xylenes	0.001	0.0026	0.0112	0.0026	0.0112
	Relief Valves	0	1.65E-02	2.43E-04	0.0%	n-Hexane	0.007	0.0135	0.0593	0.0135	0.0593
					2,2,4 Trimethylpentane	0.085	0.1713	0.7502	0.1713	0.7502	
Water/Oil	Valves	153	2.16E-04	2.14E-05	0.0%	VOC	0.978	0.2573	1.1272	0.2573	1.1272
	Pump Seals	10	5.29E-05	5.29E-05	0.0%	H2S	0.000	0.0000	0.0000	0.0000	0.0000
	Connectors	306	2.43E-04	2.20E-05	0.0%	Benzene	0.015	0.0040	0.0174	0.0040	0.0174
	Flanges	153	6.39E-06	6.39E-06	0.0%	Toluene	0.005	0.0013	0.0057	0.0013	0.0057
	Open-Ended Lines	0	5.51E-04	7.72E-06	0.0%	E-Benzene	0.012	0.0032	0.0139	0.0032	0.0139
	Other	5	3.09E-02	1.30E-04	0.0%	Xylenes	0.001	0.0003	0.0015	0.0003	0.0015
	Relief Valves	0	3.09E-02	1.30E-04	0.0%	n-Hexane	0.007	0.0018	0.0078	0.0018	0.0078
					2,2,4 Trimethylpentane	0.085	0.0225	0.0984	0.0225	0.0984	

Fugitive Emission Summary

Pollutant	Uncontrolled Emissions		Controlled Emissions	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)
VOC	5.06	22.16	5.06	22.16
HAPs	0.40	1.76	0.40	1.76
H2S	0.00	0.00	0.00	0.00
Benzene	0.04	0.18	0.04	0.18
Toluene	0.02	0.09	0.02	0.09
E-Benzene	0.03	0.12	0.03	0.12
Xylenes	0.01	0.04	0.01	0.04
n-Hexane	0.11	0.48	0.11	0.48
2,2,4 Trimethylpentane	0.19	0.85	0.19	0.85

Footnotes:

^a Factors are taken from EPA Document EPA-453/R-095-017, November 1995, Table 2-4

^b Control efficiencies are taken from EPA Document EPA-453/R-095-017, November 1995, Table 5-2

^c Gas/Vapor based inlet gas. Heavy Oil, Light Oil, and Water/Oil fugitives were based on liquid analysis of inlet separator hydrocarbon liquid.

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
FACILITY INLET GAS ANALYSIS - PROMAX

Gas Composition

Component	Mole %	Weight %
TEG	0.000	0.0000
Water	0.000	0.0000
Hydrogen Sulfide	0.001	0.0010
Carbon Dioxide	0.151	0.2740
Nitrogen	0.641	0.9060
Methane	77.048	51.4490
Ethane	11.244	15.4990
Propane	5.100	11.9380
Isobutane	0.895	2.5270
n-Butane	1.860	6.2590
Isopentane	0.549	2.2310
n-Pentane	0.654	2.6240
Other C-6's	0.612	2.3740
Heptanes	0.525	1.7020
Octanes	0.208	0.5990
Nonanes	0.086	0.2130
Benzene	0.016	0.0780
Toluene	0.039	0.1150
E-Benzene	0.002	0.0050
Xylenes	0.027	0.0590
n-Hexane	0.309	1.0680
2,2,4 Trimethylpentane	0.000	0.0000
Decanes Plus	0.034	0.0800
Decanes Plus Satellite	0.000	0.0000
Total	100.001	100.0010

MOLECULAR WEIGHT	22.48
SATURATED BTU	1351
NMHC (WT%)	47.371
VOCs (WT%)	31.87
HAPs (WT%)	1.33
H2S (MOL%)	0.00

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

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

Global Warming Potentials (GWP):

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

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

Metric to Short Ton Conversion:

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

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

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
COMPRESSOR ENGINES

Greenhouse Gas Emissions Calculations

Source ID	Unit Description	Annual Hours	Rated HP	MMbtu/hp-hr ¹ (HHV)	Engine Data		40 CFR 98 Factors ²											
					g/hp-hr		lb/hr					tpy						
					CO ₂	CH ₄	CO ₂	CH ₄	N ₂ O	CH ₄ as CO ₂ e	N ₂ O as CO ₂ e	CO ₂	CH ₄	N ₂ O	CH ₄ as CO ₂ e	N ₂ O as CO ₂ e	Total CO ₂ e	
ENG1	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.007481	493	0.00221	0.00022	5434.30	0.0825	0.0082	2.06	2.46	23802.25	0.36	0.04	9.03	10.77	23822.05
ENG2	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.007481	493	0.00221	0.00022	5434.30	0.0825	0.0082	2.06	2.46	23802.25	0.36	0.04	9.03	10.77	23822.05
ENG3	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.007481	493	0.00221	0.00022	5434.30	0.0825	0.0082	2.06	2.46	23802.25	0.36	0.04	9.03	10.77	23822.05
ENG4	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.007481	493	0.00221	0.00022	5434.30	0.0825	0.0082	2.06	2.46	23802.25	0.36	0.04	9.03	10.77	23822.05
ENG5	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.007481	493	0.00221	0.00022	5434.30	0.0825	0.0082	2.06	2.46	23802.25	0.36	0.04	9.03	10.77	23822.05
ENG6	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.007481	493	0.00221	0.00022	5434.30	0.0825	0.0082	2.06	2.46	23802.25	0.36	0.04	9.03	10.77	23822.05
ENG7	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.0075	447	0.00221	0.00022	4927.25	0.0827	0.0083	2.07	2.46	21581.35	0.36	0.04	9.03	10.77	21601.15
ENG8	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.0075	447	0.00221	0.00022	4927.25	0.0827	0.0083	2.07	2.46	21581.35	0.36	0.04	9.03	10.77	21601.15
ENG9	Caterpillar G3616 Natural Gas Compressor Engine	8760	5000	0.0075	447	0.00221	0.00022	4927.25	0.0827	0.0083	2.07	2.46	21581.35	0.36	0.04	9.05	10.79	21601.20
ENG11	Caterpillar 3516J TA Natural Gas Compressor Engine	8760	1380	0.007962	530	0.00221	0.00022	1612.43	0.0242	0.0024	0.61	0.72	7062.46	0.11	0.01	2.65	3.16	7068.28
ENG12	Caterpillar 3516J TA Natural Gas Compressor Engine	8760	1380	0.007962	530	0.00221	0.00022	1612.43	0.0242	0.0024	0.61	0.72	7062.46	0.11	0.01	2.65	3.16	7068.28

¹HHV is based on the Fuel Consumption Rate @ 75% Load from the Gas Engine Rating Pro Report
²Warming potential for CH₄ is 25. N₂O is 298.

Total Emissions (TPY)	Total CO ₂ e
	221872.31

XTO ENERGY, INC.
SPARTAN COMPRESSOR STATION
HPF FLARE BLOWDOWN GAS ROUTED TO FLARE (EXAMPLE CALCULATION)

Greenhouse Gas Emissions Sample Calculation

1) $E_{s,CH_4} = V_a * X_{CH_4} * [(1-\eta) * Z_L + Z_U]$ = 10,452.68 SCF/Yr
 $V_a = 951,570.00$
 $X_{CH_4} = 0.54923328$
 $N = 0.98$
 $Z_L = 1.00$
 $Z_U = 0.00$

Source	Annual Volume
17. HPF Blowdowns	951,570.00
Total	951,570.00

2) $E_{s,CO_2} \text{ (uncombusted)} = V_a * X_{CO_2}$ = 2,809.89 SCF/Yr
 $V_a = 951,570.00$
 $X_{CO_2} = 0.0030$

3) $E_{s,CO_2} \text{ (combusted)} = \sum (\eta * V_a * Y_j * R_j * Z_L)$
 $N = 0.98$
 $V_a = 951,570.00$

$Y_j =$	Methane	0.5492	$R_j =$	1	$E_{a,CO_2} =$
	Ethane	0.1502		2	512,181.23
	Propane	0.0999		3	280,195.87
	Butane	0.0712		4	279,562.05
	Pentane +	0.1067		5	265,408.58

 $Z_L = 1.00$
1,834,734.76 SCF/Yr

4) $Mass_{s,i} = E_{s,i} * \rho_i * 10^3$
 $E_{s,i} \text{ (CH}_4\text{)} = 10,452.68$
 $E_{s,i} \text{ (CO}_2\text{)} = 1,837,544.65$
 $p_i \text{ (CH}_4\text{)} = 0.0192 \text{ kg/ft}^3 = 0.20 \text{ metric tons}$
 $p_i \text{ (CO}_2\text{)} = 0.0526 \text{ kg/ft}^3 = 96.65 \text{ metric tons}$

5) $CO_2e = CO_2 + (CH_4 * GWP)$ short tons CO_2e
 $CO_2 = 96.65 = 106.54 \text{ } CO_2e$
 $CH_4 = 0.20 = 0.22 \text{ } CO_2e$
CH4 GWP = 25 112.07

Footnotes:

²Source is 40 CFR § 98.233 (n), 40 CFR § 98.233(v) for CH4 and CO2 mass emissions, 40 CFR § 98.233(z) for N2O mass emissions.

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

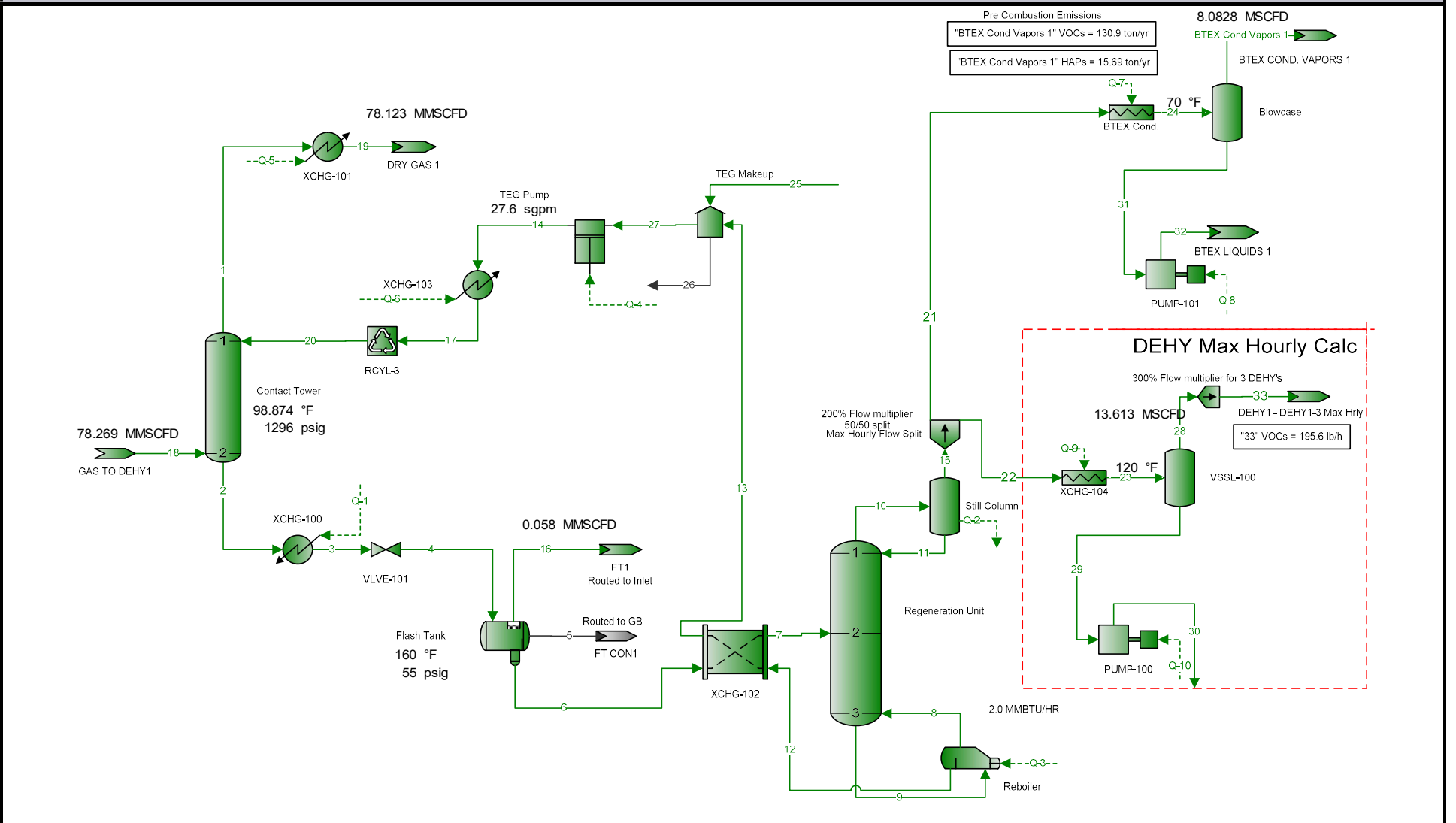
- If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect 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.
-

The Spartan Compressor Station gas inlet composition was from a gas sample of the inlet to the Maverick Compressor Station, which is identical in operation to the Spartan CS.

All supporting documentation is provided in this section.

Dehy 1 Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	



* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	BTEX Cond Vapors 1	1	2	3	4
From Block	Blowcase	Contact Tower	Contact Tower	XCHG-100	VLVE-101
To Block	BTEX COND. VAPORS 1	XCHG-101	XCHG-100	VLVE-101	Flash Tank

Stream Composition

	BTEX Cond Vapors 1	1	2	3	4
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	2.84705E-09	1.4518	15442.7	15442.7	15442.7
Water	0.450577	6.23046	274.358	274.358	274.358
Hydrogen Sulfide	0.0410911	2.90055	0.0680852	0.0680852	0.0680852
Carbon Dioxide	0.870473	575.722	3.23507	3.23507	3.23507
Nitrogen	0.0031847	1561.41	0.261439	0.261439	0.261439
Methane	2.65393	107418	61.0214	61.0214	61.0214
Ethane	5.351	29234.9	41.5367	41.5367	41.5367
Propane	8.01028	19200.3	39.0793	39.0793	39.0793
Isobutane	2.03135	4343.67	9.03324	9.03324	9.03324
n-Butane	6.98469	8878.78	26.756	26.756	26.756
Isopentane	2.40259	3072.57	9.99419	9.99419	9.99419
n-Pentane	3.30874	3550.9	14.708	14.708	14.708
i-C6	2.55199	3386.63	16.1274	16.1274	16.1274
i-C7	1.00713	2311.29	15.1565	15.1565	15.1565
Octane	0.0520159	331.209	3.37407	3.37407	3.37407
Nonane	0.00213516	29.0157	0.377883	0.377883	0.377883
Benzene	1.42186	62.4533	11.1142	11.1142	11.1142
Toluene	0.974053	96.2195	25.0889	25.0889	25.0889
Ethylbenzene	0.00621697	2.09566	0.592284	0.592284	0.592284
o-Xylene	0.0703699	19.2344	7.95838	7.95838	7.95838
n-Hexane	1.06953	1560.62	8.51278	8.51278	8.51278
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.05807E-05	0.247175	0.0145296	0.0145296	0.0145296
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors 1	1	2	3	4
Mole Fraction	%	%	%	%	%
Triethylene Glycol	2.13621E-09	0.000112704	81.5219	81.5219	81.5219
Water	2.81818	0.00403185	12.0731	12.0731	12.0731
Hydrogen Sulfide	0.135856	0.000992191	0.00158375	0.00158375	0.00158375
Carbon Dioxide	2.22869	0.152508	0.0582748	0.0582748	0.0582748
Nitrogen	0.0128098	0.649797	0.00739856	0.00739856	0.00739856
Methane	18.6406	78.0609	3.01547	3.01547	3.01547
Ethane	20.0519	11.3346	1.09511	1.09511	1.09511
Propane	20.4688	5.07621	0.702578	0.702578	0.702578
Isobutane	3.93806	0.871245	0.12321	0.12321	0.12321
n-Butane	13.5408	1.78089	0.364941	0.364941	0.364941
Isopentane	3.75225	0.496477	0.109815	0.109815	0.109815
n-Pentane	5.16742	0.573766	0.16161	0.16161	0.16161
i-C6	3.33685	0.458153	0.148363	0.148363	0.148363
i-C7	1.13253	0.268908	0.119913	0.119913	0.119913
Octane	0.05131	0.0338029	0.0234166	0.0234166	0.0234166
Nonane	0.00187584	0.00263745	0.00233575	0.00233575	0.00233575
Benzene	2.05107	0.00932104	0.112799	0.112799	0.112799
Toluene	1.19119	0.0121744	0.215866	0.215866	0.215866
Ethylbenzene	0.00659839	0.000230126	0.00442275	0.00442275	0.00442275
o-Xylene	0.0746871	0.00211214	0.0594274	0.0594274	0.0594274
n-Hexane	1.39846	0.211126	0.0783126	0.0783126	0.0783126
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.77195E-06	1.87847E-05	7.50882E-05	7.50882E-05	7.50882E-05

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report All Streams Tabulated by Total Phase						
Client Name:	DELAWARE DIVISION			Job:		
Location:	Spartan Compressor Station					
Flowsheet:	Dehy 1					
Mole Fraction	BTEX Cond Vapors 1 %	1 %	2 %	3 %	4 %	
Decanes Plus Sat	0	0	0	0	0	
Mass Fraction	BTEX Cond Vapors 1 %	1 %	2 %	3 %	4 %	
Triethylene Glycol	7.2512E-09	0.000782024	96.4501	96.4501	96.4501	
Water	1.14758	0.00335609	1.71355	1.71355	1.71355	
Hydrogen Sulfide	0.104655	0.00156241	0.000425239	0.000425239	0.000425239	
Carbon Dioxide	2.21702	0.310118	0.0202052	0.0202052	0.0202052	
Nitrogen	0.00811116	0.841069	0.00163286	0.00163286	0.00163286	
Methane	6.75933	57.8619	0.38112	0.38112	0.38112	
Ethane	13.6285	15.7476	0.259425	0.259425	0.259425	
Propane	20.4015	10.3424	0.244077	0.244077	0.244077	
Isobutane	5.17367	2.33975	0.0564187	0.0564187	0.0564187	
n-Butane	17.7894	4.78263	0.16711	0.16711	0.16711	
Isopentane	6.11919	1.65507	0.0624206	0.0624206	0.0624206	
n-Pentane	8.42707	1.91272	0.0918614	0.0918614	0.0918614	
i-C6	6.49969	1.82424	0.100727	0.100727	0.100727	
i-C7	2.56508	1.245	0.0946626	0.0946626	0.0946626	
Octane	0.13248	0.178409	0.0210734	0.0210734	0.0210734	
Nonane	0.00543806	0.0156295	0.00236014	0.00236014	0.00236014	
Benzene	3.62136	0.033641	0.0694157	0.0694157	0.0694157	
Toluene	2.48083	0.0518295	0.156698	0.156698	0.156698	
Ethylbenzene	0.0158341	0.00112885	0.00369922	0.00369922	0.00369922	
o-Xylene	0.179226	0.0103608	0.0497056	0.0497056	0.0497056	
n-Hexane	2.724	0.840644	0.0531682	0.0531682	0.0531682	
2,2,4-Trimethylpentane	0	0	0	0	0	
Decanes Plus	2.69481E-05	0.000133143	9.07473E-05	9.07473E-05	9.07473E-05	
Decanes Plus Sat	0	0	0	0	0	
Stream Properties						
Property	Units	BTEX Cond Vapors 1	1	2	3	4
Temperature	°F	70	99.0828	99.5987	155 *	159.551
Pressure	psig	0	1291	1296	1286	60 *
Molecular Weight	lb/lbmol	44.2412	21.6427	126.93	126.93	126.93
Mass Flow	lb/h	39.2632	185646	16011.1	16011.1	16011.1
Std Vapor Volumetric Flow	MMSCFD	0.00808285	78.123	1.14885	1.14885	1.14885
Std Liquid Volumetric Flow	sgpm	0.151411	1051.2	29.1142	29.1142	29.1142
API Gravity				-3.23778	-3.23599	
Net Ideal Gas Heating Value	Btu/ft ³	2222.12	1176.43	3199.06	3199.06	3199.06
Remarks						

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	5	6	7	8	9
From Block	Flash Tank	Flash Tank	XCHG-102	Reboiler	Regeneration Unit
To Block	FT CON1	XCHG-102	Regeneration Unit	Regeneration Unit	Reboiler

Stream Composition

Mass Flow	5 lb/h	6 lb/h	7 lb/h	8 lb/h	9 lb/h
Triethylene Glycol	0	15442.7	15442.7	235.875	15678.3
Water	0	273.608	273.608	315.25	445.051
Hydrogen Sulfide	0	0.0434527	0.0434527	0.000264153	0.000272909
Carbon Dioxide	0	0.884842	0.884842	0.000408987	0.000413507
Nitrogen	0	0.00318758	0.00318758	1.35613E-08	1.35838E-08
Methane	0	2.66389	2.66389	7.14339E-05	7.16867E-05
Ethane	0	5.48953	5.48953	0.000785226	0.00079081
Propane	0	8.72818	8.72818	0.00321741	0.00325176
Isobutane	0	2.53723	2.53723	0.00153567	0.00155644
n-Butane	0	9.65568	9.65568	0.00951401	0.00966845
Isopentane	0	4.69455	4.69455	0.00918287	0.00938779
n-Pentane	0	7.56043	7.56043	0.0185978	0.0190494
i-C6	0	10.2998	10.2998	0.0901733	0.0944583
i-C7	0	11.0619	11.0619	0.0973696	0.101479
Octane	0	2.88262	2.88262	0.067358	0.0714866
Nonane	0	0.344105	0.344105	0.0157531	0.0170601
Benzene	0	10.6949	10.6949	1.77386	2.02529
Toluene	0	24.5575	24.5575	8.11413	9.70666
Ethylbenzene	0	0.584598	0.584598	0.322719	0.409303
o-Xylene	0	7.88386	7.88386	5.62065	7.41455
n-Hexane	0	5.83944	5.83944	0.065208	0.0686576
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0	0.0142906	0.0142906	0.00647329	0.00797337
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol		85.8536	85.8536	8.16336	80.7343
Water		12.6799	12.6799	90.948	19.1038
Hydrogen Sulfide		0.00106447	0.00106447	4.02832E-05	6.19238E-06
Carbon Dioxide		0.016786	0.016786	4.82994E-05	7.26586E-06
Nitrogen		9.49998E-05	9.49998E-05	2.51602E-09	3.74978E-10
Methane		0.138635	0.138635	2.31426E-05	3.45556E-06
Ethane		0.15242	0.15242	0.000135723	2.03378E-05
Propane		0.165255	0.165255	0.000379218	5.7026E-05
Isobutane		0.0364456	0.0364456	0.00013732	2.07081E-05
n-Butane		0.138697	0.138697	0.000850747	0.000128637
Isopentane		0.054324	0.054324	0.000661497	0.00010062
n-Pentane		0.0874873	0.0874873	0.00133971	0.000204175
i-C6		0.0997868	0.0997868	0.00543843	0.000847632
i-C7		0.0921684	0.0921684	0.0050504	0.000783162
Octane		0.0210688	0.0210688	0.00306474	0.00048395
Nonane		0.00223998	0.00223998	0.000638367	0.000102862
Benzene		0.114311	0.114311	0.118027	0.0200503
Toluene		0.222521	0.222521	0.457699	0.0814665
Ethylbenzene		0.0045973	0.0045973	0.0157987	0.00298136
o-Xylene		0.0619991	0.0619991	0.275159	0.0540075
n-Hexane		0.0565738	0.0565738	0.00393275	0.000616106
2,2,4-Trimethylpentane		0	0	0	0
Decanes Plus		7.77774E-05	7.77774E-05	0.00021932	4.01945E-05
Decanes Plus Sat		0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Mass Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol		97.5365	97.5365	41.5754	97.1195
Water		1.72812	1.72812	55.5661	2.75687
Hydrogen Sulfide		0.000274449	0.000274449	4.65598E-05	1.69054E-06
Carbon Dioxide		0.00558869	0.00558869	7.20882E-05	2.56147E-06
Nitrogen		2.01329E-05	2.01329E-05	2.39032E-09	8.41449E-11
Methane		0.0168252	0.0168252	1.2591E-05	4.44064E-07
Ethane		0.0346721	0.0346721	0.000138404	4.89868E-06
Propane		0.0551275	0.0551275	0.000567101	2.0143E-05
Isobutane		0.0160252	0.0160252	0.000270678	9.64139E-06
n-Butane		0.0609856	0.0609856	0.00167694	5.98913E-05
Isopentane		0.0296509	0.0296509	0.00161858	5.81527E-05
n-Pentane		0.0477519	0.0477519	0.00327806	0.000118002
i-C6		0.0650539	0.0650539	0.015894	0.000585123
i-C7		0.0698675	0.0698675	0.0171624	0.000628614
Octane		0.0182067	0.0182067	0.0118726	0.000442824
Nonane		0.00217338	0.00217338	0.00277665	0.000105679
Benzene		0.0675496	0.0675496	0.312662	0.0125457
Toluene		0.155106	0.155106	1.4302	0.0601279
Ethylbenzene		0.00369234	0.00369234	0.0568825	0.00253543
o-Xylene		0.0497948	0.0497948	0.990698	0.0459295
n-Hexane		0.0368821	0.0368821	0.0114936	0.0004253
2,2,4-Trimethylpentane		0	0	0	0
Decanes Plus		9.02601E-05	9.02601E-05	0.00114098	4.93911E-05
Decanes Plus Sat		0	0	0	0

Stream Properties

Property	Units	5	6	7	8	9
Temperature	°F		159.542	290 *	395 *	311.316
Pressure	psig	55	55	35 *	0.5	0.5
Molecular Weight	lb/lbmol		132.185	132.185	29.4866	124.837
Mass Flow	lb/h	0	15832.7	15832.7	567.342	16143.3
Std Vapor Volumetric Flow	MMSCFD	0	1.09088	1.09088	0.175237	1.17775
Std Liquid Volumetric Flow	sgpm	0	28.2326	28.2326	1.08485	28.6818
API Gravity			-5.71004			-6.13036
Net Ideal Gas Heating Value	Btu/ft ³		3290.42	3290.42	347.555	3056.36

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	10	11	12	13	14
From Block	Regeneration Unit	Still Column	Reboiler	XCHG-102	TEG Pump
To Block	Still Column	Regeneration Unit	XCHG-102	TEG Makeup	XCHG-103

Stream Composition

Mass Flow	10 lb/h	11 lb/h	12 lb/h	13 lb/h	14 lb/h
Triethylene Glycol	8.31625	8.08633	15442.4	15442.4	15444.2
Water	145.846	2.03867	129.801	129.801	129.802
Hydrogen Sulfide	0.0434489	4.90915E-06	8.756E-06	8.756E-06	8.756E-06
Carbon Dioxide	0.884862	2.48872E-05	4.52035E-06	4.52035E-06	4.52035E-06
Nitrogen	0.00318758	4.75727E-09	2.24874E-11	2.24874E-11	0
Methane	2.6639	1.12574E-05	2.52867E-07	2.52867E-07	0
Ethane	5.48958	5.72814E-05	5.58438E-06	5.58438E-06	5.58438E-06
Propane	8.72829	0.000147208	3.43517E-05	3.43517E-05	3.43517E-05
Isobutane	2.53726	4.98468E-05	2.077E-05	2.077E-05	2.077E-05
n-Butane	9.65581	0.000285517	0.000154439	0.000154439	0.000154439
Isopentane	4.69453	0.000183519	0.000204921	0.000204921	0.000204921
n-Pentane	7.56031	0.000333947	0.000451612	0.000451612	0.000451612
i-C6	10.2963	0.000773452	0.00428502	0.00428502	0.00428502
i-C7	11.0587	0.000877296	0.00410976	0.00410976	0.00410976
Octane	2.87891	0.000418592	0.00412856	0.00412856	0.00412856
Nonane	0.342862	6.4137E-05	0.00130695	0.00130695	0.00130695
Benzene	10.4523	0.00881993	0.251432	0.251432	0.251432
Toluene	22.9965	0.0315084	1.59253	1.59253	1.59253
Ethylbenzene	0.499005	0.000991586	0.0865847	0.0865847	0.0865847
o-Xylene	6.10632	0.0163612	1.7939	1.7939	1.7939
n-Hexane	5.83646	0.000469342	0.00344962	0.00344962	0.00344962
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0128123	2.17349E-05	0.00150008	0.00150008	0.00150008
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	10 %	11 %	12 %	13 %	14 %
Triethylene Glycol	0.561079	32.1137	93.4195	93.4195	93.4201
Water	82.0239	67.4894	6.54562	6.54562	6.54498
Hydrogen Sulfide	0.0129168	8.59066E-05	2.33404E-07	2.33404E-07	2.33379E-07
Carbon Dioxide	0.203712	0.000337257	9.33123E-08	9.33123E-08	9.33024E-08
Nitrogen	0.00115288	1.0128E-07	7.29267E-13	7.29267E-13	0
Methane	1.68242	0.000418504	1.43197E-08	1.43197E-08	0
Ethane	1.84973	0.00113612	1.68721E-07	1.68721E-07	1.68703E-07
Propane	2.0055	0.00199098	7.07727E-07	7.07727E-07	7.07652E-07
Isobutane	0.442294	0.000511477	3.24644E-07	3.24644E-07	3.24609E-07
n-Butane	1.6832	0.00292969	2.41395E-06	2.41395E-06	2.41369E-06
Isopentane	0.659251	0.00151699	2.5803E-06	2.5803E-06	2.58003E-06
n-Pentane	1.06169	0.00276045	5.68655E-06	5.68655E-06	5.68595E-06
i-C6	1.21056	0.0053528	4.51734E-05	4.51734E-05	4.51686E-05
i-C7	1.11819	0.00522157	3.72609E-05	3.72609E-05	3.72569E-05
Octane	0.255353	0.00218548	3.2835E-05	3.2835E-05	3.28315E-05
Nonane	0.0270852	0.000298239	9.25759E-06	9.25759E-06	9.25661E-06
Benzene	1.35576	0.0673409	0.00292427	0.00292427	0.00292396
Toluene	2.52877	0.203947	0.0157021	0.0157021	0.0157005
Ethylbenzene	0.0476224	0.00557032	0.000740923	0.000740923	0.000740844
o-Xylene	0.582756	0.0919106	0.0153508	0.0153508	0.0153492
n-Hexane	0.686206	0.00324816	3.63665E-05	3.63665E-05	3.63626E-05
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000846232	8.45013E-05	8.88387E-06	8.88387E-06	8.88293E-06
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Mass Fraction	10 %	11 %	12 %	13 %	14 %
Triethylene Glycol	3.11583	79.3836	99.1426	99.1426	99.1427
Water	54.6436	20.0136	0.833341	0.833341	0.833255
Hydrogen Sulfide	0.0162789	4.81932E-05	5.62147E-08	5.62147E-08	5.62084E-08
Carbon Dioxide	0.331529	0.000244318	2.90213E-08	2.90213E-08	2.9018E-08
Nitrogen	0.00119428	4.67022E-08	1.44372E-13	1.44372E-13	0
Methane	0.998076	0.000110514	1.62344E-09	1.62344E-09	0
Ethane	2.05677	0.000562332	3.58525E-08	3.58525E-08	3.58485E-08
Propane	3.27021	0.00144514	2.20543E-07	2.20543E-07	2.20518E-07
Isobutane	0.950628	0.000489347	1.33346E-07	1.33346E-07	1.33331E-07
n-Butane	3.61772	0.00280293	9.9152E-07	9.9152E-07	9.91409E-07
Isopentane	1.75889	0.00180161	1.31562E-06	1.31562E-06	1.31547E-06
n-Pentane	2.8326	0.00327836	2.89941E-06	2.89941E-06	2.89908E-06
i-C6	3.85768	0.00759298	2.75104E-05	2.75104E-05	2.75073E-05
i-C7	4.14333	0.00861242	2.63852E-05	2.63852E-05	2.63823E-05
Octane	1.07863	0.00410932	2.65059E-05	2.65059E-05	2.65029E-05
Nonane	0.128459	0.000629634	8.39081E-06	8.39081E-06	8.38987E-06
Benzene	3.91615	0.0865853	0.00161423	0.00161423	0.00161405
Toluene	8.61604	0.309319	0.0102242	0.0102242	0.0102231
Ethylbenzene	0.186961	0.00973441	0.000555886	0.000555886	0.000555824
o-Xylene	2.28784	0.160618	0.0115171	0.0115171	0.0115158
n-Hexane	2.18673	0.00460753	2.2147E-05	2.2147E-05	2.21446E-05
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00480035	0.000213372	9.63072E-06	9.63072E-06	9.62964E-06
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	10	11	12	13	14
Temperature	°F	290.846	215 *	395	269.234	270.291
Pressure	psig	0	0	0.5	0.5 *	1315 *
Molecular Weight	lb/lbmol	27.0422	60.7508	141.504	141.504	141.505
Mass Flow	lb/h	266.903	10.1864	15576	15576	15577.7
Std Vapor Volumetric Flow	MMSCFD	0.0898911	0.00152712	1.00252	1.00252	1.00262
Std Liquid Volumetric Flow	sgpm	0.654177	0.018529	27.5969	27.5969	27.6
API Gravity			-4.53746	-6.7351	-6.7351	-6.91889
Net Ideal Gas Heating Value	Btu/ft^3	585.138	1229.96	3529.85	3529.85	3529.87

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	15	16	17	18	19
From Block	Still Column	Flash Tank	XCHG-103	GAS TO DEHY1	XCHG-101
To Block	Max Hourly Flow Split	FT1	RCYL-3	Contact Tower	DRY GAS 1

Stream Composition

Mass Flow	15 lb/h	16 lb/h	17 lb/h	18 lb/h	19 lb/h
Triethylene Glycol	0.229918	0.010583	15444.2	7.94199E-20	1.4518
Water	143.807	0.750143	129.802	150.788	6.23046
Hydrogen Sulfide	0.0434439	0.0246325	8.756E-06	2.96863	2.90055
Carbon Dioxide	0.884837	2.35023	4.52035E-06	578.957	575.722
Nitrogen	0.00318758	0.258251	0	1561.67	1561.41
Methane	2.66389	58.3575	0	107479	107418
Ethane	5.48953	36.0472	5.58438E-06	29276.4	29234.9
Propane	8.72815	30.3511	3.43517E-05	19239.4	19200.3
Isobutane	2.53721	6.49601	2.077E-05	4352.7	4343.67
n-Butane	9.65552	17.1004	0.000154439	8905.53	8878.78
Isopentane	4.69434	5.29965	0.000204921	3082.57	3072.57
n-Pentane	7.55998	7.14755	0.000451612	3565.61	3550.9
i-C6	10.2955	5.8276	0.00428502	3402.75	3386.63
i-C7	11.0578	4.09456	0.00410976	2326.44	2311.29
Octane	2.87849	0.491456	0.00412856	334.579	331.209
Nonane	0.342798	0.0337787	0.00130695	29.3922	29.0157
Benzene	10.4435	0.41926	0.251432	73.3127	62.4533
Toluene	22.965	0.531422	1.59253	119.695	96.2195
Ethylbenzene	0.498013	0.00768648	0.0865847	2.60037	2.09566
o-Xylene	6.08996	0.0745228	1.7939	25.3838	19.2344
n-Hexane	5.83599	2.67335	0.00344962	1569.13	1560.62
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0127905	0.000238971	0.00150008	0.260195	0.247175
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	15 %	16 %	17 %	18 %	19 %
Triethylene Glycol	0.0157802	0.00110729	93.4201	6.15391E-24	0.000112704
Water	82.2751	0.654258	6.54498	0.0973958	0.00403185
Hydrogen Sulfide	0.0131386	0.0113565	2.33379E-07	0.00101358	0.000992191
Carbon Dioxide	0.207227	0.839093	9.33024E-08	0.153078	0.152508
Nitrogen	0.0011728	0.144851	0	0.648691	0.649797
Methane	1.71149	57.1573	0	77.9593	78.0609
Ethane	1.88168	18.8364	1.68703E-07	11.3295	11.3346
Propane	2.04012	10.815	7.07652E-07	5.07704	5.07621
Isobutane	0.449929	1.75611	3.24609E-07	0.871425	0.871245
n-Butane	1.71224	4.62284	2.41369E-06	1.78292	1.78089
Isopentane	0.670618	1.15415	2.58003E-06	0.497161	0.496477
n-Pentane	1.07999	1.55659	5.68595E-06	0.575066	0.573766
i-C6	1.23139	1.06256	4.51686E-05	0.459474	0.458153
i-C7	1.13742	0.642062	3.72569E-05	0.270165	0.268908
Octane	0.259729	0.0676014	3.28315E-05	0.034083	0.0338029
Nonane	0.0275482	0.00413823	9.25661E-06	0.00266668	0.00263745
Benzene	1.37803	0.084336	0.00292396	0.0109213	0.00932104
Toluene	2.56895	0.0906244	0.0157005	0.0151165	0.0121744
Ethylbenzene	0.0483492	0.00113761	0.000740844	0.000285015	0.000230126
o-Xylene	0.591238	0.0110295	0.0153492	0.00278221	0.00211214
n-Hexane	0.698009	0.487437	3.63626E-05	0.21188	0.211126
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000859396	2.44774E-05	8.88293E-06	1.97373E-05	1.87847E-05
Decanes Plus Sat	0	0	0	0	0

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Mass Fraction	15	16	17	18	19
	%	%	%	%	%
Triethylene Glycol	0.0895611	0.00593391	99.1427	4.26806E-23	0.000782024
Water	56.0177	0.420609	0.833255	0.0810343	0.00335609
Hydrogen Sulfide	0.0169229	0.0138116	5.62084E-08	0.00159535	0.00156241
Carbon Dioxide	0.344675	1.31778	2.9018E-08	0.311134	0.310118
Nitrogen	0.00124167	0.144802	0	0.839251	0.841069
Methane	1.03768	32.7213	0	57.7599	57.8619
Ethane	2.13836	20.2118	3.58485E-08	15.7333	15.7476
Propane	3.39991	17.018	2.20518E-07	10.3394	10.3424
Isobutane	0.988329	3.64234	1.33331E-07	2.33916	2.33975
n-Butane	3.76116	9.58824	9.91409E-07	4.78587	4.78263
Isopentane	1.82861	2.97153	1.31547E-06	1.65659	1.65507
n-Pentane	2.94487	4.00766	2.89908E-06	1.91617	1.91272
i-C6	4.01045	3.26756	2.75073E-05	1.82865	1.82424
i-C7	4.3074	2.29584	2.63823E-05	1.25024	1.245
Octane	1.12127	0.275561	2.65029E-05	0.179804	0.178409
Nonane	0.133532	0.0189399	8.38987E-06	0.0157955	0.0156295
Benzene	4.0681	0.235081	0.00161405	0.0393986	0.033641
Toluene	8.94565	0.297971	0.0102231	0.0643249	0.0518295
Ethylbenzene	0.193993	0.00430984	0.000555824	0.00139745	0.00112885
o-Xylene	2.37225	0.0417853	0.0115158	0.0136414	0.0103608
n-Hexane	2.27332	1.49896	2.21446E-05	0.843259	0.840644
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00498236	0.000133992	9.62964E-06	0.00013983	0.000133143
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	15	16	17	18	19
Temperature	°F	215	159.542	95 *	98.8743	90 *
Pressure	psig	0	55	1305	1296	1286
Molecular Weight	lb/lbmol	26.4596	28.0228	141.505	21.6527	21.6427
Mass Flow	lb/h	256.717	178.347	15577.7	186080	185646
Std Vapor Volumetric Flow	MMSCFD	0.088364	0.0579641	1.00262	78.2692	78.123
Std Liquid Volumetric Flow	sgpm	0.635648	0.881668	27.6	1052.72	1051.2
API Gravity				-6.9175		
Net Ideal Gas Heating Value	Btu/ft ³	573.994	1479.77	3529.87	1175.97	1176.43

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	20	21	22	23	24
From Block	RCYL-3	Max Hourly Flow Split	Max Hourly Flow Split	XCHG-104	BTEX Cond.
To Block	Contact Tower	BTEX Cond.	XCHG-104	VSSL-100	Blowcase

Stream Composition

	20 lb/h	21 lb/h	22 lb/h	23 lb/h	24 lb/h
Triethylene Glycol	15444.1	0.229918	0.229918	0.229918	0.229918
Water	129.8	143.807	143.807	143.807	143.807
Hydrogen Sulfide	8.87997E-06	0.0434439	0.0434439	0.0434439	0.0434439
Carbon Dioxide	3.84591E-06	0.884837	0.884837	0.884837	0.884837
Nitrogen	0	0.00318758	0.00318758	0.00318758	0.00318758
Methane	0	2.66389	2.66389	2.66389	2.66389
Ethane	5.66926E-06	5.48953	5.48953	5.48953	5.48953
Propane	3.4872E-05	8.72815	8.72815	8.72815	8.72815
Isobutane	2.10852E-05	2.53721	2.53721	2.53721	2.53721
n-Butane	0.000156743	9.65552	9.65552	9.65552	9.65552
Isopentane	0.000207986	4.69434	4.69434	4.69434	4.69434
n-Pentane	0.000458386	7.55998	7.55998	7.55998	7.55998
i-C6	0.00434954	10.2955	10.2955	10.2955	10.2955
i-C7	0.00417288	11.0578	11.0578	11.0578	11.0578
Octane	0.00419419	2.87849	2.87849	2.87849	2.87849
Nonane	0.00132876	0.342798	0.342798	0.342798	0.342798
Benzene	0.254742	10.4435	10.4435	10.4435	10.4435
Toluene	1.61305	22.965	22.965	22.965	22.965
Ethylbenzene	0.0875745	0.498013	0.498013	0.498013	0.498013
o-Xylene	1.80893	6.08996	6.08996	6.08996	6.08996
n-Hexane	0.00350209	5.83599	5.83599	5.83599	5.83599
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00150983	0.0127905	0.0127905	0.0127905	0.0127905
Decanes Plus Sat	0	0	0	0	0

	20 %	21 %	22 %	23 %	24 %
Triethylene Glycol	93.4198	0.0157802	0.0157802	0.0157802	0.0157802
Water	6.54489	82.2751	82.2751	82.2751	82.2751
Hydrogen Sulfide	2.36683E-07	0.0131386	0.0131386	0.0131386	0.0131386
Carbon Dioxide	7.93816E-08	0.207227	0.207227	0.207227	0.207227
Nitrogen	0	0.0011728	0.0011728	0.0011728	0.0011728
Methane	0	1.71149	1.71149	1.71149	1.71149
Ethane	1.71267E-07	1.88168	1.88168	1.88168	1.88168
Propane	7.18371E-07	2.04012	2.04012	2.04012	2.04012
Isobutane	3.29536E-07	0.449929	0.449929	0.449929	0.449929
n-Butane	2.44971E-06	1.71224	1.71224	1.71224	1.71224
Isopentane	2.61862E-06	0.670618	0.670618	0.670618	0.670618
n-Pentane	5.77125E-06	1.07999	1.07999	1.07999	1.07999
i-C6	4.58487E-05	1.23139	1.23139	1.23139	1.23139
i-C7	3.78292E-05	1.13742	1.13742	1.13742	1.13742
Octane	3.33535E-05	0.259729	0.259729	0.259729	0.259729
Nonane	9.41106E-06	0.0275482	0.0275482	0.0275482	0.0275482
Benzene	0.00296245	1.37803	1.37803	1.37803	1.37803
Toluene	0.0159028	2.56895	2.56895	2.56895	2.56895
Ethylbenzene	0.000749313	0.0483492	0.0483492	0.0483492	0.0483492
o-Xylene	0.0154777	0.591238	0.591238	0.591238	0.591238
n-Hexane	3.69157E-05	0.698009	0.698009	0.698009	0.698009
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	8.94069E-06	0.000859396	0.000859396	0.000859396	0.000859396
Decanes Plus Sat	0	0	0	0	0

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? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Mass Fraction	20 %	21 %	22 %	23 %	24 %
Triethylene Glycol	99.1425	0.0895611	0.0895611	0.0895611	0.0895611
Water	0.833243	56.0177	56.0177	56.0177	56.0177
Hydrogen Sulfide	5.70043E-08	0.0169229	0.0169229	0.0169229	0.0169229
Carbon Dioxide	2.46885E-08	0.344675	0.344675	0.344675	0.344675
Nitrogen	0	0.00124167	0.00124167	0.00124167	0.00124167
Methane	0	1.03768	1.03768	1.03768	1.03768
Ethane	3.63934E-08	2.13836	2.13836	2.13836	2.13836
Propane	2.23858E-07	3.39991	3.39991	3.39991	3.39991
Isobutane	1.35355E-07	0.988329	0.988329	0.988329	0.988329
n-Butane	1.0062E-06	3.76116	3.76116	3.76116	3.76116
Isopentane	1.33515E-06	1.82861	1.82861	1.82861	1.82861
n-Pentane	2.94258E-06	2.94487	2.94487	2.94487	2.94487
i-C6	2.79215E-05	4.01045	4.01045	4.01045	4.01045
i-C7	2.67875E-05	4.3074	4.3074	4.3074	4.3074
Octane	2.69243E-05	1.12127	1.12127	1.12127	1.12127
Nonane	8.52986E-06	0.133532	0.133532	0.133532	0.133532
Benzene	0.0016353	4.0681	4.0681	4.0681	4.0681
Toluene	0.0103548	8.94565	8.94565	8.94565	8.94565
Ethylbenzene	0.000562177	0.193993	0.193993	0.193993	0.193993
o-Xylene	0.0116123	2.37225	2.37225	2.37225	2.37225
n-Hexane	2.24814E-05	2.27332	2.27332	2.27332	2.27332
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.69227E-06	0.00498236	0.00498236	0.00498236	0.00498236
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	20	21	22	23	24
Temperature	°F	95	215	215	120 *	70 *
Pressure	psig	1305	0	0	0	0
Molecular Weight	lb/lbmol	141.505	26.4596	26.4596	26.4596	26.4596
Mass Flow	lb/h	15577.7	256.717	256.717	256.717	256.717
Std Vapor Volumetric Flow	MMSCFD	1.00262	0.088364	0.088364	0.088364	0.088364
Std Liquid Volumetric Flow	sgpm	27.6	0.635648	0.635648	0.635648	0.635648
API Gravity		-6.91737				
Net Ideal Gas Heating Value	Btu/ft ³	3529.88	573.994	573.994	573.994	573.994

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	25	26	27	28	29
From Block	--	TEG Makeup	TEG Makeup	VSSL-100	VSSL-100
To Block	TEG Makeup	--	TEG Pump	300% Flow multiplier for 3 DEHY's	PUMP-100

Stream Composition

Mass Flow	25 lb/h	26 lb/h	27 lb/h	28 lb/h	29 lb/h
Triethylene Glycol	1.74196 *	0	15444.2	3.23092E-07	0.229918
Water	0.00105011 *	0	129.802	3.53446	140.272
Hydrogen Sulfide	0 *	0	8.756E-06	0.0428876	0.00055637
Carbon Dioxide	0 *	0	4.52035E-06	0.881332	0.00350512
Nitrogen	0 *	0	0	0.00318678	8.00171E-07
Methane	0 *	0	0	2.66146	0.00242261
Ethane	0 *	0	5.58438E-06	5.46313	0.026398
Propane	0 *	0	3.43517E-05	8.60849	0.119654
Isobutane	0 *	0	2.077E-05	2.45277	0.0844407
n-Butane	0 *	0	0.000154439	9.19779	0.457729
Isopentane	0 *	0	0.000204921	4.22155	0.472791
n-Pentane	0 *	0	0.000451612	6.60845	0.951523
i-C6	0 *	0	0.00428502	7.93284	2.36267
i-C7	0 *	0	0.00410976	6.09824	4.95957
Octane	0 *	0	0.00412856	0.623303	2.25519
Nonane	0 *	0	0.00130695	0.0353476	0.30745
Benzene	0 *	0	0.251432	6.37475	4.06875
Toluene	0 *	0	1.59253	7.93939	15.0256
Ethylbenzene	0 *	0	0.0865847	0.077411	0.420602
o-Xylene	0 *	0	1.7939	0.887321	5.20264
n-Hexane	0 *	0	0.00344962	4.15202	1.68397
2,2,4-Trimethylpentane	0 *	0	0	0	0
Decanes Plus	0 *	0	0.00150008	0.000235221	0.0125553
Decanes Plus Sat	0 *	0	0	0	0

Mole Fraction	25 %	26 %	27 %	28 %	29 %
Triethylene Glycol	99.5 *	93.4195	93.4201	1.43944E-07	0.0186538
Water	0.5 *	6.54562	6.54498	13.1263	94.8676
Hydrogen Sulfide	0 *	2.33404E-07	2.33379E-07	0.0841939	0.000198902
Carbon Dioxide	0 *	9.33123E-08	9.33024E-08	1.33984	0.000970383
Nitrogen	0 *	7.29267E-13	0	0.00761108	3.48019E-07
Methane	0 *	1.43197E-08	0	11.0997	0.00183992
Ethane	0 *	1.68721E-07	1.68703E-07	12.1558	0.0106964
Propane	0 *	7.07727E-07	7.07652E-07	13.0615	0.0330611
Isobutane	0 *	3.24644E-07	3.24609E-07	2.82341	0.0177009
n-Butane	0 *	2.41395E-06	2.41369E-06	10.5877	0.0959516
Isopentane	0 *	2.5803E-06	2.58003E-06	3.91474	0.079841
n-Pentane	0 *	5.68655E-06	5.68595E-06	6.12817	0.160686
i-C6	0 *	4.51734E-05	4.51686E-05	6.15894	0.334046
i-C7	0 *	3.72609E-05	3.72569E-05	4.07182	0.603051
Octane	0 *	3.2835E-05	3.28315E-05	0.365077	0.240544
Nonane	0 *	9.25759E-06	9.25661E-06	0.0184393	0.029207
Benzene	0 *	0.00292427	0.00292396	5.46017	0.634644
Toluene	0 *	0.0157021	0.0157005	5.7651	1.98691
Ethylbenzene	0 *	0.000740923	0.000740844	0.0487844	0.0482699
o-Xylene	0 *	0.0153508	0.0153492	0.55919	0.597075
n-Hexane	0 *	3.63665E-05	3.63626E-05	3.22356	0.238088
2,2,4-Trimethylpentane	0 *	0	0	0	0
Decanes Plus	0 *	8.88387E-06	8.88293E-06	0.000102591	0.000997216
Decanes Plus Sat	0 *	0	0	0	0

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Mass Fraction	25 %	26 %	27 %	28 %	29 %
Triethylene Glycol	99.9398 *	99.1426	99.1427	4.15305E-07	0.128503
Water	0.0602469 *	0.833341	0.833255	4.54321	78.3994
Hydrogen Sulfide	0 *	5.62147E-08	5.62084E-08	0.055128	0.00031096
Carbon Dioxide	0 *	2.90213E-08	2.9018E-08	1.13287	0.00195904
Nitrogen	0 *	1.44372E-13	0	0.00409631	4.47222E-07
Methane	0 *	1.62344E-09	0	3.42106	0.00135401
Ethane	0 *	3.58525E-08	3.58485E-08	7.02234	0.0147541
Propane	0 *	2.20543E-07	2.20518E-07	11.0654	0.0668755
Isobutane	0 *	1.33346E-07	1.33331E-07	3.1528	0.0471946
n-Butane	0 *	9.9152E-07	9.91409E-07	11.8229	0.255828
Isopentane	0 *	1.31562E-06	1.31547E-06	5.42641	0.264246
n-Pentane	0 *	2.89941E-06	2.89908E-06	8.49455	0.531814
i-C6	0 *	2.75104E-05	2.75073E-05	10.1969	1.32051
i-C7	0 *	2.63852E-05	2.63823E-05	7.83872	2.77194
Octane	0 *	2.65059E-05	2.65029E-05	0.801198	1.26044
Nonane	0 *	8.39081E-06	8.38987E-06	0.0454361	0.171836
Benzene	0 *	0.00161423	0.00161405	8.19415	2.27405
Toluene	0 *	0.0102242	0.0102231	10.2053	8.39792
Ethylbenzene	0 *	0.000555886	0.000555824	0.0995046	0.235078
o-Xylene	0 *	0.0115171	0.0115158	1.14057	2.9078
n-Hexane	0 *	2.2147E-05	2.21446E-05	5.33703	0.941183
2,2,4-Trimethylpentane	0 *	0	0	0	0
Decanes Plus	0 *	9.63072E-06	9.62964E-06	0.000302355	0.00701727
Decanes Plus Sat	0 *	0	0	0	0

Stream Properties

Property	Units	25	26	27	28	29
Temperature	°F	85 *		269.215	120	120
Pressure	psig	0.5 *	0.5	0.5	0	0
Molecular Weight	lb/lbmol	149.512	141.504	141.505	52.0498	21.7995
Mass Flow	lb/h	1.74301	0	15577.7	77.7964	178.92
Std Vapor Volumetric Flow	MMSCFD	0.000106177	0	1.00262	0.0136127	0.0747512
Std Liquid Volumetric Flow	sgpm	0.0030849	0	27.6 *	0.257398	0.37825
API Gravity		-7.10455		-6.73513		17.9613
Net Ideal Gas Heating Value	Btu/ft^3	3757.91	3529.85	3529.87	2489.25	225.213

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Connections

	30	31	32	33
From Block	PUMP-100	Blowcase	PUMP-101	300% Flow multiplier for 3 DEHY's
To Block	--	PUMP-101	BTEX LIQUIDS 1	DEHY1 - DEHY1-3 Max Hrly

Stream Composition

Mass Flow	30 lb/h	31 lb/h	32 lb/h	33 lb/h
Triethylene Glycol	0.229918	0.229918	0.229918	9.69277E-07
Water	140.272	143.356	143.356	10.6034
Hydrogen Sulfide	0.00055637	0.00235285	0.00235285	0.128663
Carbon Dioxide	0.00350512	0.0143648	0.0143648	2.644
Nitrogen	8.00171E-07	2.87685E-06	2.87685E-06	0.00956034
Methane	0.00242261	0.00995652	0.00995652	7.98439
Ethane	0.026398	0.138523	0.138523	16.3894
Propane	0.119654	0.717864	0.717864	25.8255
Isobutane	0.0844407	0.50586	0.50586	7.3583
n-Butane	0.457729	2.67083	2.67083	27.5934
Isopentane	0.472791	2.29175	2.29175	12.6647
n-Pentane	0.951523	4.25124	4.25124	19.8254
i-C6	2.36267	7.74352	7.74352	23.7985
i-C7	4.95957	10.0507	10.0507	18.2947
Octane	2.25519	2.82647	2.82647	1.86991
Nonane	0.30745	0.340663	0.340663	0.106043
Benzene	4.06875	9.02164	9.02164	19.1243
Toluene	15.0256	21.9909	21.9909	23.8182
Ethylbenzene	0.420602	0.491796	0.491796	0.232233
o-Xylene	5.20264	6.01959	6.01959	2.66196
n-Hexane	1.68397	4.76646	4.76646	12.4561
2,2,4-Trimethylpentane	0	0	0	0
Decanes Plus	0.0125553	0.01278	0.01278	0.000705663
Decanes Plus Sat	0	0	0	0

Mole Fraction	30 %	31 %	32 %	33 %
Triethylene Glycol	0.0186538	0.0173689	0.0173689	1.43944E-07
Water	94.8676	90.275	90.275	13.1263
Hydrogen Sulfide	0.000198902	0.000783204	0.000783204	0.0841939
Carbon Dioxide	0.000970383	0.00370291	0.00370291	1.33984
Nitrogen	3.48019E-07	1.16504E-06	1.16504E-06	0.00761108
Methane	0.00183992	0.0070409	0.0070409	11.0997
Ethane	0.0106964	0.0522629	0.0522629	12.1558
Propane	0.0330611	0.184688	0.184688	13.0615
Isobutane	0.0177009	0.0987369	0.0987369	2.82341
n-Butane	0.0959516	0.52131	0.52131	10.5877
Isopentane	0.079841	0.360354	0.360354	3.91474
n-Pentane	0.160686	0.668464	0.668464	6.12817
i-C6	0.334046	1.01941	1.01941	6.15894
i-C7	0.603051	1.13792	1.13792	4.07182
Octane	0.240544	0.280713	0.280713	0.365077
Nonane	0.029207	0.0301329	0.0301329	0.0184393
Benzene	0.634644	1.31027	1.31027	5.46017
Toluene	1.98691	2.70766	2.70766	5.7651
Ethylbenzene	0.0482699	0.0525527	0.0525527	0.0487844
o-Xylene	0.597075	0.643246	0.643246	0.55919
n-Hexane	0.238088	0.627486	0.627486	3.22356
2,2,4-Trimethylpentane	0	0	0	0
Decanes Plus	0.000997216	0.000945139	0.000945139	0.000102591

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 1	

Mole Fraction	30 %	31 %	32 %	33 %
Decanes Plus Sat	0	0	0	0

Mass Fraction	30 %	31 %	32 %	33 %
Triethylene Glycol	0.128503	0.105732	0.105732	4.15305E-07
Water	78.3994	65.925	65.925	4.54321
Hydrogen Sulfide	0.00031096	0.001082	0.001082	0.055128
Carbon Dioxide	0.00195904	0.0066059	0.0066059	1.13287
Nitrogen	4.47222E-07	1.32297E-06	1.32297E-06	0.00409631
Methane	0.00135401	0.00457869	0.00457869	3.42106
Ethane	0.0147541	0.0637023	0.0637023	7.02234
Propane	0.0668755	0.330123	0.330123	11.0654
Isobutane	0.0471946	0.232629	0.232629	3.1528
n-Butane	0.255828	1.22823	1.22823	11.8229
Isopentane	0.264246	1.0539	1.0539	5.42641
n-Pentane	0.531814	1.95501	1.95501	8.49455
i-C6	1.32051	3.561	3.561	10.1969
i-C7	2.77194	4.62199	4.62199	7.83872
Octane	1.26044	1.29981	1.29981	0.801198
Nonane	0.171836	0.15666	0.15666	0.0454361
Benzene	2.27405	4.14877	4.14877	8.19415
Toluene	8.39792	10.1129	10.1129	10.2053
Ethylbenzene	0.235078	0.226161	0.226161	0.0995046
o-Xylene	2.9078	2.76822	2.76822	1.14057
n-Hexane	0.941183	2.19194	2.19194	5.33703
2,2,4-Trimethylpentane	0	0	0	0
Decanes Plus	0.00701727	0.0058771	0.0058771	0.000302355
Decanes Plus Sat	0	0	0	0

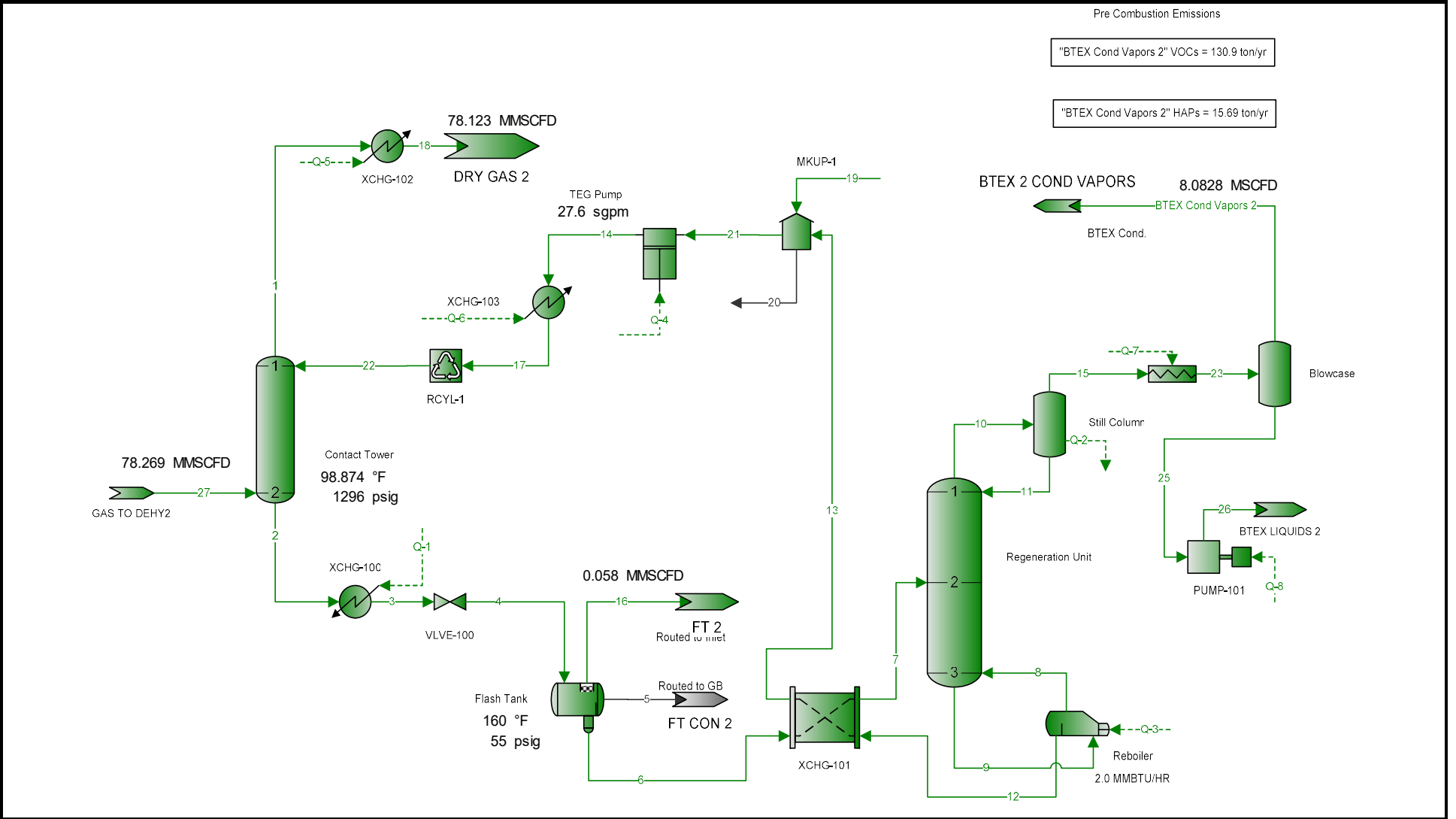
Stream Properties

Property	Units	30	31	32	33
Temperature	°F	136.221	70	84.4694	120
Pressure	psig	15 *	0	16 *	0
Molecular Weight	lb/lbmol	21.7995	24.6694	24.6694	52.0498
Mass Flow	lb/h	178.92	217.454	217.454	233.389
Std Vapor Volumetric Flow	MMSCFD	0.0747512	0.0802811	0.0802811	0.0408381
Std Liquid Volumetric Flow	sgpm	0.37825	0.484237	0.484237	0.772193
API Gravity		17.9885	25.4664	25.5291	
Net Ideal Gas Heating Value	Btu/ft ³	225.213	408.058	408.058	2489.25

Remarks

Dehy 2 Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	



* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Connections

	BTEX Cond Vapors 2	1	2	3	4
From Block	Blowcase	Contact Tower	Contact Tower	XCHG-100	VLVE-100
To Block	BTEX 2 COND VAPORS	XCHG-102	XCHG-100	VLVE-100	Flash Tank

Stream Composition

	BTEX Cond Vapors 2	1	2	3	4
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	2.84705E-09	1.4518	15442.7	15442.7	15442.7
Water	0.450577	6.23046	274.358	274.358	274.358
Hydrogen Sulfide	0.0410911	2.90055	0.0680852	0.0680852	0.0680852
Carbon Dioxide	0.870473	575.722	3.23507	3.23507	3.23507
Nitrogen	0.0031847	1561.41	0.261439	0.261439	0.261439
Methane	2.65393	107418	61.0214	61.0214	61.0214
Ethane	5.351	29234.9	41.5367	41.5367	41.5367
Propane	8.01028	19200.3	39.0793	39.0793	39.0793
Isobutane	2.03135	4343.67	9.03324	9.03324	9.03324
n-Butane	6.98469	8878.78	26.756	26.756	26.756
Isopentane	2.40259	3072.57	9.99419	9.99419	9.99419
n-Pentane	3.30874	3550.9	14.708	14.708	14.708
i-C6	2.55199	3386.63	16.1274	16.1274	16.1274
i-C7	1.00713	2311.29	15.1565	15.1565	15.1565
Octane	0.0520159	331.209	3.37407	3.37407	3.37407
Nonane	0.00213516	29.0157	0.377883	0.377883	0.377883
Benzene	1.42186	62.4533	11.1142	11.1142	11.1142
Toluene	0.974053	96.2195	25.0889	25.0889	25.0889
Ethylbenzene	0.00621697	2.09566	0.592284	0.592284	0.592284
o-Xylene	0.0703699	19.2344	7.95838	7.95838	7.95838
n-Hexane	1.06953	1560.62	8.51278	8.51278	8.51278
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.05807E-05	0.247175	0.0145296	0.0145296	0.0145296
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors 2	1	2	3	4
Mole Fraction	%	%	%	%	%
Triethylene Glycol	2.13621E-09	0.000112704	81.5219	81.5219	81.5219
Water	2.81818	0.00403185	12.0731	12.0731	12.0731
Hydrogen Sulfide	0.135856	0.000992191	0.00158375	0.00158375	0.00158375
Carbon Dioxide	2.22869	0.152508	0.0582748	0.0582748	0.0582748
Nitrogen	0.0128098	0.649797	0.00739856	0.00739856	0.00739856
Methane	18.6406	78.0609	3.01547	3.01547	3.01547
Ethane	20.0519	11.3346	1.09511	1.09511	1.09511
Propane	20.4688	5.07621	0.702578	0.702578	0.702578
Isobutane	3.93806	0.871245	0.12321	0.12321	0.12321
n-Butane	13.5408	1.78089	0.364941	0.364941	0.364941
Isopentane	3.75225	0.496477	0.109815	0.109815	0.109815
n-Pentane	5.16742	0.573766	0.16161	0.16161	0.16161
i-C6	3.33685	0.458153	0.148363	0.148363	0.148363
i-C7	1.13253	0.268908	0.119913	0.119913	0.119913
Octane	0.05131	0.0338029	0.0234166	0.0234166	0.0234166
Nonane	0.00187584	0.00263745	0.00233575	0.00233575	0.00233575
Benzene	2.05107	0.00932104	0.112799	0.112799	0.112799
Toluene	1.19119	0.0121744	0.215866	0.215866	0.215866
Ethylbenzene	0.00659839	0.000230126	0.00442275	0.00442275	0.00442275
o-Xylene	0.0746871	0.00211214	0.0594274	0.0594274	0.0594274
n-Hexane	1.39846	0.211126	0.0783126	0.0783126	0.0783126
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.77195E-06	1.87847E-05	7.50882E-05	7.50882E-05	7.50882E-05

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

	BTEX Cond Vapors 2	1	2	3	4
Mole Fraction	%	%	%	%	%
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors 2	1	2	3	4
Mass Fraction	%	%	%	%	%
Triethylene Glycol	7.2512E-09	0.000782024	96.4501	96.4501	96.4501
Water	1.14758	0.00335609	1.71355	1.71355	1.71355
Hydrogen Sulfide	0.104655	0.00156241	0.000425239	0.000425239	0.000425239
Carbon Dioxide	2.21702	0.310118	0.0202052	0.0202052	0.0202052
Nitrogen	0.00811116	0.841069	0.00163286	0.00163286	0.00163286
Methane	6.75933	57.8619	0.38112	0.38112	0.38112
Ethane	13.6285	15.7476	0.259425	0.259425	0.259425
Propane	20.4015	10.3424	0.244077	0.244077	0.244077
Isobutane	5.17367	2.33975	0.0564187	0.0564187	0.0564187
n-Butane	17.7894	4.78263	0.16711	0.16711	0.16711
Isopentane	6.11919	1.65507	0.0624206	0.0624206	0.0624206
n-Pentane	8.42707	1.91272	0.0918614	0.0918614	0.0918614
i-C6	6.49969	1.82424	0.100727	0.100727	0.100727
i-C7	2.56508	1.245	0.0946626	0.0946626	0.0946626
Octane	0.13248	0.178409	0.0210734	0.0210734	0.0210734
Nonane	0.00543806	0.0156295	0.00236014	0.00236014	0.00236014
Benzene	3.62136	0.033641	0.0694157	0.0694157	0.0694157
Toluene	2.48083	0.0518295	0.156698	0.156698	0.156698
Ethylbenzene	0.0158341	0.00112885	0.00369922	0.00369922	0.00369922
o-Xylene	0.179226	0.0103608	0.0497056	0.0497056	0.0497056
n-Hexane	2.724	0.840644	0.0531682	0.0531682	0.0531682
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.69481E-05	0.000133143	9.07473E-05	9.07473E-05	9.07473E-05
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	BTEX Cond Vapors 2	1	2	3	4
Temperature	°F	70	99.0828	99.5987	155 *	159.551
Pressure	psig	0	1291	1296	1286	60 *
Molecular Weight	lb/lbmol	44.2412	21.6427	126.93	126.93	126.93
Mass Flow	lb/h	39.2632	185646	16011.1	16011.1	16011.1
Std Vapor Volumetric Flow	MMSCFD	0.00808285	78.123	1.14885	1.14885	1.14885
Std Liquid Volumetric Flow	sgpm	0.151411	1051.2	29.1142	29.1142	29.1142
API Gravity				-3.23778	-3.23599	
Net Ideal Gas Heating Value	Btu/ft ³	2222.12	1176.43	3199.06	3199.06	3199.06

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Connections

	5	6	7	8	9
From Block	Flash Tank	Flash Tank	XCHG-101	Reboiler	Regeneration Unit
To Block	FT CON 2	XCHG-101	Regeneration Unit	Regeneration Unit	Reboiler

Stream Composition

Mass Flow	5 lb/h	6 lb/h	7 lb/h	8 lb/h	9 lb/h
Triethylene Glycol	0	15442.7	15442.7	235.875	15678.3
Water	0	273.608	273.608	315.25	445.051
Hydrogen Sulfide	0	0.0434527	0.0434527	0.000264153	0.000272909
Carbon Dioxide	0	0.884842	0.884842	0.000408987	0.000413507
Nitrogen	0	0.00318758	0.00318758	1.35613E-08	1.35838E-08
Methane	0	2.66389	2.66389	7.14339E-05	7.16867E-05
Ethane	0	5.48953	5.48953	0.000785226	0.00079081
Propane	0	8.72818	8.72818	0.00321741	0.00325176
Isobutane	0	2.53723	2.53723	0.00153567	0.00155644
n-Butane	0	9.65568	9.65568	0.00951401	0.00966845
Isopentane	0	4.69455	4.69455	0.00918287	0.00938779
n-Pentane	0	7.56043	7.56043	0.0185978	0.0190494
i-C6	0	10.2998	10.2998	0.0901733	0.0944583
i-C7	0	11.0619	11.0619	0.0973696	0.101479
Octane	0	2.88262	2.88262	0.067358	0.0714866
Nonane	0	0.344105	0.344105	0.0157531	0.0170601
Benzene	0	10.6949	10.6949	1.77386	2.02529
Toluene	0	24.5575	24.5575	8.11413	9.70666
Ethylbenzene	0	0.584598	0.584598	0.322719	0.409303
o-Xylene	0	7.88386	7.88386	5.62065	7.41455
n-Hexane	0	5.83944	5.83944	0.065208	0.0686576
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0	0.0142906	0.0142906	0.00647329	0.00797337
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol		85.8536	85.8536	8.16336	80.7343
Water		12.6799	12.6799	90.948	19.1038
Hydrogen Sulfide		0.00106447	0.00106447	4.02832E-05	6.19238E-06
Carbon Dioxide		0.016786	0.016786	4.82994E-05	7.26586E-06
Nitrogen		9.49998E-05	9.49998E-05	2.51602E-09	3.74978E-10
Methane		0.138635	0.138635	2.31426E-05	3.45556E-06
Ethane		0.15242	0.15242	0.000135723	2.03378E-05
Propane		0.165255	0.165255	0.000379218	5.7026E-05
Isobutane		0.0364456	0.0364456	0.00013732	2.07081E-05
n-Butane		0.138697	0.138697	0.000850747	0.000128637
Isopentane		0.054324	0.054324	0.000661497	0.00010062
n-Pentane		0.0874873	0.0874873	0.00133971	0.000204175
i-C6		0.0997868	0.0997868	0.00543843	0.000847632
i-C7		0.0921684	0.0921684	0.0050504	0.000783162
Octane		0.0210688	0.0210688	0.00306474	0.00048395
Nonane		0.00223998	0.00223998	0.000638367	0.000102862
Benzene		0.114311	0.114311	0.118027	0.0200503
Toluene		0.222521	0.222521	0.457699	0.0814665
Ethylbenzene		0.0045973	0.0045973	0.0157987	0.00298136
o-Xylene		0.0619991	0.0619991	0.275159	0.0540075
n-Hexane		0.0565738	0.0565738	0.00393275	0.000616106
2,2,4-Trimethylpentane		0	0	0	0
Decanes Plus		7.77774E-05	7.77774E-05	0.00021932	4.01945E-05
Decanes Plus Sat		0	0	0	0

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Mass Fraction	5	6	7	8	9
	%	%	%	%	%
Triethylene Glycol		97.5365	97.5365	41.5754	97.1195
Water		1.72812	1.72812	55.5661	2.75687
Hydrogen Sulfide		0.000274449	0.000274449	4.65598E-05	1.69054E-06
Carbon Dioxide		0.00558869	0.00558869	7.20882E-05	2.56147E-06
Nitrogen		2.01329E-05	2.01329E-05	2.39032E-09	8.41449E-11
Methane		0.0168252	0.0168252	1.2591E-05	4.44064E-07
Ethane		0.0346721	0.0346721	0.000138404	4.89868E-06
Propane		0.0551275	0.0551275	0.000567101	2.0143E-05
Isobutane		0.0160252	0.0160252	0.000270678	9.64139E-06
n-Butane		0.0609856	0.0609856	0.00167694	5.98913E-05
Isopentane		0.0296509	0.0296509	0.00161858	5.81527E-05
n-Pentane		0.0477519	0.0477519	0.00327806	0.000118002
i-C6		0.0650539	0.0650539	0.015894	0.000585123
i-C7		0.0698675	0.0698675	0.0171624	0.000628614
Octane		0.0182067	0.0182067	0.0118726	0.000442824
Nonane		0.00217338	0.00217338	0.00277665	0.000105679
Benzene		0.0675496	0.0675496	0.312662	0.0125457
Toluene		0.155106	0.155106	1.4302	0.0601279
Ethylbenzene		0.00369234	0.00369234	0.0568825	0.00253543
o-Xylene		0.0497948	0.0497948	0.990698	0.0459295
n-Hexane		0.0368821	0.0368821	0.0114936	0.0004253
2,2,4-Trimethylpentane		0	0	0	0
Decanes Plus		9.02601E-05	9.02601E-05	0.00114098	4.93911E-05
Decanes Plus Sat		0	0	0	0

Stream Properties

Property	Units	5	6	7	8	9
Temperature	°F		159.542	290 *	395 *	311.316
Pressure	psig	55	55	35 *	0.5	0.5
Molecular Weight	lb/lbmol		132.185	132.185	29.4866	124.837
Mass Flow	lb/h	0	15832.7	15832.7	567.342	16143.3
Std Vapor Volumetric Flow	MMSCFD	0	1.09088	1.09088	0.175237	1.17775
Std Liquid Volumetric Flow	sgpm	0	28.2326	28.2326	1.08485	28.6818
API Gravity			-5.71004			-6.13036
Net Ideal Gas Heating Value	Btu/ft^3		3290.42	3290.42	347.555	3056.36

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Connections

	10	11	12	13	14
From Block	Regeneration Unit	Still Column	Reboiler	XCHG-101	TEG Pump
To Block	Still Column	Regeneration Unit	XCHG-101	MKUP-1	XCHG-103

Stream Composition

Mass Flow	10 lb/h	11 lb/h	12 lb/h	13 lb/h	14 lb/h
Triethylene Glycol	8.31625	8.08633	15442.4	15442.4	15444.2
Water	145.846	2.03867	129.801	129.801	129.802
Hydrogen Sulfide	0.0434489	4.90915E-06	8.756E-06	8.756E-06	8.756E-06
Carbon Dioxide	0.884862	2.48872E-05	4.52035E-06	4.52035E-06	4.52035E-06
Nitrogen	0.00318758	4.75727E-09	2.24874E-11	2.24874E-11	0
Methane	2.6639	1.12574E-05	2.52867E-07	2.52867E-07	0
Ethane	5.48958	5.72814E-05	5.58438E-06	5.58438E-06	5.58438E-06
Propane	8.72829	0.000147208	3.43517E-05	3.43517E-05	3.43517E-05
Isobutane	2.53726	4.98468E-05	2.077E-05	2.077E-05	2.077E-05
n-Butane	9.65581	0.000285517	0.000154439	0.000154439	0.000154439
Isopentane	4.69453	0.000183519	0.000204921	0.000204921	0.000204921
n-Pentane	7.56031	0.000333947	0.000451612	0.000451612	0.000451612
i-C6	10.2963	0.000773452	0.00428502	0.00428502	0.00428502
i-C7	11.0587	0.000877296	0.00410976	0.00410976	0.00410976
Octane	2.87891	0.000418592	0.00412856	0.00412856	0.00412856
Nonane	0.342862	6.4137E-05	0.00130695	0.00130695	0.00130695
Benzene	10.4523	0.00881993	0.251432	0.251432	0.251432
Toluene	22.9965	0.0315084	1.59253	1.59253	1.59253
Ethylbenzene	0.499005	0.000991586	0.0865847	0.0865847	0.0865847
o-Xylene	6.10632	0.0163612	1.7939	1.7939	1.7939
n-Hexane	5.83646	0.000469342	0.00344962	0.00344962	0.00344962
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0128123	2.17349E-05	0.00150008	0.00150008	0.00150008
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	10 %	11 %	12 %	13 %	14 %
Triethylene Glycol	0.561079	32.1137	93.4195	93.4195	93.4201
Water	82.0239	67.4894	6.54562	6.54562	6.54498
Hydrogen Sulfide	0.0129168	8.59066E-05	2.33404E-07	2.33404E-07	2.33379E-07
Carbon Dioxide	0.203712	0.000337257	9.33123E-08	9.33123E-08	9.33024E-08
Nitrogen	0.00115288	1.0128E-07	7.29267E-13	7.29267E-13	0
Methane	1.68242	0.000418504	1.43197E-08	1.43197E-08	0
Ethane	1.84973	0.00113612	1.68721E-07	1.68721E-07	1.68703E-07
Propane	2.0055	0.00199098	7.07727E-07	7.07727E-07	7.07652E-07
Isobutane	0.442294	0.000511477	3.24644E-07	3.24644E-07	3.24609E-07
n-Butane	1.6832	0.00292969	2.41395E-06	2.41395E-06	2.41369E-06
Isopentane	0.659251	0.00151699	2.5803E-06	2.5803E-06	2.58003E-06
n-Pentane	1.06169	0.00276045	5.68655E-06	5.68655E-06	5.68595E-06
i-C6	1.21056	0.0053528	4.51734E-05	4.51734E-05	4.51686E-05
i-C7	1.11819	0.00522157	3.72609E-05	3.72609E-05	3.72569E-05
Octane	0.255353	0.00218548	3.2835E-05	3.2835E-05	3.28315E-05
Nonane	0.0270852	0.000298239	9.25759E-06	9.25759E-06	9.25661E-06
Benzene	1.35576	0.0673409	0.00292427	0.00292427	0.00292396
Toluene	2.52877	0.203947	0.0157021	0.0157021	0.0157005
Ethylbenzene	0.0476224	0.00557032	0.000740923	0.000740923	0.000740844
o-Xylene	0.582756	0.0919106	0.0153508	0.0153508	0.0153492
n-Hexane	0.686206	0.00324816	3.63665E-05	3.63665E-05	3.63626E-05
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000846232	8.45013E-05	8.88387E-06	8.88387E-06	8.88293E-06
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name: DELAWARE DIVISION Job:
 Location: Spartan Compressor Station
 Flowsheet: Dehy 2

Mass Fraction	10 %	11 %	12 %	13 %	14 %
Triethylene Glycol	3.11583	79.3836	99.1426	99.1426	99.1427
Water	54.6436	20.0136	0.833341	0.833341	0.833255
Hydrogen Sulfide	0.0162789	4.81932E-05	5.62147E-08	5.62147E-08	5.62084E-08
Carbon Dioxide	0.331529	0.000244318	2.90213E-08	2.90213E-08	2.9018E-08
Nitrogen	0.00119428	4.67022E-08	1.44372E-13	1.44372E-13	0
Methane	0.998076	0.000110514	1.62344E-09	1.62344E-09	0
Ethane	2.05677	0.000562332	3.58525E-08	3.58525E-08	3.58485E-08
Propane	3.27021	0.00144514	2.20543E-07	2.20543E-07	2.20518E-07
Isobutane	0.950628	0.000489347	1.33346E-07	1.33346E-07	1.33331E-07
n-Butane	3.61772	0.00280293	9.9152E-07	9.9152E-07	9.91409E-07
Isopentane	1.75889	0.00180161	1.31562E-06	1.31562E-06	1.31547E-06
n-Pentane	2.8326	0.00327836	2.89941E-06	2.89941E-06	2.89908E-06
i-C6	3.85768	0.00759298	2.75104E-05	2.75104E-05	2.75073E-05
i-C7	4.14333	0.00861242	2.63852E-05	2.63852E-05	2.63823E-05
Octane	1.07863	0.00410932	2.65059E-05	2.65059E-05	2.65029E-05
Nonane	0.128459	0.000629634	8.39081E-06	8.39081E-06	8.38987E-06
Benzene	3.91615	0.0865853	0.00161423	0.00161423	0.00161405
Toluene	8.61604	0.309319	0.0102242	0.0102242	0.0102231
Ethylbenzene	0.186961	0.00973441	0.000555886	0.000555886	0.000555824
o-Xylene	2.28784	0.160618	0.0115171	0.0115171	0.0115158
n-Hexane	2.18673	0.00460753	2.2147E-05	2.2147E-05	2.21446E-05
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00480035	0.000213372	9.63072E-06	9.63072E-06	9.62964E-06
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	10	11	12	13	14
Temperature	°F	290.846	215	395	269.234	270.291
Pressure	psig	0	0	0.5	0.5 *	1315 *
Molecular Weight	lb/lbmol	27.0422	60.7508	141.504	141.504	141.505
Mass Flow	lb/h	266.903	10.1864	15576	15576	15577.7
Std Vapor Volumetric Flow	MMSCFD	0.0898911	0.00152712	1.00252	1.00252	1.00262
Std Liquid Volumetric Flow	sgpm	0.654177	0.018529	27.5969	27.5969	27.6
API Gravity			-4.53746	-6.7351	-6.7351	-6.91889
Net Ideal Gas Heating Value	Btu/ft^3	585.138	1229.96	3529.85	3529.85	3529.87

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Connections

	15	16	17	18	19
From Block	Still Column	Flash Tank	XCHG-103	XCHG-102	--
To Block	BTEX Cond.	FT 2	RCYL-1	DRY GAS 2	MKUP-1

Stream Composition

Mass Flow	15 lb/h	16 lb/h	17 lb/h	18 lb/h	19 lb/h
Triethylene Glycol	0.229918	0.010583	15444.2	1.4518	1.74196 *
Water	143.807	0.750143	129.802	6.23046	0.00105011 *
Hydrogen Sulfide	0.0434439	0.0246325	8.756E-06	2.90055	0 *
Carbon Dioxide	0.884837	2.35023	4.52035E-06	575.722	0 *
Nitrogen	0.00318758	0.258251	0	1561.41	0 *
Methane	2.66389	58.3575	0	107418	0 *
Ethane	5.48953	36.0472	5.58438E-06	29234.9	0 *
Propane	8.72815	30.3511	3.43517E-05	19200.3	0 *
Isobutane	2.53721	6.49601	2.077E-05	4343.67	0 *
n-Butane	9.65552	17.1004	0.000154439	8878.78	0 *
Isopentane	4.69434	5.29965	0.000204921	3072.57	0 *
n-Pentane	7.55998	7.14755	0.000451612	3550.9	0 *
i-C6	10.2955	5.8276	0.00428502	3386.63	0 *
i-C7	11.0578	4.09456	0.00410976	2311.29	0 *
Octane	2.87849	0.491456	0.00412856	331.209	0 *
Nonane	0.342798	0.0337787	0.00130695	29.0157	0 *
Benzene	10.4435	0.41926	0.251432	62.4533	0 *
Toluene	22.965	0.531422	1.59253	96.2195	0 *
Ethylbenzene	0.498013	0.00768648	0.0865847	2.09566	0 *
o-Xylene	6.08996	0.0745228	1.7939	19.2344	0 *
n-Hexane	5.83599	2.67335	0.00344962	1560.62	0 *
2,2,4-Trimethylpentane	0	0	0	0	0 *
Decanes Plus	0.0127905	0.000238971	0.00150008	0.247175	0 *
Decanes Plus Sat	0	0	0	0	0 *

Mole Fraction	15 %	16 %	17 %	18 %	19 %
Triethylene Glycol	0.0157802	0.00110729	93.4201	0.000112704	99.5 *
Water	82.2751	0.654258	6.54498	0.00403185	0.5 *
Hydrogen Sulfide	0.0131386	0.0113565	2.33379E-07	0.000992191	0 *
Carbon Dioxide	0.207227	0.839093	9.33024E-08	0.152508	0 *
Nitrogen	0.0011728	0.144851	0	0.649797	0 *
Methane	1.71149	57.1573	0	78.0609	0 *
Ethane	1.88168	18.8364	1.68703E-07	11.3346	0 *
Propane	2.04012	10.815	7.07652E-07	5.07621	0 *
Isobutane	0.449929	1.75611	3.24609E-07	0.871245	0 *
n-Butane	1.71224	4.62284	2.41369E-06	1.78089	0 *
Isopentane	0.670618	1.15415	2.58003E-06	0.496477	0 *
n-Pentane	1.07999	1.55659	5.68595E-06	0.573766	0 *
i-C6	1.23139	1.06256	4.51686E-05	0.458153	0 *
i-C7	1.13742	0.642062	3.72569E-05	0.268908	0 *
Octane	0.259729	0.0676014	3.28315E-05	0.0338029	0 *
Nonane	0.0275482	0.00413823	9.25661E-06	0.00263745	0 *
Benzene	1.37803	0.084336	0.00292396	0.00932104	0 *
Toluene	2.56895	0.0906244	0.0157005	0.0121744	0 *
Ethylbenzene	0.0483492	0.00113761	0.000740844	0.000230126	0 *
o-Xylene	0.591238	0.0110295	0.0153492	0.00211214	0 *
n-Hexane	0.698009	0.487437	3.63626E-05	0.211126	0 *
2,2,4-Trimethylpentane	0	0	0	0	0 *
Decanes Plus	0.000859396	2.44774E-05	8.88293E-06	1.87847E-05	0 *
Decanes Plus Sat	0	0	0	0	0 *

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Mass Fraction	15 %	16 %	17 %	18 %	19 %
Triethylene Glycol	0.0895611	0.00593391	99.1427	0.000782024	99.9398 *
Water	56.0177	0.420609	0.833255	0.00335609	0.0602469 *
Hydrogen Sulfide	0.0169229	0.0138116	5.62084E-08	0.00156241	0 *
Carbon Dioxide	0.344675	1.31778	2.9018E-08	0.310118	0 *
Nitrogen	0.00124167	0.144802	0	0.841069	0 *
Methane	1.03768	32.7213	0	57.8619	0 *
Ethane	2.13836	20.2118	3.58485E-08	15.7476	0 *
Propane	3.39991	17.018	2.20518E-07	10.3424	0 *
Isobutane	0.988329	3.64234	1.33331E-07	2.33975	0 *
n-Butane	3.76116	9.58824	9.91409E-07	4.78263	0 *
Isopentane	1.82861	2.97153	1.31547E-06	1.65507	0 *
n-Pentane	2.94487	4.00766	2.89908E-06	1.91272	0 *
i-C6	4.01045	3.26756	2.75073E-05	1.82424	0 *
i-C7	4.3074	2.29584	2.63823E-05	1.245	0 *
Octane	1.12127	0.275561	2.65029E-05	0.178409	0 *
Nonane	0.133532	0.0189399	8.38987E-06	0.0156295	0 *
Benzene	4.0681	0.235081	0.00161405	0.033641	0 *
Toluene	8.94565	0.297971	0.0102231	0.0518295	0 *
Ethylbenzene	0.193993	0.00430984	0.000555824	0.00112885	0 *
o-Xylene	2.37225	0.0417853	0.0115158	0.0103608	0 *
n-Hexane	2.27332	1.49896	2.21446E-05	0.840644	0 *
2,2,4-Trimethylpentane	0	0	0	0	0 *
Decanes Plus	0.00498236	0.000133992	9.62964E-06	0.000133143	0 *
Decanes Plus Sat	0	0	0	0	0 *

Stream Properties

Property	Units	15	16	17	18	19
Temperature	°F	215 *	159.542	95 *	95 *	85 *
Pressure	psig	0	55	1305	1281	0.5 *
Molecular Weight	lb/lbmol	26.4596	28.0228	141.505	21.6427	149.512
Mass Flow	lb/h	256.717	178.347	15577.7	185646	1.74301
Std Vapor Volumetric Flow	MMSCFD	0.088364	0.0579641	1.00262	78.123	0.000106177
Std Liquid Volumetric Flow	sgpm	0.635648	0.881668	27.6	1051.2	0.0030849
API Gravity				-6.9175		-7.10455
Net Ideal Gas Heating Value	Btu/ft ³	573.994	1479.77	3529.87	1176.43	3757.91

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Connections

	20	21	22	23	25
From Block	MKUP-1	MKUP-1	RCYL-1	BTEX Cond.	Blowcase
To Block	--	TEG Pump	Contact Tower	Blowcase	PUMP-101

Stream Composition

Mass Flow	20 lb/h	21 lb/h	22 lb/h	23 lb/h	25 lb/h
Triethylene Glycol	0	15444.2	15444.1	0.229918	0.229918
Water	0	129.802	129.8	143.807	143.356
Hydrogen Sulfide	0	8.756E-06	8.87997E-06	0.0434439	0.00235285
Carbon Dioxide	0	4.52035E-06	3.84591E-06	0.884837	0.0143648
Nitrogen	0	0	0	0.00318758	2.87685E-06
Methane	0	0	0	2.66389	0.00995652
Ethane	0	5.58438E-06	5.66926E-06	5.48953	0.138523
Propane	0	3.43517E-05	3.4872E-05	8.72815	0.717864
Isobutane	0	2.077E-05	2.10852E-05	2.53721	0.50586
n-Butane	0	0.000154439	0.000156743	9.65552	2.67083
Isopentane	0	0.000204921	0.000207986	4.69434	2.29175
n-Pentane	0	0.000451612	0.000458386	7.55998	4.25124
i-C6	0	0.00428502	0.00434954	10.2955	7.74352
i-C7	0	0.00410976	0.00417288	11.0578	10.0507
Octane	0	0.00412856	0.00419419	2.87849	2.82647
Nonane	0	0.00130695	0.00132876	0.342798	0.340663
Benzene	0	0.251432	0.254742	10.4435	9.02164
Toluene	0	1.59253	1.61305	22.965	21.9909
Ethylbenzene	0	0.0865847	0.0875745	0.498013	0.491796
o-Xylene	0	1.7939	1.80893	6.08996	6.01959
n-Hexane	0	0.00344962	0.00350209	5.83599	4.76646
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0	0.00150008	0.00150983	0.0127905	0.01278
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	20 %	21 %	22 %	23 %	25 %
Triethylene Glycol	93.4195	93.4201	93.4198	0.0157802	0.0173689
Water	6.54562	6.54498	6.54489	82.2751	90.275
Hydrogen Sulfide	2.33404E-07	2.33379E-07	2.36683E-07	0.0131386	0.000783204
Carbon Dioxide	9.33123E-08	9.33024E-08	7.93816E-08	0.207227	0.00370291
Nitrogen	7.29267E-13	0	0	0.0011728	1.16504E-06
Methane	1.43197E-08	0	0	1.71149	0.0070409
Ethane	1.68721E-07	1.68703E-07	1.71267E-07	1.88168	0.0522629
Propane	7.07727E-07	7.07652E-07	7.18371E-07	2.04012	0.184688
Isobutane	3.24644E-07	3.24609E-07	3.29536E-07	0.449929	0.0987369
n-Butane	2.41395E-06	2.41369E-06	2.44971E-06	1.71224	0.52131
Isopentane	2.5803E-06	2.58003E-06	2.61862E-06	0.670618	0.360354
n-Pentane	5.68655E-06	5.68595E-06	5.77125E-06	1.07999	0.668464
i-C6	4.51734E-05	4.51686E-05	4.58487E-05	1.23139	1.01941
i-C7	3.72609E-05	3.72569E-05	3.78292E-05	1.13742	1.13792
Octane	3.2835E-05	3.28315E-05	3.33535E-05	0.259729	0.280713
Nonane	9.25759E-06	9.25661E-06	9.41106E-06	0.0275482	0.0301329
Benzene	0.00292427	0.00292396	0.00296245	1.37803	1.31027
Toluene	0.0157021	0.0157005	0.0159028	2.56895	2.70766
Ethylbenzene	0.000740923	0.000740844	0.000749313	0.0483492	0.0525527
o-Xylene	0.0153508	0.0153492	0.0154777	0.591238	0.643246
n-Hexane	3.63665E-05	3.63626E-05	3.69157E-05	0.698009	0.627486
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	8.88387E-06	8.88293E-06	8.94069E-06	0.000859396	0.000945139
Decanes Plus Sat	0	0	0	0	0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Mass Fraction	20 %	21 %	22 %	23 %	25 %
Triethylene Glycol	99.1426	99.1427	99.1425	0.0895611	0.105732
Water	0.833341	0.833255	0.833243	56.0177	65.925
Hydrogen Sulfide	5.62147E-08	5.62084E-08	5.70043E-08	0.0169229	0.001082
Carbon Dioxide	2.90213E-08	2.9018E-08	2.46885E-08	0.344675	0.0066059
Nitrogen	1.44372E-13	0	0	0.00124167	1.32297E-06
Methane	1.62344E-09	0	0	1.03768	0.00457869
Ethane	3.58525E-08	3.58485E-08	3.63934E-08	2.13836	0.0637023
Propane	2.20543E-07	2.20518E-07	2.23858E-07	3.39991	0.330123
Isobutane	1.33346E-07	1.33331E-07	1.35355E-07	0.988329	0.232629
n-Butane	9.9152E-07	9.91409E-07	1.0062E-06	3.76116	1.22823
Isopentane	1.31562E-06	1.31547E-06	1.33515E-06	1.82861	1.0539
n-Pentane	2.89941E-06	2.89908E-06	2.94258E-06	2.94487	1.95501
i-C6	2.75104E-05	2.75073E-05	2.79215E-05	4.01045	3.561
i-C7	2.63852E-05	2.63823E-05	2.67875E-05	4.3074	4.62199
Octane	2.65059E-05	2.65029E-05	2.69243E-05	1.12127	1.29981
Nonane	8.39081E-06	8.38987E-06	8.52986E-06	0.133532	0.15666
Benzene	0.00161423	0.00161405	0.0016353	4.0681	4.14877
Toluene	0.0102242	0.0102231	0.0103548	8.94565	10.1129
Ethylbenzene	0.000555886	0.000555824	0.000562177	0.193993	0.226161
o-Xylene	0.0115171	0.0115158	0.0116123	2.37225	2.76822
n-Hexane	2.2147E-05	2.21446E-05	2.24814E-05	2.27332	2.19194
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.63072E-06	9.62964E-06	9.69227E-06	0.00498236	0.0058771
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	20	21	22	23	25
Temperature	°F		269.215	95	70 *	70
Pressure	psig	0.5	0.5	1305	0	0
Molecular Weight	lb/lbmol	141.504	141.505	141.505	26.4596	24.6694
Mass Flow	lb/h	0	15577.7	15577.7	256.717	217.454
Std Vapor Volumetric Flow	MMSCFD	0	1.00262	1.00262	0.088364	0.0802811
Std Liquid Volumetric Flow	sgpm	0	27.6 *	27.6	0.635648	0.484237
API Gravity			-6.73513	-6.91737		25.4664
Net Ideal Gas Heating Value	Btu/ft^3	3529.85	3529.87	3529.88	573.994	408.058

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Connections

	26	27			
From Block	PUMP-101	GAS TO DEHY2			
To Block	BTEX LIQUIDS 2	Contact Tower			

Stream Composition

Mass Flow	26 lb/h	27 lb/h			
Triethylene Glycol	0.229918	7.94199E-20			
Water	143.356	150.788			
Hydrogen Sulfide	0.00235285	2.96863			
Carbon Dioxide	0.0143648	578.957			
Nitrogen	2.87685E-06	1561.67			
Methane	0.00995652	107479			
Ethane	0.138523	29276.4			
Propane	0.717864	19239.4			
Isobutane	0.50586	4352.7			
n-Butane	2.67083	8905.53			
Isopentane	2.29175	3082.57			
n-Pentane	4.25124	3565.61			
i-C6	7.74352	3402.75			
i-C7	10.0507	2326.44			
Octane	2.82647	334.579			
Nonane	0.340663	29.3922			
Benzene	9.02164	73.3127			
Toluene	21.9909	119.695			
Ethylbenzene	0.491796	2.60037			
o-Xylene	6.01959	25.3838			
n-Hexane	4.76646	1569.13			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	0.01278	0.260195			
Decanes Plus Sat	0	0			

Mole Fraction	26 %	27 %			
Triethylene Glycol	0.0173689	6.15391E-24			
Water	90.275	0.0973958			
Hydrogen Sulfide	0.000783204	0.00101358			
Carbon Dioxide	0.00370291	0.153078			
Nitrogen	1.16504E-06	0.648691			
Methane	0.0070409	77.9593			
Ethane	0.0522629	11.3295			
Propane	0.184688	5.07704			
Isobutane	0.0987369	0.871425			
n-Butane	0.52131	1.78292			
Isopentane	0.360354	0.497161			
n-Pentane	0.668464	0.575066			
i-C6	1.01941	0.459474			
i-C7	1.13792	0.270165			
Octane	0.280713	0.034083			
Nonane	0.0301329	0.00266668			
Benzene	1.31027	0.0109213			
Toluene	2.70766	0.0151165			
Ethylbenzene	0.0525527	0.000285015			
o-Xylene	0.643246	0.00278221			
n-Hexane	0.627486	0.21188			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	0.000945139	1.97373E-05			
Decanes Plus Sat	0	0			

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 2	

Mass Fraction	26 %	27 %			
Triethylene Glycol	0.105732	4.26806E-23			
Water	65.925	0.0810343			
Hydrogen Sulfide	0.001082	0.00159535			
Carbon Dioxide	0.0066059	0.311134			
Nitrogen	1.32297E-06	0.839251			
Methane	0.00457869	57.7599			
Ethane	0.0637023	15.7333			
Propane	0.330123	10.3394			
Isobutane	0.232629	2.33916			
n-Butane	1.22823	4.78587			
Isopentane	1.0539	1.65659			
n-Pentane	1.95501	1.91617			
i-C6	3.561	1.82865			
i-C7	4.62199	1.25024			
Octane	1.29981	0.179804			
Nonane	0.15666	0.0157955			
Benzene	4.14877	0.0393986			
Toluene	10.1129	0.0643249			
Ethylbenzene	0.226161	0.00139745			
o-Xylene	2.76822	0.0136414			
n-Hexane	2.19194	0.843259			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	0.0058771	0.00013983			
Decanes Plus Sat	0	0			

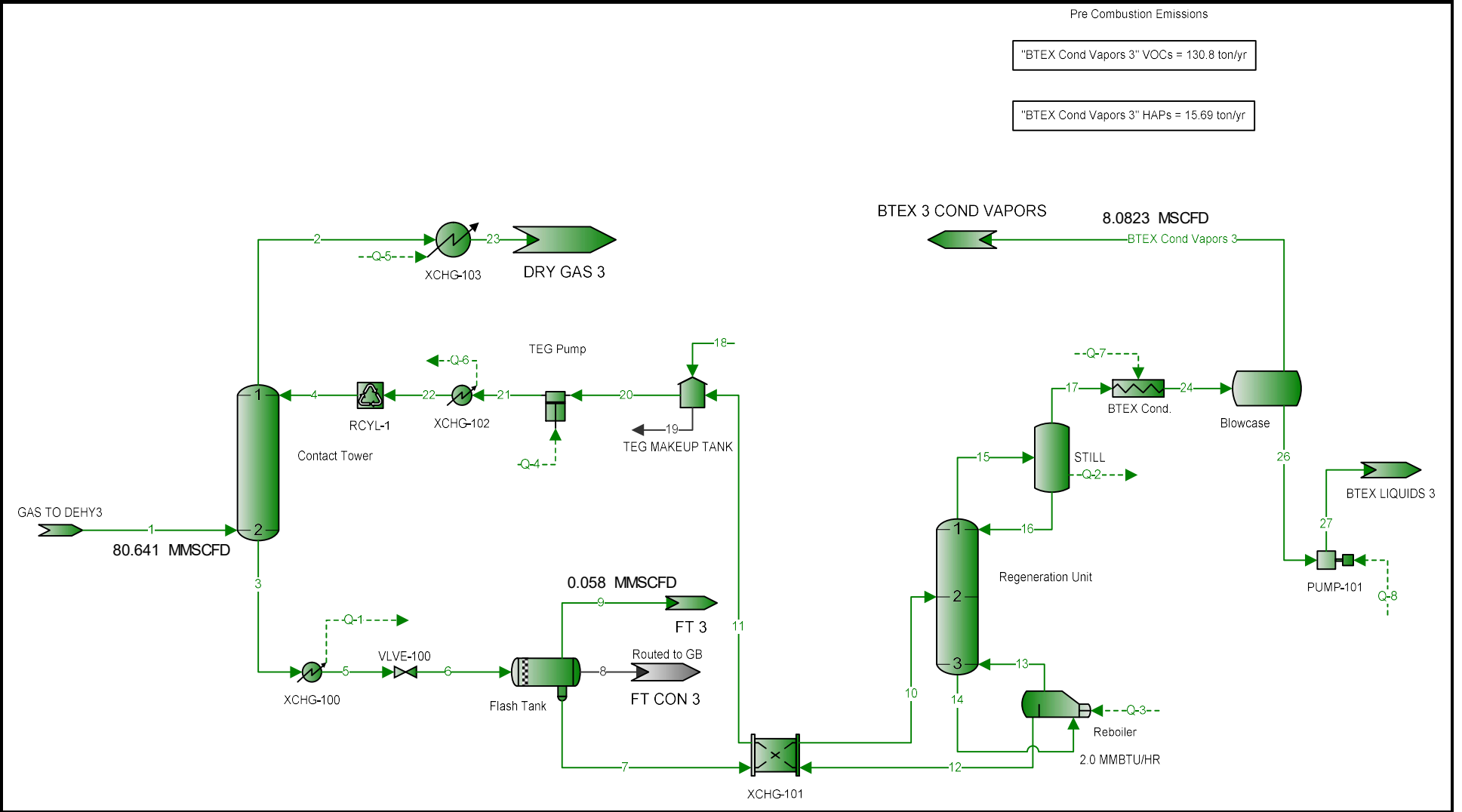
Stream Properties

Property	Units	26	27			
Temperature	°F	77.2136	98.8743			
Pressure	psig	16 *	1296			
Molecular Weight	lb/lbmol	24.6694	21.6527			
Mass Flow	lb/h	217.454	186080			
Std Vapor Volumetric Flow	MMSCFD	0.0802811	78.2692			
Std Liquid Volumetric Flow	sgpm	0.484237	1052.72			
API Gravity		25.4919				
Net Ideal Gas Heating Value	Btu/ft^3	408.058	1175.97			

Remarks

Dehy 3 Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	



Pre Combustion Emissions

"BTEX Cond Vapors 3" VOCs = 130.8 ton/yr

"BTEX Cond Vapors 3" HAPs = 15.69 ton/yr

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Connections

	BTEX Cond Vapors 3	1	2	3	4
From Block	Blowcase	GAS TO DEHY3	Contact Tower	Contact Tower	RCYL-1
To Block	BTEX 3 COND VAPORS	Contact Tower	XCHG-103	XCHG-100	Contact Tower

Stream Composition

	BTEX Cond Vapors 3	1	2	3	4
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	2.80311E-09	8.18265E-20	1.4961	15442.7	15444.2
Water	0.450552	155.358	6.439	278.759	129.84
Hydrogen Sulfide	0.0411	3.05858	2.99046	0.0681327	8.55038E-06
Carbon Dioxide	0.871224	596.502	593.264	3.23796	3.70177E-06
Nitrogen	0.00318943	1609	1608.74	0.261746	0
Methane	2.65651	110736	110675	61.0759	0
Ethane	5.35325	30163.6	30122	41.5621	5.44822E-06
Propane	8.01007	19822.4	19783.3	39.094	3.35068E-05
Isobutane	2.03034	4484.6	4475.56	9.0354	2.02517E-05
n-Butane	6.98058	9175.4	9148.63	26.7618	0.000150625
Isopentane	2.39952	3175.98	3165.98	9.99456	0.000199816
n-Pentane	3.30292	3673.65	3658.95	14.7045	0.000440322
i-C6	2.54749	3505.86	3489.74	16.1245	0.00417837
i-C7	1.00498	2396.94	2381.8	15.1497	0.00400843
Octane	0.0518614	344.718	341.351	3.37087	0.00403036
Nonane	0.00212912	30.2829	29.9067	0.377468	0.0012769
Benzene	1.42116	75.5343	64.6537	11.1267	0.246073
Toluene	0.975334	123.323	99.7542	25.1312	1.56285
Ethylbenzene	0.00624088	2.67917	2.17112	0.593217	0.0851736
o-Xylene	0.0708795	26.153	19.9425	7.97778	1.76726
n-Hexane	1.0672	1616.68	1608.18	8.50898	0.00336338
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.05987E-05	0.26808	0.255013	0.0145293	0.00146323
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors 3	1	2	3	4
Mole Fraction	%	%	%	%	%
Triethylene Glycol	2.10338E-09	6.15391E-24	0.000112724	81.361	93.4189
Water	2.8182	0.0973958	0.00404414	12.2425	6.54677
Hydrogen Sulfide	0.135894	0.00101358	0.000992833	0.00158172	2.27895E-07
Carbon Dioxide	2.23075	0.153078	0.152528	0.0582115	7.64052E-08
Nitrogen	0.0128297	0.648691	0.649782	0.00739261	0
Methane	18.6599	77.9593	78.06	3.01219	0
Ethane	20.0616	11.3295	11.3348	1.09361	1.64587E-07
Propane	20.4696	5.07704	5.07637	0.701452	6.90237E-07
Isobutane	3.93636	0.871425	0.871274	0.122995	3.16504E-07
n-Butane	13.5337	1.78292	1.781	0.364298	2.35405E-06
Isopentane	3.74769	0.497161	0.496511	0.109602	2.51572E-06
n-Pentane	5.15866	0.575066	0.573821	0.161252	5.54372E-06
i-C6	3.33118	0.459474	0.458205	0.148043	4.40438E-05
i-C7	1.13018	0.270165	0.268954	0.119622	3.63378E-05
Octane	0.0511609	0.034083	0.0338124	0.0233481	3.20502E-05
Nonane	0.00187065	0.00266668	0.00263841	0.00232857	9.04364E-06
Benzene	2.05019	0.0109213	0.00936538	0.112703	0.00286159
Toluene	1.19284	0.0151165	0.0122501	0.215802	0.0154077
Ethylbenzene	0.00662419	0.000285015	0.000231394	0.00442095	0.000728759
o-Xylene	0.0752329	0.00278221	0.00212544	0.0594545	0.015121
n-Hexane	1.3955	0.21188	0.211154	0.0781229	3.54531E-05
2,2,4-Trimethylpentane	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

	BTEX Cond Vapors 3	1	2	3	4
Mole Fraction	%	%	%	%	%
Decanes Plus	7.78568E-06	1.97373E-05	1.88099E-05	7.49384E-05	8.66456E-06
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors 3	1	2	3	4
Mass Fraction	%	%	%	%	%
Triethylene Glycol	7.14232E-09	4.26806E-23	0.00078215	96.4227	99.1429
Water	1.14801	0.0810343	0.00336626	1.74054	0.833496
Hydrogen Sulfide	0.104723	0.00159535	0.00156339	0.000425413	5.48884E-08
Carbon Dioxide	2.21987	0.311134	0.310154	0.0202175	2.37632E-08
Nitrogen	0.00812666	0.839251	0.841035	0.00163431	0
Methane	6.76877	57.7599	57.8602	0.381351	0
Ethane	13.6401	15.7333	15.7476	0.259509	3.49744E-08
Propane	20.4096	10.3394	10.3426	0.244098	2.15094E-07
Isobutane	5.1733	2.33916	2.33979	0.056416	1.30004E-07
n-Butane	17.7865	4.78587	4.78284	0.167098	9.66926E-07
Isopentane	6.11396	1.65659	1.65515	0.0624049	1.2827E-06
n-Pentane	8.41582	1.91617	1.91287	0.0918132	2.82661E-06
i-C6	6.49101	1.82865	1.82441	0.10068	2.68227E-05
i-C7	2.56068	1.25024	1.24518	0.0945931	2.57318E-05
Octane	0.132143	0.179804	0.178456	0.0210474	2.58726E-05
Nonane	0.00542499	0.0157955	0.015635	0.00235687	8.19696E-06
Benzene	3.6211	0.0393986	0.0338005	0.0694742	0.00157964
Toluene	2.48515	0.0643249	0.0521508	0.156916	0.0100326
Ethylbenzene	0.0159017	0.00139745	0.00113505	0.00370398	0.000546764
o-Xylene	0.180601	0.0136414	0.0104258	0.0498124	0.0113448
n-Hexane	2.71921	0.843259	0.840743	0.0531291	2.15909E-05
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.70055E-05	0.00013983	0.000133319	9.07196E-05	9.39305E-06
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	BTEX Cond Vapors 3	1	2	3	4
Temperature	°F	70	98.8743	99.092	99.5987	95
Pressure	psig	0	1296	1291	1296	1305
Molecular Weight	lb/lbmol	44.2252	21.6527	21.6431	126.715	141.503
Mass Flow	lb/h	39.2465	191718	191280	16015.7	15577.8
Std Vapor Volumetric Flow	MMSCFD	0.00808233	80.641	80.4926	1.15112	1.00264
Std Liquid Volumetric Flow	sgpm	0.151371	1084.62	1083.09	29.1238	27.6
API Gravity					-3.23375	-6.91762
Net Ideal Gas Heating Value	Btu/ft ³	2221.27	1175.97	1176.44	3192.81	3529.8

Remarks

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Connections

	5	6	7	8	9
From Block	XCHG-100	VLVE-100	Flash Tank	Flash Tank	Flash Tank
To Block	VLVE-100	Flash Tank	XCHG-101	FT CON 3	FT 3

Stream Composition

Mass Flow	5 lb/h	6 lb/h	7 lb/h	8 lb/h	9 lb/h
Triethylene Glycol	15442.7	15442.7	15442.7	0	0.0105675
Water	278.759	278.759	277.997	0	0.76173
Hydrogen Sulfide	0.0681327	0.0681327	0.0434826	0	0.0246502
Carbon Dioxide	3.23796	3.23796	0.885737	0	2.35222
Nitrogen	0.261746	0.261746	0.00319232	0	0.258554
Methane	61.0759	61.0759	2.66651	0	58.4094
Ethane	41.5621	41.5621	5.49213	0	36.07
Propane	39.094	39.094	8.7292	0	30.3648
Isobutane	9.0354	9.0354	2.53692	0	6.49847
n-Butane	26.7618	26.7618	9.65514	0	17.1066
Isopentane	9.99456	9.99456	4.69319	0	5.30137
n-Pentane	14.7045	14.7045	7.55588	0	7.14861
i-C6	16.1245	16.1245	10.295	0	5.82945
i-C7	15.1497	15.1497	11.0539	0	4.09582
Octane	3.37087	3.37087	2.87935	0	0.491524
Nonane	0.377468	0.377468	0.343679	0	0.0337886
Benzene	11.1267	11.1267	10.7068	0	0.419917
Toluene	25.1312	25.1312	24.5986	0	0.532598
Ethylbenzene	0.593217	0.593217	0.585513	0	0.00770349
o-Xylene	7.97778	7.97778	7.90303	0	0.0747522
n-Hexane	8.50898	8.50898	5.83502	0	2.67396
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0145293	0.0145293	0.0142902	0	0.000239094
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol	81.361	81.361	85.6788		0.00110476
Water	12.2425	12.2425	12.857		0.663816
Hydrogen Sulfide	0.00158172	0.00158172	0.00106303		0.0113552
Carbon Dioxide	0.0582115	0.0582115	0.0167687		0.839112
Nitrogen	0.00739261	0.00739261	9.49472E-05		0.144901
Methane	3.01219	3.01219	0.138488		57.1609
Ethane	1.09361	1.09361	0.152182		18.8327
Propane	0.701452	0.701452	0.164938		10.8109
Isobutane	0.122995	0.122995	0.0363669		1.75532
n-Butane	0.364298	0.364298	0.138407		4.62073
Isopentane	0.109602	0.109602	0.0541977		1.15358
n-Pentane	0.161252	0.161252	0.0872564		1.55554
i-C6	0.148043	0.148043	0.0995374		1.06202
i-C7	0.119622	0.119622	0.0919137		0.64173
Octane	0.0233481	0.0233481	0.021002		0.0675551
Nonane	0.00232857	0.00232857	0.00223265		0.00413602
Benzene	0.112703	0.112703	0.114205		0.0843984
Toluene	0.215802	0.215802	0.222439		0.09075
Ethylbenzene	0.00442095	0.00442095	0.00459512		0.00113918
o-Xylene	0.0594545	0.0594545	0.0620231		0.0110543
n-Hexane	0.0781229	0.0781229	0.0564157		0.487147
2,2,4-Trimethylpentane	0	0	0		0
Decanes Plus	7.49384E-05	7.49384E-05	7.76168E-05		2.44698E-05
Decanes Plus Sat	0	0	0		0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Mass Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol	96.4227	96.4227	97.5092		0.00592125
Water	1.74054	1.74054	1.75534		0.426819
Hydrogen Sulfide	0.000425413	0.000425413	0.00027456		0.0138122
Carbon Dioxide	0.0202175	0.0202175	0.00559276		1.31802
Nitrogen	0.00163431	0.00163431	2.01571E-05		0.144875
Methane	0.381351	0.381351	0.016837		32.7285
Ethane	0.259509	0.259509	0.0346787		20.211
Propane	0.244098	0.244098	0.0551183		17.0142
Isobutane	0.056416	0.056416	0.0160188		3.64128
n-Butane	0.167098	0.167098	0.060965		9.58534
Isopentane	0.0624049	0.0624049	0.029634		2.97051
n-Pentane	0.0918132	0.0918132	0.0477097		4.00557
i-C6	0.10068	0.10068	0.0650055		3.26641
i-C7	0.0945931	0.0945931	0.0697971		2.29501
Octane	0.0210474	0.0210474	0.0181809		0.275415
Nonane	0.00235687	0.00235687	0.00217008		0.0189327
Benzene	0.0694742	0.0694742	0.0676056		0.235292
Toluene	0.156916	0.156916	0.155321		0.29843
Ethylbenzene	0.00370398	0.00370398	0.00369708		0.00431648
o-Xylene	0.0498124	0.0498124	0.0499017		0.0418858
n-Hexane	0.0531291	0.0531291	0.0368438		1.4983
2,2,4-Trimethylpentane	0	0	0		0
Decanes Plus	9.07196E-05	9.07196E-05	9.02322E-05		0.000133971
Decanes Plus Sat	0	0	0		0

Stream Properties

Property	Units	5	6	7	8	9
Temperature	°F	155 *	159.549	159.54		159.54
Pressure	psig	1286	60 *	55	55	55
Molecular Weight	lb/lbmol	126.715	126.715	131.953		28.0185
Mass Flow	lb/h	16015.7	16015.7	15837.2	0	178.467
Std Vapor Volumetric Flow	MMSCFD	1.15112	1.15112	1.09311	0	0.0580119
Std Liquid Volumetric Flow	sgpm	29.1238	29.1238	28.2415	0	0.88228
API Gravity		-3.23195		-5.70329		
Net Ideal Gas Heating Value	Btu/ft ³	3192.81	3192.81	3283.74		1479.46

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Connections

	10	11	12	13	14
From Block	XCHG-101	XCHG-101	Reboiler	Reboiler	Regeneration Unit
To Block	Regeneration Unit	TEG MAKEUP TANK	XCHG-101	Regeneration Unit	Reboiler

Stream Composition

Mass Flow	10 lb/h	11 lb/h	12 lb/h	13 lb/h	14 lb/h
Triethylene Glycol	15442.7	15442.5	15442.5	237.211	15679.7
Water	277.997	129.84	129.84	317.131	446.97
Hydrogen Sulfide	0.0434826	8.43389E-06	8.43389E-06	0.000255881	0.000264315
Carbon Dioxide	0.885737	4.3523E-06	4.3523E-06	0.00039602	0.000400372
Nitrogen	0.00319232	2.16216E-11	2.16216E-11	1.31133E-08	1.31349E-08
Methane	2.66651	2.43128E-07	2.43128E-07	6.90734E-05	6.93165E-05
Ethane	5.49213	5.36846E-06	5.36846E-06	0.000759161	0.00076453
Propane	8.7292	3.30181E-05	3.30181E-05	0.0031101	0.00314312
Isobutane	2.53692	1.99557E-05	1.99557E-05	0.00148387	0.00150383
n-Butane	9.65514	0.000148462	0.000148462	0.00919785	0.00934632
Isopentane	4.69319	0.000196939	0.000196939	0.00887547	0.00907241
n-Pentane	7.55588	0.000433963	0.000433963	0.0179728	0.0184068
i-C6	10.295	0.0041178	0.0041178	0.087148	0.0912658
i-C7	11.0539	0.00394917	0.00394917	0.0940985	0.0980477
Octane	2.87935	0.00396868	0.00396868	0.0651188	0.0690875
Nonane	0.343679	0.00125639	0.00125639	0.0152301	0.0164864
Benzene	10.7068	0.242955	0.242955	1.72381	1.96676
Toluene	24.5986	1.54342	1.54342	7.90865	9.45207
Ethylbenzene	0.585513	0.0842252	0.0842252	0.315711	0.399936
o-Xylene	7.90303	1.75252	1.75252	5.52223	7.27475
n-Hexane	5.83502	0.00331413	0.00331413	0.0630037	0.0663178
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0142902	0.00145418	0.00145418	0.00631097	0.00776515
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	10 %	11 %	12 %	13 %	14 %
Triethylene Glycol	85.6788	93.4186	93.4186	8.16324	80.6724
Water	12.857	6.54747	6.54747	90.9738	19.1698
Hydrogen Sulfide	0.00106303	2.24815E-07	2.24815E-07	3.88013E-05	5.99225E-06
Carbon Dioxide	0.0167687	8.98422E-08	8.98422E-08	4.65039E-05	7.02904E-06
Nitrogen	9.49472E-05	7.01179E-13	7.01179E-13	2.41916E-09	3.62276E-10
Methane	0.138488	1.37681E-08	1.37681E-08	2.22515E-05	3.33845E-06
Ethane	0.152182	1.62195E-07	1.62195E-07	0.000130477	1.96451E-05
Propane	0.164938	6.80244E-07	6.80244E-07	0.000364501	5.50738E-05
Isobutane	0.0363669	3.11913E-07	3.11913E-07	0.000131939	1.9991E-05
n-Butane	0.138407	2.32049E-06	2.32049E-06	0.000817831	0.000124245
Isopentane	0.0541977	2.47977E-06	2.47977E-06	0.000635743	9.71567E-05
n-Pentane	0.0872564	5.46426E-06	5.46426E-06	0.00128738	0.000197119
i-C6	0.0995374	4.341E-05	4.341E-05	0.00522629	0.000818284
i-C7	0.0919137	3.58045E-05	3.58045E-05	0.00485317	0.000756032
Octane	0.021002	3.1563E-05	3.1563E-05	0.00294612	0.000467308
Nonane	0.00223265	8.8993E-06	8.8993E-06	0.000613686	9.93187E-05
Benzene	0.114205	0.00282564	0.00282564	0.114049	0.0194542
Toluene	0.222439	0.0152177	0.0152177	0.443589	0.079262
Ethylbenzene	0.00459512	0.000720723	0.000720723	0.0153684	0.00291064
o-Xylene	0.0620231	0.0149964	0.0149964	0.268814	0.0529438
n-Hexane	0.0564157	3.49377E-05	3.49377E-05	0.00377835	0.000594601
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.76168E-05	8.61191E-06	8.61191E-06	0.000212613	3.91114E-05
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Mass Fraction	10 %	11 %	12 %	13 %	14 %
Triethylene Glycol	97.5092	99.143	99.143	41.6025	97.111
Water	1.75534	0.833589	0.833589	55.6189	2.76828
Hydrogen Sulfide	0.00027456	5.41468E-08	5.41468E-08	4.48768E-05	1.63701E-06
Carbon Dioxide	0.00559276	2.79424E-08	2.79424E-08	6.94546E-05	2.47967E-06
Nitrogen	2.01571E-05	1.38814E-13	1.38814E-13	2.29983E-09	8.135E-11
Methane	0.016837	1.56092E-09	1.56092E-09	1.21142E-05	4.29307E-07
Ethane	0.0346787	3.44663E-08	3.44663E-08	0.000133143	4.73506E-06
Propane	0.0551183	2.11981E-07	2.11981E-07	0.000545455	1.94667E-05
Isobutane	0.0160188	1.28119E-07	1.28119E-07	0.000260244	9.31386E-06
n-Butane	0.060965	9.53146E-07	9.53146E-07	0.00161313	5.78857E-05
Isopentane	0.029634	1.26438E-06	1.26438E-06	0.00155659	5.61893E-05
n-Pentane	0.0477097	2.78611E-06	2.78611E-06	0.00315211	0.000114001
i-C6	0.0650055	2.64369E-05	2.64369E-05	0.0152842	0.000565248
i-C7	0.0697971	2.53543E-05	2.53543E-05	0.0165031	0.000607251
Octane	0.0181809	2.54795E-05	2.54795E-05	0.0114206	0.000427888
Nonane	0.00217008	8.06618E-06	8.06618E-06	0.00267107	0.000102108
Benzene	0.0676056	0.00155981	0.00155981	0.302324	0.012181
Toluene	0.155321	0.00990896	0.00990896	1.38703	0.0585407
Ethylbenzene	0.00369708	0.000540738	0.000540738	0.0553699	0.00247698
o-Xylene	0.0499017	0.0112514	0.0112514	0.968497	0.0450556
n-Hexane	0.0368438	2.12772E-05	2.12772E-05	0.0110497	0.000410734
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.02322E-05	9.33602E-06	9.33602E-06	0.00110683	4.80928E-05
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	10	11	12	13	14
Temperature	°F	290 *	269.154	395	395 *	311.124
Pressure	psig	35 *	0.5 *	0.5	0.5	0.5
Molecular Weight	lb/lbmol	131.953	141.502	141.502	29.467	124.752
Mass Flow	lb/h	15837.2	15576	15576	570.185	16146.2
Std Vapor Volumetric Flow	MMSCFD	1.09311	1.00253	1.00253	0.176232	1.17876
Std Liquid Volumetric Flow	sgpm	28.2415	27.5968	27.5968	1.09011	28.6869
API Gravity			-6.73534	-6.73534		-6.12943
Net Ideal Gas Heating Value	Btu/ft ³	3283.74	3529.77	3529.77	346.43	3053.84

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Connections

	15	16	17	18	19
From Block	Regeneration Unit	STILL	STILL	--	TEG MAKEUP TANK
To Block	STILL	Regeneration Unit	BTEX Cond.	TEG MAKEUP TANK	--

Stream Composition

Mass Flow	15 lb/h	16 lb/h	17 lb/h	18 lb/h	19 lb/h
Triethylene Glycol	8.45669	8.22344	0.233256	1.78871 *	0
Water	150.256	2.09867	148.157	0.00107829 *	0
Hydrogen Sulfide	0.043479	4.88144E-06	0.0434741	0 *	0
Carbon Dioxide	0.885757	2.47703E-05	0.885733	0 *	0
Nitrogen	0.00319233	4.73649E-09	0.00319232	0 *	0
Methane	2.66652	1.11903E-05	2.66651	0 *	0
Ethane	5.49218	5.68078E-05	5.49212	0 *	0
Propane	8.72931	0.000145758	8.72917	0 *	0
Isobutane	2.53695	4.92595E-05	2.5369	0 *	0
n-Butane	9.65527	0.00028246	9.65499	0 *	0
Isopentane	4.69318	0.000181202	4.693	0 *	0
n-Pentane	7.55578	0.000329528	7.55545	0 *	0
i-C6	10.2917	0.000762683	10.2909	0 *	0
i-C7	11.0508	0.000862852	11.0499	0 *	0
Octane	2.87579	0.000411146	2.87538	0 *	0
Nonane	0.342486	6.28268E-05	0.342423	0 *	0
Benzene	10.4726	0.00875101	10.4639	0 *	0
Toluene	23.0865	0.031302	23.0552	0 *	0
Ethylbenzene	0.502275	0.000986579	0.501288	0 *	0
o-Xylene	6.16685	0.0163372	6.15052	0 *	0
n-Hexane	5.83217	0.000462149	5.8317	0 *	0
2,2,4-Trimethylpentane	0	0	0	0 *	0
Decanes Plus	0.0128576	2.1533E-05	0.0128361	0 *	0
Decanes Plus Sat	0	0	0	0 *	0

Mole Fraction	15 %	16 %	17 %	18 %	19 %
Triethylene Glycol	0.556593	31.8528	0.0156176	99.5 *	93.4186
Water	82.4365	67.7625	82.6902	0.5 *	6.54747
Hydrogen Sulfide	0.0126095	8.33151E-05	0.012826	0 *	2.24815E-07
Carbon Dioxide	0.198929	0.000327395	0.202362	0 *	8.98422E-08
Nitrogen	0.00112634	9.83506E-08	0.00114581	0 *	7.01179E-13
Methane	1.64287	0.000405749	1.67126	0 *	1.37681E-08
Ethane	1.80532	0.00109894	1.83651	0 *	1.62195E-07
Propane	1.95665	0.00192276	1.99044	0 *	6.80244E-07
Isobutane	0.431419	0.000492986	0.438868	0 *	3.11913E-07
n-Butane	1.64192	0.00282684	1.67025	0 *	2.32049E-06
Isopentane	0.642935	0.0014609	0.654023	0 *	2.47977E-06
n-Pentane	1.03509	0.00265674	1.05294	0 *	5.46426E-06
i-C6	1.18041	0.0051481	1.20072	0 *	4.341E-05
i-C7	1.09005	0.00500895	1.10881	0 *	3.58045E-05
Octane	0.248835	0.00209367	0.2531	0 *	3.1563E-05
Nonane	0.0263935	0.000284942	0.0268448	0 *	8.8993E-06
Benzene	1.32516	0.065167	1.34694	0 *	0.00282564
Toluene	2.47654	0.197614	2.51593	0 *	0.0152177
Ethylbenzene	0.0467616	0.00540551	0.0474764	0 *	0.000720723
o-Xylene	0.574131	0.0895122	0.582508	0 *	0.0149964
n-Hexane	0.668922	0.0031195	0.680431	0 *	3.49377E-05
2,2,4-Trimethylpentane	0	0	0	0 *	0
Decanes Plus	0.000828445	8.16517E-05	0.000841354	0 *	8.61191E-06
Decanes Plus Sat	0	0	0	0 *	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Mass Fraction	15 %	16 %	17 %	18 %	19 %
Triethylene Glycol	3.11356	79.1998	0.0892931	99.9398 *	99.143
Water	55.3208	20.2122	56.7163	0.0602469 *	0.833589
Hydrogen Sulfide	0.016008	4.70131E-05	0.0166424	0 *	5.41468E-08
Carbon Dioxide	0.326116	0.000238563	0.339069	0 *	2.79424E-08
Nitrogen	0.00117534	4.5617E-08	0.00122206	0 *	1.38814E-13
Methane	0.981751	0.000107774	1.02077	0 *	1.56092E-09
Ethane	2.0221	0.000547116	2.10245	0 *	3.44663E-08
Propane	3.21393	0.0014038	3.34163	0 *	2.11981E-07
Isobutane	0.934048	0.000474418	0.971156	0 *	1.28119E-07
n-Butane	3.55485	0.00272037	3.69604	0 *	9.53146E-07
Isopentane	1.72792	0.00174515	1.79653	0 *	1.26438E-06
n-Pentane	2.78187	0.00317368	2.89231	0 *	2.78611E-06
i-C6	3.78917	0.00734539	3.93949	0 *	2.64369E-05
i-C7	4.06866	0.00831012	4.23005	0 *	2.53543E-05
Octane	1.0588	0.00395974	1.10073	0 *	2.54795E-05
Nonane	0.126096	0.000605084	0.131084	0 *	8.06618E-06
Benzene	3.85578	0.0842808	4.00569	0 *	0.00155981
Toluene	8.49991	0.301469	8.82578	0 *	0.00990896
Ethylbenzene	0.184926	0.00950173	0.191899	0 *	0.000540738
o-Xylene	2.2705	0.157343	2.35449	0 *	0.0112514
n-Hexane	2.14727	0.00445095	2.23244	0 *	2.12772E-05
2,2,4-Trimethylpentane	0	0	0	0 *	0
Decanes Plus	0.00473388	0.000207384	0.0049138	0 *	9.33602E-06
Decanes Plus Sat	0	0	0	0 *	0

Stream Properties

Property	Units	15	16	17	18	19
Temperature	°F	290.64	215	215 *	85 *	
Pressure	psig	0	0	0	0.5 *	0.5
Molecular Weight	lb/lbmol	26.8455	60.397	26.2656	149.512	141.502
Mass Flow	lb/h	271.608	10.3832	261.225	1.78978	0
Std Vapor Volumetric Flow	MMSCFD	0.0921459	0.00156574	0.0905801	0.000109026	0
Std Liquid Volumetric Flow	sgpm	0.663595	0.0188908	0.644705	0.00316768	0
API Gravity			-4.52168		-7.10455	
Net Ideal Gas Heating Value	Btu/ft ³	571.867	1219.59	560.671	3757.91	3529.77

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Connections

	20	21	22	23	24
From Block	TEG MAKEUP TANK	TEG Pump	XCHG-102	XCHG-103	BTEX Cond.
To Block	TEG Pump	XCHG-102	RCYL-1	DRY GAS 3	Blowcase

Stream Composition

Mass Flow	20 lb/h	21 lb/h	22 lb/h	23 lb/h	24 lb/h
Triethylene Glycol	15444.3	15444.3	15444.3	1.4961	0.233256
Water	129.841	129.841	129.841	6.439	148.157
Hydrogen Sulfide	8.43389E-06	8.43389E-06	8.43389E-06	2.99046	0.0434741
Carbon Dioxide	4.3523E-06	4.3523E-06	4.3523E-06	593.264	0.885733
Nitrogen	0	0	0	1608.74	0.00319232
Methane	0	0	0	110675	2.66651
Ethane	5.36846E-06	5.36846E-06	5.36846E-06	30122	5.49212
Propane	3.30181E-05	3.30181E-05	3.30181E-05	19783.3	8.72917
Isobutane	1.99557E-05	1.99557E-05	1.99557E-05	4475.56	2.5369
n-Butane	0.000148462	0.000148462	0.000148462	9148.63	9.65499
Isopentane	0.000196939	0.000196939	0.000196939	3165.98	4.693
n-Pentane	0.000433963	0.000433963	0.000433963	3658.95	7.55545
i-C6	0.0041178	0.0041178	0.0041178	3489.74	10.2909
i-C7	0.00394917	0.00394917	0.00394917	2381.8	11.0499
Octane	0.00396868	0.00396868	0.00396868	341.351	2.87538
Nonane	0.00125639	0.00125639	0.00125639	29.9067	0.342423
Benzene	0.242955	0.242955	0.242955	64.6537	10.4639
Toluene	1.54342	1.54342	1.54342	99.7542	23.0552
Ethylbenzene	0.0842252	0.0842252	0.0842252	2.17112	0.501288
o-Xylene	1.75252	1.75252	1.75252	19.9425	6.15052
n-Hexane	0.00331413	0.00331413	0.00331413	1608.18	5.8317
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00145418	0.00145418	0.00145418	0.255013	0.0128361
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	20 %	21 %	22 %	23 %	24 %
Triethylene Glycol	93.4193	93.4193	93.4193	0.000112724	0.0156176
Water	6.54682	6.54682	6.54682	0.00404414	82.6902
Hydrogen Sulfide	2.2479E-07	2.2479E-07	2.2479E-07	0.000992833	0.012826
Carbon Dioxide	8.98325E-08	8.98325E-08	8.98325E-08	0.152528	0.202362
Nitrogen	0	0	0	0.649782	0.00114581
Methane	0	0	0	78.06	1.67126
Ethane	1.62178E-07	1.62178E-07	1.62178E-07	11.3348	1.83651
Propane	6.8017E-07	6.8017E-07	6.8017E-07	5.07637	1.99044
Isobutane	3.11879E-07	3.11879E-07	3.11879E-07	0.871274	0.438868
n-Butane	2.32024E-06	2.32024E-06	2.32024E-06	1.781	1.67025
Isopentane	2.4795E-06	2.4795E-06	2.4795E-06	0.496511	0.654023
n-Pentane	5.46367E-06	5.46367E-06	5.46367E-06	0.573821	1.05294
i-C6	4.34053E-05	4.34053E-05	4.34053E-05	0.458205	1.20072
i-C7	3.58006E-05	3.58006E-05	3.58006E-05	0.268954	1.10881
Octane	3.15596E-05	3.15596E-05	3.15596E-05	0.0338124	0.2531
Nonane	8.89833E-06	8.89833E-06	8.89833E-06	0.00263841	0.0268448
Benzene	0.00282534	0.00282534	0.00282534	0.00936538	1.34694
Toluene	0.0152161	0.0152161	0.0152161	0.0122501	2.51593
Ethylbenzene	0.000720645	0.000720645	0.000720645	0.000231394	0.0474764
o-Xylene	0.0149948	0.0149948	0.0149948	0.00212544	0.582508
n-Hexane	3.49339E-05	3.49339E-05	3.49339E-05	0.211154	0.680431
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	8.61097E-06	8.61097E-06	8.61097E-06	1.88099E-05	0.000841354
Decanes Plus Sat	0	0	0	0	0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Mass Fraction	20 %	21 %	22 %	23 %	24 %
Triethylene Glycol	99.1431	99.1431	99.1431	0.00078215	0.0892931
Water	0.8335	0.8335	0.8335	0.00336626	56.7163
Hydrogen Sulfide	5.41406E-08	5.41406E-08	5.41406E-08	0.00156339	0.0166424
Carbon Dioxide	2.79392E-08	2.79392E-08	2.79392E-08	0.310154	0.339069
Nitrogen	0	0	0	0.841035	0.00122206
Methane	0	0	0	57.8602	1.02077
Ethane	3.44624E-08	3.44624E-08	3.44624E-08	15.7476	2.10245
Propane	2.11957E-07	2.11957E-07	2.11957E-07	10.3426	3.34163
Isobutane	1.28104E-07	1.28104E-07	1.28104E-07	2.33979	0.971156
n-Butane	9.53036E-07	9.53036E-07	9.53036E-07	4.78284	3.69604
Isopentane	1.26423E-06	1.26423E-06	1.26423E-06	1.65515	1.79653
n-Pentane	2.78579E-06	2.78579E-06	2.78579E-06	1.91287	2.89231
i-C6	2.64338E-05	2.64338E-05	2.64338E-05	1.82441	3.93949
i-C7	2.53514E-05	2.53514E-05	2.53514E-05	1.24518	4.23005
Octane	2.54765E-05	2.54765E-05	2.54765E-05	0.178456	1.10073
Nonane	8.06525E-06	8.06525E-06	8.06525E-06	0.015635	0.131084
Benzene	0.00155963	0.00155963	0.00155963	0.0338005	4.00569
Toluene	0.00990782	0.00990782	0.00990782	0.0521508	8.82578
Ethylbenzene	0.000540676	0.000540676	0.000540676	0.00113505	0.191899
o-Xylene	0.0112501	0.0112501	0.0112501	0.0104258	2.35449
n-Hexane	2.12748E-05	2.12748E-05	2.12748E-05	0.840743	2.23244
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.33495E-06	9.33495E-06	9.33495E-06	0.000133319	0.0049138
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	20	21	22	23	24
Temperature	°F	269.135	270.211	95 *	95 *	70 *
Pressure	psig	0.5	1315 *	1305	1281	0 *
Molecular Weight	lb/lbmol	141.503	141.503	141.503	21.6431	26.2656
Mass Flow	lb/h	15577.8	15577.8	15577.8	191280	261.225
Std Vapor Volumetric Flow	MMSCFD	1.00264	1.00264	1.00264	80.4926	0.0905801
Std Liquid Volumetric Flow	sgpm	27.6 *	27.6	27.6	1083.09	0.644705
API Gravity		-6.73538	-6.91914	-6.91775		
Net Ideal Gas Heating Value	Btu/ft^3	3529.79	3529.79	3529.79	1176.44	560.671

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Connections

	26	27		
From Block	Blowcase	PUMP-101		
To Block	PUMP-101	BTEX LIQUIDS 3		

Stream Composition

Mass Flow	26 lb/h	27 lb/h		
Triethylene Glycol	0.233256	0.233256		
Water	147.707	147.707		
Hydrogen Sulfide	0.00237415	0.00237415		
Carbon Dioxide	0.014509	0.014509		
Nitrogen	2.89319E-06	2.89319E-06		
Methane	0.00999798	0.00999798		
Ethane	0.138874	0.138874		
Propane	0.719097	0.719097		
Isobutane	0.506563	0.506563		
n-Butane	2.67441	2.67441		
Isopentane	2.29348	2.29348		
n-Pentane	4.25253	4.25253		
i-C6	7.74343	7.74343		
i-C7	10.045	10.045		
Octane	2.82352	2.82352		
Nonane	0.340294	0.340294		
Benzene	9.04272	9.04272		
Toluene	22.0798	22.0798		
Ethylbenzene	0.495047	0.495047		
o-Xylene	6.07964	6.07964		
n-Hexane	4.76451	4.76451		
2,2,4-Trimethylpentane	0	0		
Decanes Plus	0.0128255	0.0128255		
Decanes Plus Sat	0	0		

Mole Fraction	26 %	27 %		
Triethylene Glycol	0.0171476	0.0171476		
Water	90.5152	90.5152		
Hydrogen Sulfide	0.00076906	0.00076906		
Carbon Dioxide	0.00363959	0.00363959		
Nitrogen	1.14018E-06	1.14018E-06		
Methane	0.00688024	0.00688024		
Ethane	0.0509874	0.0509874		
Propane	0.180034	0.180034		
Isobutane	0.0962174	0.0962174		
n-Butane	0.507983	0.507983		
Isopentane	0.350936	0.350936		
n-Pentane	0.6507	0.6507		
i-C6	0.992002	0.992002		
i-C7	1.10671	1.10671		
Octane	0.272884	0.272884		
Nonane	0.0292915	0.0292915		
Benzene	1.27804	1.27804		
Toluene	2.64556	2.64556		
Ethylbenzene	0.0514787	0.0514787		
o-Xylene	0.632206	0.632206		
n-Hexane	0.610376	0.610376		
2,2,4-Trimethylpentane	0	0		
Decanes Plus	0.000923019	0.000923019		
Decanes Plus Sat	0	0		

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Dehy 3	

Mass Fraction	26 %	27 %			
Triethylene Glycol	0.10508	0.10508			
Water	66.541	66.541			
Hydrogen Sulfide	0.00106954	0.00106954			
Carbon Dioxide	0.0065362	0.0065362			
Nitrogen	1.30336E-06	1.30336E-06			
Methane	0.00450403	0.00450403			
Ethane	0.0625617	0.0625617			
Propane	0.323949	0.323949			
Isobutane	0.228203	0.228203			
n-Butane	1.20481	1.20481			
Isopentane	1.0332	1.0332			
n-Pentane	1.91574	1.91574			
i-C6	3.48837	3.48837			
i-C7	4.5252	4.5252			
Octane	1.27198	1.27198			
Nonane	0.1533	0.1533			
Benzene	4.07369	4.07369			
Toluene	9.94683	9.94683			
Ethylbenzene	0.223016	0.223016			
o-Xylene	2.73884	2.73884			
n-Hexane	2.14638	2.14638			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	0.0057778	0.0057778			
Decanes Plus Sat	0	0			

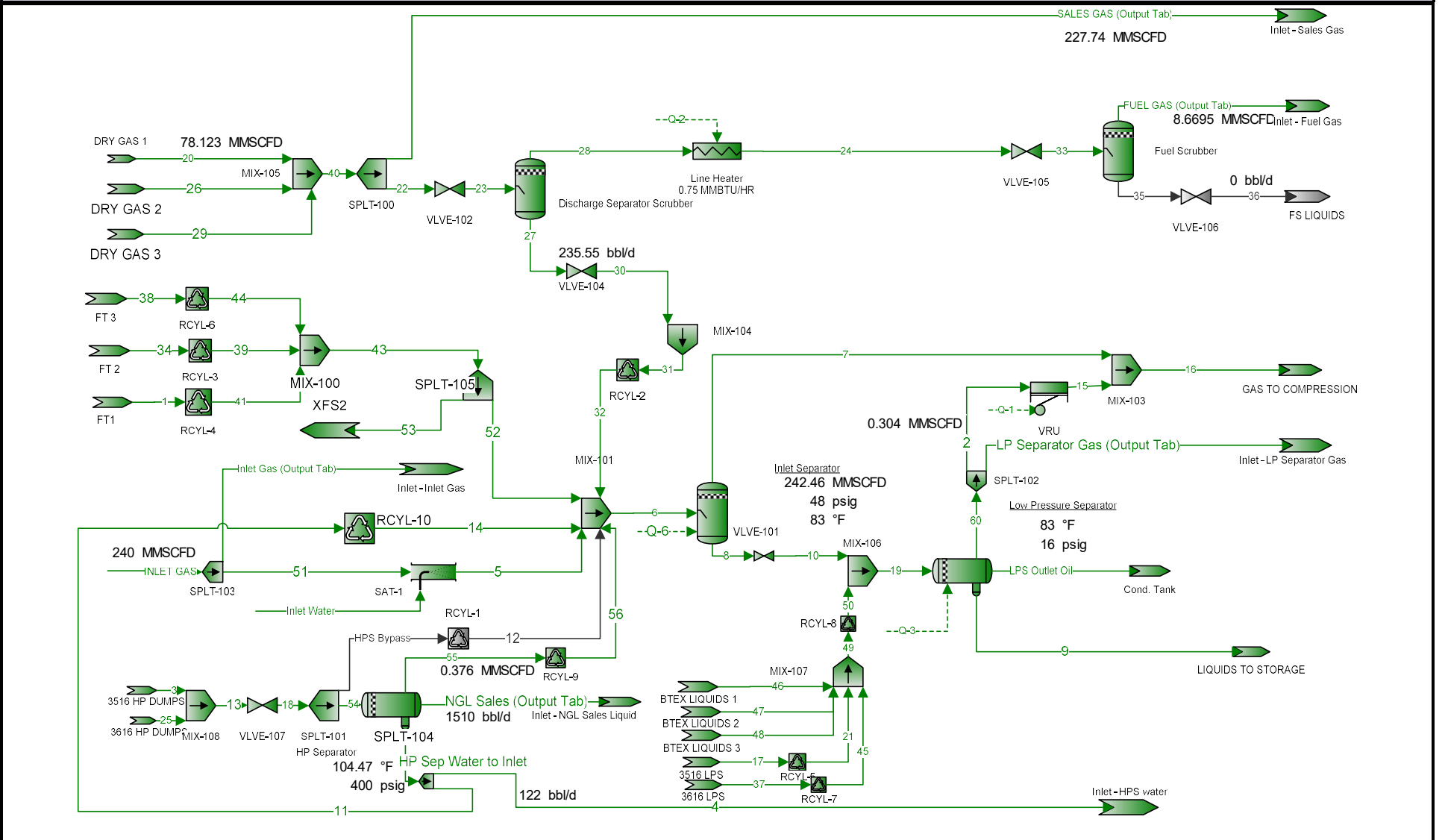
Stream Properties

Property	Units	26	27			
Temperature	°F	70	77.0379			
Pressure	psig	0	16 *			
Molecular Weight	lb/lbmol	24.5061	24.5061			
Mass Flow	lb/h	221.979	221.979			
Std Vapor Volumetric Flow	MMSCFD	0.0824978	0.0824978			
Std Liquid Volumetric Flow	sgpm	0.493334	0.493334			
API Gravity		25.166	25.1905			
Net Ideal Gas Heating Value	Btu/ft^3	397.981	397.981			

Remarks

Inlet Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	



* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	FUEL GAS (Output Tab)	HP Sep Water to Inlet	HPS Bypass	INLET GAS	Inlet Gas (Output Tab)
From Block	Fuel Scrubber	HP Separator	SPLT-101	--	SPLT-103
To Block	Inlet - Fuel Gas	SPLT-104	RCYL-1	SPLT-103	Inlet - Inlet Gas

Stream Composition

Mass Flow	FUEL GAS (Output Tab) lb/h	HP Sep Water to Inlet lb/h	HPS Bypass lb/h	INLET GAS lb/h	Inlet Gas (Output Tab) lb/h
Triethylene Glycol	0.00109758	3.63696E-13	0	0 *	0
Water	0.703909	1777.11	0	0 *	0
Hydrogen Sulfide	0.317758	0.0012213	0	8.98076 *	8.98076
Carbon Dioxide	64.854	0.072354	0	1751.16 *	1751.16
Nitrogen	179.203	0.00270781	0	4731.8 *	4731.8
Methane	12247.3	0.614716	0	325712 *	325712
Ethane	3221.93	0.274955	0	89092.8 *	89092.8
Propane	1971.12	0.110454	0	59260.8 *	59260.8
Isobutane	399.536	0.0123856	0	13707.8 *	13707.8
n-Butane	758.131	0.0375728	0	28487.7 *	28487.7
Isopentane	210.939	0.00642267	0	10437.7 *	10437.7
n-Pentane	221.031	0.00369741	0	12433.9 *	12433.9
i-C6	139.242	0.003524	0	13897.5 *	13897.5
i-C7	49.8764	0.000980058	0	13862.4 *	13862.4
Octane	2.5282	3.19503E-05	0	6260.95 *	6260.95
Nonane	0.0820406	1.5714E-06	0	2906.53 *	2906.53
Benzene	2.24537	0.0229467	0	329.336 *	329.336
Toluene	1.53833	0.022181	0	946.907 *	946.907
Ethylbenzene	0.0147448	0.000295319	0	55.9517 *	55.9517
o-Xylene	0.111541	0.00425943	0	755.348 *	755.348
n-Hexane	52.2186	0.000786287	0	7016.87 *	7016.87
2,2,4-Trimethylpentane	0	0	0	0 *	0
Decanes Plus	0.000178722	2.00163E-06	0	1374.38 *	1374.38
Decanes Plus Sat	0	0	0	0 *	0

Mole Fraction	FUEL GAS (Output Tab) %	HP Sep Water to Inlet %	HPS Bypass %	INLET GAS %	Inlet Gas (Output Tab) %
Triethylene Glycol	7.67809E-07	2.4538E-15	7.17527E-16	0 *	0
Water	0.00410474	99.9459	29.2842	0 *	0
Hydrogen Sulfide	0.000979481	3.63081E-05	0.000772731	0.00099999 *	0.00099999
Carbon Dioxide	0.154811	0.00166575	0.0559877	0.150998 *	0.150998
Nitrogen	0.67203	9.79367E-05	0.0505071	0.640994 *	0.640994
Methane	80.2011	0.0388236	14.4367	77.0472 *	77.0472
Ethane	11.2566	0.00926476	7.33573	11.2439 *	11.2439
Propane	4.69599	0.00253792	7.54759	5.09995 *	5.09995
Isobutane	0.722144	0.000215907	2.39422	0.894991 *	0.894991
n-Butane	1.37029	0.000654974	6.45682	1.85998 *	1.85998
Isopentane	0.307141	9.01942E-05	3.14909	0.548995 *	0.548995
n-Pentane	0.321835	5.19232E-05	4.45835	0.653993 *	0.653993
i-C6	0.169745	4.14329E-05	6.93117	0.611994 *	0.611994
i-C7	0.0522913	9.90987E-06	8.76582	0.524995 *	0.524995
Octane	0.00232512	2.83395E-07	3.15699	0.207998 *	0.207998
Nonane	6.71992E-05	1.24138E-08	0.604178	0.0859991 *	0.0859991
Benzene	0.00301982	0.000297643	0.210231	0.0159998 *	0.0159998
Toluene	0.00175396	0.000243912	0.701832	0.0389996 *	0.0389996
Ethylbenzene	1.45904E-05	2.8184E-06	0.0293877	0.00199998 *	0.00199998
o-Xylene	0.000110373	4.06502E-05	0.348498	0.0269997 *	0.0269997
n-Hexane	0.0636578	9.24465E-06	4.06317	0.308997 *	0.308997
2,2,4-Trimethylpentane	0	0	0	0 *	0
Decanes Plus	1.22395E-07	1.32206E-08	0.0187407	0.0339997 *	0.0339997
Decanes Plus Sat	0	0	0	0 *	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	FUEL GAS (Output Tab) %	HP Sep Water to Inlet %	HPS Bypass %	INLET GAS %	Inlet Gas (Output Tab) %
Triethylene Glycol	5.62198E-06	2.04519E-14	2.26004E-15	0 *	0
Water	0.00360555	99.933	11.0652	0 *	0
Hydrogen Sulfide	0.00162761	6.8678E-05	0.000552364	0.00151438 *	0.00151438
Carbon Dioxide	0.332194	0.00406872	0.0516804	0.295289 *	0.295289
Nitrogen	0.917908	0.00015227	0.0296759	0.7979 *	0.7979
Methane	62.733	0.0345676	4.85765	54.9233 *	54.9233
Ethane	16.5033	0.0154617	4.62646	15.0233 *	15.0233
Propane	10.0964	0.0062112	6.98056	9.99287 *	9.99287
Isobutane	2.04649	0.000696485	2.91872	2.31148 *	2.31148
n-Butane	3.88328	0.00211285	7.8713	4.80374 *	4.80374
Isopentane	1.08047	0.000361169	4.76541	1.76005 *	1.76005
n-Pentane	1.13216	0.000207918	6.74667	2.09668 *	2.09668
i-C6	0.713221	0.000198167	12.5278	2.34347 *	2.34347
i-C7	0.255476	5.51121E-05	18.4228	2.33754 *	2.33754
Octane	0.0129499	1.79668E-06	7.5637	1.05575 *	1.05575
Nonane	0.000420226	8.83655E-08	1.62527	0.490115 *	0.490115
Benzene	0.0115012	0.00129037	0.344429	0.0555343 *	0.0555343
Toluene	0.00787961	0.00124732	1.35631	0.159672 *	0.159672
Ethylbenzene	7.55253E-05	1.66068E-05	0.0654384	0.00943487 *	0.00943487
o-Xylene	0.000571334	0.000239523	0.776012	0.127371 *	0.127371
n-Hexane	0.267473	4.42157E-05	7.34403	1.18322 *	1.18322
2,2,4-Trimethylpentane	0	0	0	0 *	0
Decanes Plus	9.15444E-07	1.12559E-07	0.0602972	0.231755 *	0.231755
Decanes Plus Sat	0	0	0	0 *	0

Stream Properties

Property	Units	FUEL GAS (Output Tab)	HP Sep Water to Inlet	HPS Bypass	INLET GAS	Inlet Gas (Output Tab)
Temperature	°F	78.4346	104.468		100 *	100
Pressure	psig	120	400	400	48 *	48
Molecular Weight	lb/lbmol	20.5095	18.0176	47.6775	22.5046	22.5046
Mass Flow	lb/h	19522.9	1778.3	0	593031	593031
Std Vapor Volumetric Flow	MMSCFD	8.66951	0.898902	0	240 *	240
Std Liquid Volumetric Flow	sgpm	114.232	3.55916	0 *	3277.73	3277.73
API Gravity			10.0377			
Net Ideal Gas Heating Value	Btu/ft ³	1119.76	0.619497	2178.85	1219.09	1219.09

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	Inlet Water	LP Separator Gas (Output Tab)	LPS Outlet Oil	NGL Sales (Output Tab)	SALES GAS (Output Tab)
From Block	--	SPLT-102	Low Pressure Separator	HP Separator	SPLT-100
To Block	SAT-1	Inlet - LP Separator Gas	Cond. Tank	Inlet - NGL Sales Liquid	Inlet - Sales Gas

Stream Composition

	Inlet Water	LP Separator Gas (Output Tab)	LPS Outlet Oil	NGL Sales (Output Tab)	SALES GAS (Output Tab)
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	0 *	1.22979E-08	0.000105418	3.97916E-16	4.23244
Water	7627.74 *	11.6962	2.35238	3.37229	18.1814
Hydrogen Sulfide	0 *	0.029832	0.0132921	0.0679552	8.45733
Carbon Dioxide	0 *	2.53826	0.390069	4.89025	1678.38
Nitrogen	0 *	1.11928	0.0173816	0.886183	4551.68
Methane	0 *	216.914	12.1377	308.115	313137
Ethane	0 *	214.175	74.294	555.869	85223.8
Propane	0 *	243.07	291.383	999.189	55972.1
Isobutane	0 *	66.0947	194.023	443.645	12662.5
n-Butane	0 *	141.469	603.821	1215.24	25883.3
Isopentane	0 *	48.8422	506.015	751.184	8957.15
n-Pentane	0 *	56.7021	775.28	1068.15	10351.7
i-C6	0 *	54.991	1856.96	2001.98	9872.84
i-C7	0 *	40.0174	4072.13	2958.11	6738.09
Octane	0 *	8.71489	4034.58	1217.3	965.61
Nonane	0 *	1.74077	2534.49	261.733	84.5949
Benzene	0 *	1.72374	84.3951	55.1145	182.354
Toluene	0 *	2.7209	438.876	217.975	281.085
Ethylbenzene	0 *	0.0780583	38.873	10.5321	6.12056
o-Xylene	0 *	0.889378	568.174	124.917	56.1907
n-Hexane	0 *	25.2349	1223.49	1175.95	4549.63
2,2,4-Trimethylpentane	0 *	0	0	0	0
Decanes Plus	0 *	0.147899	1350.24	9.71307	0.720875
Decanes Plus Sat	0 *	0	0	0	0

	Inlet Water	LP Separator Gas (Output Tab)	LPS Outlet Oil	NGL Sales (Output Tab)	SALES GAS (Output Tab)
Mole Fraction	%	%	%	%	%
Triethylene Glycol	0 *	2.45037E-10	3.63168E-07	1.33859E-18	0.000112711
Water	100 *	1.94266	0.067554	0.0945652	0.00403603
Hydrogen Sulfide	0 *	0.00261918	0.000201774	0.0010073	0.000992409
Carbon Dioxide	0 *	0.172577	0.00458542	0.0561347	0.152515
Nitrogen	0 *	0.119555	0.000321002	0.015981	0.649792
Methane	0 *	40.4586	0.391427	9.70261	78.0606
Ethane	0 *	21.3129	1.27826	9.33899	11.3347
Propane	0 *	16.4941	3.41864	11.4472	5.07626
Isobutane	0 *	3.40265	1.72702	3.85603	0.871255
n-Butane	0 *	7.28305	5.37465	10.5625	1.78093
Isopentane	0 *	2.02563	3.62843	5.25974	0.496488
n-Pentane	0 *	2.3516	5.55922	7.47915	0.573785
i-C6	0 *	1.90942	11.1482	11.7361	0.45817
i-C7	0 *	1.195	21.0247	14.9137	0.268924
Octane	0 *	0.228287	18.2729	5.38355	0.0338061
Nonane	0 *	0.0406124	10.2235	1.03093	0.00263778
Benzene	0 *	0.0660311	0.558965	0.356448	0.00933611
Toluene	0 *	0.0883618	2.46425	1.19513	0.0122002
Ethylbenzene	0 *	0.00220004	0.189431	0.0501163	0.000230557

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name: DELAWARE DIVISION Job:
 Location: Spartan Compressor Station
 Flowsheet: Inlet

	Inlet Water	LP Separator Gas (Output Tab)	LPS Outlet Oil	NGL Sales (Output Tab)	SALES GAS (Output Tab)
Mole Fraction	%	%	%	%	%
o-Xylene	0 *	0.0250668	2.76875	0.594411	0.00211666
n-Hexane	0 *	0.876216	7.34517	6.8937	0.211135
2,2,4-Trimethylpentane	0 *	0	0	0	0
Decanes Plus	0 *	0.00288492	4.55376	0.0319873	1.87933E-05
Decanes Plus Sat	0 *	0	0	0	0

	Inlet Water	LP Separator Gas (Output Tab)	LPS Outlet Oil	NGL Sales (Output Tab)	SALES GAS (Output Tab)
Mass Fraction	%	%	%	%	%
Triethylene Glycol	0 *	1.0798E-09	5.64882E-07	2.97308E-18	0.000782067
Water	100 *	1.02696	0.0126052	0.0251966	0.00335955
Hydrogen Sulfide	0 *	0.00261935	7.12256E-05	0.000507737	0.00156274
Carbon Dioxide	0 *	0.222868	0.00209018	0.0365382	0.31013
Nitrogen	0 *	0.0982766	9.3139E-05	0.00662124	0.841057
Methane	0 *	19.0458	0.06504	2.30212	57.8613
Ethane	0 *	18.8053	0.398104	4.15325	15.7476
Propane	0 *	21.3423	1.56138	7.46559	10.3425
Isobutane	0 *	5.80333	1.03967	3.31476	2.33977
n-Butane	0 *	12.4215	3.23557	9.07984	4.7827
Isopentane	0 *	4.2885	2.71148	5.61258	1.6551
n-Pentane	0 *	4.97863	4.15434	7.98087	1.91277
i-C6	0 *	4.82839	9.95054	14.9581	1.8243
i-C7	0 *	3.51366	21.8205	22.1019	1.24506
Octane	0 *	0.765195	21.6193	9.0952	0.178425
Nonane	0 *	0.152845	13.5811	1.95558	0.0156314
Benzene	0 *	0.15135	0.452231	0.411796	0.0336952
Toluene	0 *	0.238904	2.35172	1.62863	0.0519387
Ethylbenzene	0 *	0.00685378	0.208301	0.0786918	0.00113095
o-Xylene	0 *	0.0780903	3.04456	0.933335	0.0103829
n-Hexane	0 *	2.2157	6.55608	8.78628	0.840677
2,2,4-Trimethylpentane	0 *	0	0	0	0
Decanes Plus	0 *	0.012986	7.23526	0.0725726	0.000133203
Decanes Plus Sat	0 *	0	0	0	0

Stream Properties

Property	Units	Inlet Water	LP Separator Gas (Output Tab)	LPS Outlet Oil	NGL Sales (Output Tab)	SALES GAS (Output Tab)
Temperature	°F	293.732	83	83	104.468	93.2685
Pressure	psig	48	16	16	400	1281
Molecular Weight	lb/lbmol	18.0153	34.0787	96.5475	67.6131	21.6429
Mass Flow	lb/h	7627.74	1138.91	18661.9	13383.9	541186
Std Vapor Volumetric Flow	MMSCFD	3.8562	0.304377	1.76044	1.80284	227.739
Std Liquid Volumetric Flow	sgpm	15.2484	5.09538	54.0967	44.056	3064.4
API Gravity				71.5	94.2821	
Net Ideal Gas Heating Value	Btu/ft ³	0	1784.74	4873.39	3459.59	1176.43

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	1	2	3	4	5
From Block	FT1	SPLT-102	3516 HP DUMPS	SPLT-104	SAT-1
To Block	RCYL-4	VRU	MIX-108	Inlet - HPS water	MIX-101

Stream Composition

Mass Flow	1 lb/h	2 lb/h	3 lb/h	4 lb/h	5 lb/h
Triethylene Glycol	0.010583	1.22979E-08	5.21475E-16	3.63696E-13	0
Water	0.750143	11.6962	67.2624	1777.11	7627.74
Hydrogen Sulfide	0.0246325	0.029832	0.00474335	0.0012213	8.98076
Carbon Dioxide	2.35023	2.53826	0.508278	0.072354	1751.16
Nitrogen	0.258251	1.11928	0.385382	0.00270781	4731.8
Methane	58.3575	216.914	54.2089	0.614716	325712
Ethane	36.0472	214.175	40.7699	0.274955	89092.8
Propane	30.3511	243.07	52.078	0.110454	59260.8
Isobutane	6.49601	66.0947	19.0657	0.0123856	13707.8
n-Butane	17.1004	141.469	48.8384	0.0375728	28487.7
Isopentane	5.29965	48.8422	25.729	0.00642267	10437.7
n-Pentane	7.14755	56.7021	35.1725	0.00369741	12433.9
i-C6	5.8276	54.991	56.4422	0.003524	13897.5
i-C7	4.09456	40.0174	66.9925	0.000980058	13862.4
Octane	0.491456	8.71489	17.9542	3.19503E-05	6260.95
Nonane	0.0337787	1.74077	2.3658	1.5714E-06	2906.53
Benzene	0.41926	1.72374	1.47641	0.0229467	329.336
Toluene	0.531422	2.7209	4.58498	0.022181	946.907
Ethylbenzene	0.00768648	0.0780583	0.156089	0.000295319	55.9517
o-Xylene	0.0745228	0.889378	1.68811	0.00425943	755.348
n-Hexane	2.67335	25.2349	31.2331	0.000786287	7016.87
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000238971	0.147899	0.0304954	2.00163E-06	1374.38
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	1 %	2 %	3 %	4 %	5 %
Triethylene Glycol	0.00110729	2.45037E-10	2.54669E-17	2.4538E-15	0
Water	0.654258	1.94266	27.3821	99.9459	1.58134
Hydrogen Sulfide	0.0113565	0.00261918	0.00102073	3.63081E-05	0.000984177
Carbon Dioxide	0.839093	0.172577	0.0847013	0.00166575	0.148611
Nitrogen	0.144851	0.119555	0.100893	9.79367E-05	0.630857
Methane	57.1573	40.4586	24.7819	0.0388236	75.8288
Ethane	18.8364	21.3129	9.94387	0.00926476	11.0661
Propane	10.815	16.4941	8.66151	0.00253792	5.0193
Isobutane	1.75611	3.40265	2.40572	0.000215907	0.880838
n-Butane	4.62284	7.28305	6.16247	0.000654974	1.83057
Isopentane	1.15415	2.02563	2.61535	9.01942E-05	0.540313
n-Pentane	1.55659	2.3516	3.57528	5.19232E-05	0.643652
i-C6	1.06256	1.90942	4.80348	4.14329E-05	0.602316
i-C7	0.642062	1.195	4.90326	9.90987E-06	0.516693
Octane	0.0676014	0.228287	1.15273	2.83395E-07	0.204709
Nonane	0.00413823	0.0406124	0.135282	1.24138E-08	0.0846392
Benzene	0.084336	0.0660311	0.13862	0.000297643	0.0157468
Toluene	0.0906244	0.0883618	0.364948	0.000243912	0.0383829
Ethylbenzene	0.00113761	0.00220004	0.0107827	2.8184E-06	0.00196835
o-Xylene	0.0110295	0.0250668	0.116615	4.06502E-05	0.0265728
n-Hexane	0.487437	0.876216	2.65808	9.24465E-06	0.304111
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.44774E-05	0.00288492	0.00145795	1.32206E-08	0.033462
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	1 %	2 %	3 %	4 %	5 %
Triethylene Glycol	0.00593391	1.0798E-09	9.89616E-17	2.04519E-14	0
Water	0.420609	1.02696	12.7645	99.933	1.2699
Hydrogen Sulfide	0.0138116	0.00261935	0.000900156	6.8678E-05	0.00149515
Carbon Dioxide	1.31778	0.222868	0.0964572	0.00406872	0.29154
Nitrogen	0.144802	0.0982766	0.0731348	0.00015227	0.787767
Methane	32.7213	19.0458	10.2873	0.0345676	54.2259
Ethane	20.2118	18.8053	7.737	0.0154617	14.8325
Propane	17.018	21.3423	9.88296	0.0062112	9.86597
Isobutane	3.64234	5.80333	3.61814	0.000696485	2.28212
n-Butane	9.58824	12.4215	9.26818	0.00211285	4.74274
Isopentane	2.97153	4.2885	4.88266	0.000361169	1.7377
n-Pentane	4.00766	4.97863	6.67477	0.000207918	2.07005
i-C6	3.26756	4.82839	10.7112	0.000198167	2.31371
i-C7	2.29584	3.51366	12.7133	5.51121E-05	2.30786
Octane	0.275561	0.765195	3.40721	1.79668E-06	1.04235
Nonane	0.0189399	0.152845	0.448964	8.83655E-08	0.483891
Benzene	0.235081	0.15135	0.280182	0.00129037	0.0548291
Toluene	0.297971	0.238904	0.870102	0.00124732	0.157645
Ethylbenzene	0.00430984	0.00685378	0.0296215	1.66068E-05	0.00931506
o-Xylene	0.0417853	0.0780903	0.320357	0.000239523	0.125753
n-Hexane	1.49896	2.2157	5.92718	4.42157E-05	1.1682
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000133992	0.012986	0.00578718	1.12559E-07	0.228812
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	1	2	3	4	5
Temperature	°F	159.542	83	100	104.468	100
Pressure	psig	55	16	1296	400	48
Molecular Weight	lb/lbmol	28.0228	34.0787	38.6458	18.0176	22.4336
Mass Flow	lb/h	178.347	1138.91	526.947	1778.3	600659
Std Vapor Volumetric Flow	MMSCFD	0.0579641	0.304377	0.124185	0.898902	243.856
Std Liquid Volumetric Flow	sgpm	0.881668	5.09538	1.89766	3.55916	3292.97
API Gravity				118.592	10.0377	
Net Ideal Gas Heating Value	Btu/ft ³	1479.77	1784.74	1752.21	0.619497	1199.82

Remarks

<h2 style="margin:0;">Process Streams Report</h2> <h3 style="margin:0;">All Streams</h3> <p style="margin:0;">Tabulated by Total Phase</p>	
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Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections					
	6	7	8	9	10
From Block	MIX-101	Inlet Separator	Inlet Separator	Low Pressure Separator	VLVE-101
To Block	Inlet Separator	MIX-103	VLVE-101	LIQUIDS TO STORAGE	MIX-106

Stream Composition					
Mass Flow	6 lb/h	7 lb/h	8 lb/h	9 lb/h	10 lb/h
Triethylene Glycol	0.197868	1.6988E-06	0.197867	0.890855	0.197867
Water	9409.26	4473.5	4935.75	7601.76	4935.75
Hydrogen Sulfide	9.09218	9.0875	0.00467918	0.00114196	0.00467918
Carbon Dioxide	1763.12	1762.82	0.302565	0.0321856	0.302565
Nitrogen	4737.14	4737.07	0.0763186	0.000490019	0.0763186
Methane	326490	326471	18.6142	0.24705	18.6142
Ethane	89536.6	89505.7	30.8186	0.92585	30.8186
Propane	59718.2	59646.4	71.7802	3.0817	71.7802
Isobutane	13854.7	13814.9	39.7995	1.98476	39.7995
n-Butane	28856.5	28737	119.551	6.17251	119.551
Isopentane	10613.1	10505.4	107.697	5.12847	107.697
n-Pentane	12662.1	12492.6	169.48	7.8396	169.48
i-C6	14182.1	13730.8	451.37	18.7681	451.37
i-C7	14100.9	12843.7	1257.18	41.1376	1257.18
Octane	6299.3	4353.1	1946.2	40.7536	1946.2
Nonane	2910	1215.07	1694.93	25.601	1694.93
Benzene	335.927	319.928	15.999	0.968518	15.999
Toluene	958.603	825.511	133.092	4.57009	133.092
Ethylbenzene	56.2122	37.6405	18.5718	0.396042	18.5718
o-Xylene	757.782	462.535	295.248	5.79674	295.248
n-Hexane	7159.64	6837.35	322.29	12.361	322.29
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1374.41	139.46	1234.95	13.6396	1234.95
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	6 %	7 %	8 %	9 %	10 %
Triethylene Glycol	4.88538E-06	4.2493E-11	0.000377732	0.00139929	0.000377732
Water	1.93655	0.932769	78.5444	99.5329	78.5444
Hydrogen Sulfide	0.00098917	0.00100162	3.93606E-05	7.90374E-06	3.93606E-05
Carbon Dioxide	0.148542	0.150463	0.00197095	0.000172508	0.00197095
Nitrogen	0.626996	0.635201	0.000781029	4.12611E-06	0.000781029
Methane	75.4593	76.4437	0.332641	0.00363252	0.332641
Ethane	11.0406	11.1815	0.29383	0.00726297	0.29383
Propane	5.0214	5.08108	0.466672	0.016485	0.466672
Isobutane	0.88383	0.892838	0.196308	0.00805489	0.196308
n-Butane	1.84084	1.85723	0.589676	0.0250503	0.589676
Isopentane	0.545414	0.546954	0.427936	0.0167669	0.427936
n-Pentane	0.650716	0.650418	0.673428	0.0256306	0.673428
i-C6	0.6102	0.59852	1.50159	0.0513724	1.50159
i-C7	0.521777	0.481484	3.59686	0.0968404	3.59686
Octane	0.204471	0.14315	4.88446	0.084156	4.88446
Nonane	0.0841263	0.0355872	3.78861	0.0470842	3.78861
Benzene	0.0159456	0.0153852	0.0587191	0.00292472	0.0587191
Toluene	0.0385755	0.033655	0.41411	0.0116998	0.41411
Ethylbenzene	0.00196319	0.00133181	0.0501504	0.00087994	0.0501504
o-Xylene	0.0264653	0.0163655	0.797274	0.0128794	0.797274
n-Hexane	0.30805	0.298038	1.07218	0.0338348	1.07218
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0332204	0.00341501	2.30795	0.0209734	2.30795
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	6 %	7 %	8 %	9 %	10 %
Triethylene Glycol	3.26631E-05	2.86514E-10	0.00153815	0.0114329	0.00153815
Water	1.55323	0.754485	38.369	97.5578	38.369
Hydrogen Sulfide	0.00150089	0.00153267	3.63745E-05	1.46554E-05	3.63745E-05
Carbon Dioxide	0.291048	0.297311	0.00235205	0.000413057	0.00235205
Nitrogen	0.781984	0.798937	0.000593277	6.2887E-06	0.000593277
Methane	53.8954	55.0615	0.144701	0.00317054	0.144701
Ethane	14.7803	15.0957	0.239574	0.011882	0.239574
Propane	9.85798	10.0598	0.557997	0.0395493	0.557997
Isobutane	2.28707	2.32997	0.309389	0.0254716	0.309389
n-Butane	4.76349	4.84668	0.929351	0.0792154	0.929351
Isopentane	1.75196	1.7718	0.837205	0.0658166	0.837205
n-Pentane	2.0902	2.10697	1.31748	0.10061	1.31748
i-C6	2.34112	2.31578	3.50881	0.240862	3.50881
i-C7	2.32771	2.16618	9.77292	0.527943	9.77292
Octane	1.03986	0.734179	15.1292	0.523015	15.1292
Nonane	0.480368	0.204929	13.1759	0.328552	13.1759
Benzene	0.0554532	0.053958	0.124371	0.0124296	0.124371
Toluene	0.158241	0.139228	1.03462	0.0586506	1.03462
Ethylbenzene	0.00927924	0.00634831	0.144371	0.00508264	0.144371
o-Xylene	0.125091	0.0780095	2.29516	0.0743929	2.29516
n-Hexane	1.18188	1.15316	2.50538	0.158636	2.50538
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.226881	0.0235209	9.6001	0.175045	9.6001
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	6	7	8	9	10
Temperature	°F	99.4476	83 *	83	83	82.5225
Pressure	psig	48	48	48	16	16 *
Molecular Weight	lb/lbmol	22.4612	22.2722	36.8787	18.38	36.8787
Mass Flow	lb/h	605785	592921	12863.9	7792.06	12863.9
Std Vapor Volumetric Flow	MMSCFD	245.635	242.459	3.17689	3.8611	3.17689
Std Liquid Volumetric Flow	sgpm	3311.28	3279.05	32.2347	15.7481	32.2347
API Gravity				44.7038	11.5075	
Net Ideal Gas Heating Value	Btu/ft^3	1197.66	1198.36	1144.19	22.6049	1144.19

Remarks

Process Streams Report		
All Streams		
Tabulated by Total Phase		

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections					
	11	12	13	14	15
From Block	SPLT-104	RCYL-1	MIX-108	RCYL-10	VRU
To Block	RCYL-10	MIX-101	VLVE-107	MIX-101	MIX-103

Stream Composition					
Mass Flow	11 lb/h	12 lb/h	13 lb/h	14 lb/h	15 lb/h
Triethylene Glycol	3.63696E-13	0	3.64094E-13	0	1.22979E-08
Water	1777.11	0	1782.61	1777.1	11.6962
Hydrogen Sulfide	0.0012213	0	0.0889862	0.00122117	0.029832
Carbon Dioxide	0.072354	0	8.32573	0.0723417	2.53826
Nitrogen	0.00270781	0	4.78081	0.00270782	1.11928
Methane	0.614716	0	782.57	0.614716	216.914
Ethane	0.274955	0	745.325	0.274955	214.175
Propane	0.110454	0	1124.57	0.110454	243.07
Isobutane	0.0123856	0	470.207	0.0123856	66.0947
n-Butane	0.0375728	0	1268.07	0.0375728	141.469
Isopentane	0.00642267	0	767.709	0.00642267	48.8422
n-Pentane	0.00369741	0	1086.89	0.00369741	56.7021
i-C6	0.003524	0	2018.24	0.003524	54.991
i-C7	0.000980058	0	2967.92	0.000980052	40.0174
Octane	3.19503E-05	0	1218.52	3.19498E-05	8.71489
Nonane	1.5714E-06	0	261.832	1.57137E-06	1.74077
Benzene	0.0229467	0	55.4877	0.0229461	1.72374
Toluene	0.022181	0	218.503	0.0221812	2.7209
Ethylbenzene	0.000295319	0	10.5422	0.000295328	0.0780583
o-Xylene	0.00425943	0	125.016	0.00425961	0.889378
n-Hexane	0.000786287	0	1183.13	0.000786285	25.2349
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.00163E-06	0	9.71392	1.95738E-06	0.147899
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	11 %	12 %	13 %	14 %	15 %
Triethylene Glycol	2.4538E-15	8.20676E-13	7.17527E-16	0	2.45037E-10
Water	99.9459	23.6004	29.2842	99.9459	1.94266
Hydrogen Sulfide	3.63081E-05	0.000814536	0.000772731	3.63042E-05	0.00261918
Carbon Dioxide	0.00166575	0.0527788	0.0559877	0.00166546	0.172577
Nitrogen	9.79367E-05	0.146682	0.0505071	9.79369E-05	0.119555
Methane	0.0388236	19.1534	14.4367	0.0388236	40.4586
Ethane	0.00926476	10.2694	7.33573	0.00926477	21.3129
Propane	0.00253792	11.6167	7.54759	0.00253792	16.4941
Isobutane	0.000215907	2.73797	2.39422	0.000215908	3.40265
n-Butane	0.000654974	8.8775	6.45682	0.000654975	7.28305
Isopentane	9.01942E-05	3.33175	3.14909	9.01944E-05	2.02563
n-Pentane	5.19232E-05	4.66764	4.45835	5.19232E-05	2.3516
i-C6	4.14329E-05	2.81714	6.93117	4.14329E-05	1.90942
i-C7	9.90987E-06	6.16513	8.76582	9.90983E-06	1.195
Octane	2.83395E-07	2.61371	3.15699	2.83392E-07	0.228287
Nonane	1.24138E-08	0.356182	0.604178	1.24136E-08	0.0406124
Benzene	0.000297643	0.164297	0.210231	0.000297635	0.0660311
Toluene	0.000243912	0.401253	0.701832	0.000243914	0.0883618
Ethylbenzene	2.8184E-06	0.0259811	0.0293877	2.81849E-06	0.00220004
o-Xylene	4.06502E-05	0.218441	0.348498	4.0652E-05	0.0250668
n-Hexane	9.24465E-06	2.52742	4.06317	9.24463E-06	0.876216
2,2,4-Trimethylpentane	0	0.255304	0	0	0
Decanes Plus	1.32206E-08	0.000144212	0.0187407	1.29284E-08	0.00288492
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	11 %	12 %	13 %	14 %	15 %
Triethylene Glycol	2.04519E-14	2.8399E-12	2.26004E-15	0	1.0798E-09
Water	99.933	9.79715	11.0652	99.933	1.02696
Hydrogen Sulfide	6.8678E-05	0.000639677	0.000552364	6.86705E-05	0.00261935
Carbon Dioxide	0.00406872	0.0535236	0.0516804	0.00406803	0.222868
Nitrogen	0.00015227	0.094685	0.0296759	0.00015227	0.0982766
Methane	0.0345676	7.08037	4.85765	0.0345677	19.0458
Ethane	0.0154617	7.11547	4.62646	0.0154617	18.8053
Propane	0.0062112	11.8037	6.98056	0.00621122	21.3423
Isobutane	0.000696485	3.667	2.91872	0.000696487	5.80333
n-Butane	0.00211285	11.8897	7.8713	0.00211286	12.4215
Isopentane	0.000361169	5.53913	4.76541	0.00036117	4.2885
n-Pentane	0.000207918	7.76009	6.74667	0.000207919	4.97863
i-C6	0.000198167	5.59411	12.5278	0.000198167	4.82839
i-C7	5.51121E-05	14.235	18.4228	5.51119E-05	3.51366
Octane	1.79668E-06	6.87975	7.5637	1.79665E-06	0.765195
Nonane	8.83655E-08	1.05266	1.62527	8.8364E-08	0.152845
Benzene	0.00129037	0.295725	0.344429	0.00129034	0.15135
Toluene	0.00124732	0.85192	1.35631	0.00124733	0.238904
Ethylbenzene	1.66068E-05	0.0635593	0.0654384	1.66073E-05	0.00685378
o-Xylene	0.000239523	0.534387	0.776012	0.000239533	0.0780903
n-Hexane	4.42157E-05	5.01881	7.34403	4.42156E-05	2.2157
2,2,4-Trimethylpentane	0	0.672004	0	0	0
Decanes Plus	1.12559E-07	0.000509763	0.0602972	1.10071E-07	0.012986
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	11	12	13	14	15
Temperature	°F	104.468		111.158	104.468	184.602
Pressure	psig	400	500	718	400	70 *
Molecular Weight	lb/lbmol	18.0176	43.397	47.6775	18.0176	34.0787
Mass Flow	lb/h	1778.3	0	16110.1	1778.3	1138.91
Std Vapor Volumetric Flow	MMSCFD	0.898902	0	3.07743	0.898901	0.304377
Std Liquid Volumetric Flow	sgpm	3.55916	0	52.8443	3.55916	5.09538
API Gravity		10.0377			10.0377	
Net Ideal Gas Heating Value	Btu/ft ³	0.619497	2025.92	2178.85	0.619497	1784.74

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	16	17	18	19	20
From Block	MIX-103	3516 LPS	VLVE-107	MIX-106	DRY GAS 1
To Block	GAS TO COMPRESSIO N	RCYL-5	SPLT-101	Low Pressure Separator	MIX-105

Stream Composition

Mass Flow	16 lb/h	17 lb/h	18 lb/h	19 lb/h	20 lb/h
Triethylene Glycol	1.7111E-06	1.12775E-07	3.64094E-13	0.89096	1.4518
Water	4485.2	197.846	1782.61	7615.81	6.23046
Hydrogen Sulfide	9.11733	0.00355324	0.0889862	0.0442661	2.90055
Carbon Dioxide	1765.36	0.284996	8.32573	2.96052	575.722
Nitrogen	4738.19	0.113	4.78081	1.13715	1561.41
Methane	326688	22.7017	782.57	229.299	107418
Ethane	89719.9	28.7105	745.325	289.395	29234.9
Propane	59889.5	52.5737	1124.57	537.535	19200.3
Isobutane	13881	25.5673	470.207	262.103	4343.67
n-Butane	28878.4	72.8935	1268.07	751.463	8878.78
Isopentane	10554.2	52.3279	767.709	559.985	3072.57
n-Pentane	12549.3	77.5293	1086.89	839.822	3550.9
i-C6	13785.7	171.832	2018.24	1930.72	3386.63
i-C7	12883.7	328.238	2967.92	4153.29	2311.29
Octane	4361.81	213.314	1218.52	4084.05	331.209
Nonane	1216.81	74.0474	261.832	2561.83	29.0157
Benzene	321.652	5.10733	55.4877	87.0874	62.4533
Toluene	828.232	27.1215	218.503	446.167	96.2195
Ethylbenzene	37.7185	1.89426	10.5422	39.3471	2.09566
o-Xylene	463.424	24.786	125.016	574.86	19.2344
n-Hexane	6862.59	109.046	1183.13	1261.09	1560.62
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	139.608	9.15196	9.71392	1364.03	0.247175
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	16 %	17 %	18 %	19 %	20 %
Triethylene Glycol	4.2747E-11	2.71113E-09	7.17527E-16	0.000911834	0.000112704
Water	0.934035	39.6474	29.2842	64.9717	0.00403185
Hydrogen Sulfide	0.00100364	0.000376394	0.000772731	0.000199622	0.000992191
Carbon Dioxide	0.15049	0.0233788	0.0559877	0.0103388	0.152508
Nitrogen	0.634554	0.0145627	0.0505071	0.00623882	0.649797
Methane	76.3985	5.10878	14.4367	2.19675	78.0609
Ethane	11.1942	3.44707	7.33573	1.47918	11.3346
Propane	5.09539	4.3043	7.54759	1.87353	5.07621
Isobutane	0.895985	1.58808	2.39422	0.693073	0.871245
n-Butane	1.86403	4.52768	6.45682	1.98708	1.78089
Isopentane	0.548808	2.61838	3.14909	1.19288	0.496477
n-Pentane	0.652551	3.87941	4.45835	1.78899	0.573766
i-C6	0.600163	7.19863	6.93117	3.44339	0.458153
i-C7	0.482379	11.8261	8.76582	6.37038	0.268908
Octane	0.143257	6.74177	3.15699	5.49498	0.0338029
Nonane	0.0355935	2.08432	0.604178	3.06991	0.00263745
Benzene	0.0154487	0.236051	0.210231	0.171351	0.00932104
Toluene	0.0337236	1.06268	0.701832	0.744228	0.0121744
Ethylbenzene	0.00133289	0.0644151	0.0293877	0.0569614	0.000230126
o-Xylene	0.0163764	0.842856	0.348498	0.832204	0.00211214
n-Hexane	0.298763	4.56831	4.06317	2.24911	0.211126
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00341435	0.215386	0.0187407	1.36662	1.87847E-05
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	16	17	18	19	20
	%	%	%	%	%
Triethylene Glycol	2.88035E-10	7.54302E-09	2.26004E-15	0.00322894	0.000782024
Water	0.755008	13.233	11.0652	27.6006	0.00335609
Hydrogen Sulfide	0.00153475	0.000237661	0.000552364	0.000160425	0.00156241
Carbon Dioxide	0.297168	0.0190622	0.0516804	0.0107293	0.310118
Nitrogen	0.797594	0.00755807	0.0296759	0.00412118	0.841069
Methane	54.9925	1.51842	4.85765	0.831007	57.8619
Ethane	15.1028	1.92032	4.62646	1.0488	15.7476
Propane	10.0814	3.51642	6.98056	1.94809	10.3424
Isobutane	2.33663	1.71008	2.91872	0.949892	2.33975
n-Butane	4.8612	4.87552	7.8713	2.72339	4.78263
Isopentane	1.77663	3.49998	4.76541	2.02945	1.65507
n-Pentane	2.11247	5.18559	6.74667	3.04361	1.91272
i-C6	2.3206	11.4931	12.5278	6.99717	1.82424
i-C7	2.16876	21.9544	18.4228	15.052	1.245
Octane	0.734238	14.2676	7.5637	14.8011	0.178409
Nonane	0.204829	4.9527	1.62527	9.28438	0.0156295
Benzene	0.0541447	0.341607	0.344429	0.315615	0.033641
Toluene	0.139419	1.81404	1.35631	1.61696	0.0518295
Ethylbenzene	0.00634928	0.126699	0.0654384	0.142599	0.00112885
o-Xylene	0.0780096	1.65782	0.776012	2.08336	0.0103608
n-Hexane	1.1552	7.2936	7.34403	4.57033	0.840644
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0235007	0.612134	0.0602972	4.9434	0.000133143
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	16	17	18	19	20
Temperature	°F	83.1825	99.3328	104.468	89.7689	90
Pressure	psig	48	141	400 *	16	1286
Molecular Weight	lb/lbmol	22.2871	53.9755	47.6775	42.4079	21.6427
Mass Flow	lb/h	594060	1495.09	16110.1	27592.9	185646
Std Vapor Volumetric Flow	MMSCFD	242.763	0.252276	3.07743	5.92592	78.123
Std Liquid Volumetric Flow	sgpm	3284.14	4.44564	52.8443	74.9401	1051.2
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1199.1	2382.55	2178.85	1554.16	1176.43

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections					
	21	22	23	24	25
From Block	RCYL-5	SPLT-100	VLVE-102	Line Heater	3616 HP DUMPS
To Block	MIX-107	VLVE-102	Discharge Separator Scrubber	VLVE-105	MIX-108

Stream Composition					
Mass Flow	21 lb/h	22 lb/h	23 lb/h	24 lb/h	25 lb/h
Triethylene Glycol	1.12775E-07	0.167262	0.167262	0.00109758	3.63572E-13
Water	197.846	0.718511	0.718511	0.703909	1715.35
Hydrogen Sulfide	0.00355324	0.334225	0.334225	0.317758	0.0842428
Carbon Dioxide	0.284996	66.3279	66.3279	64.854	7.81746
Nitrogen	0.113	179.878	179.878	179.203	4.39542
Methane	22.7017	12374.9	12374.9	12247.3	728.361
Ethane	28.7105	3367.96	3367.96	3221.93	704.555
Propane	52.5737	2211.96	2211.96	1971.12	1072.49
Isobutane	25.5673	500.409	500.409	399.536	451.141
n-Butane	72.8935	1022.88	1022.88	758.131	1219.23
Isopentane	52.3279	353.978	353.978	210.939	741.98
n-Pentane	77.5293	409.087	409.087	221.031	1051.72
i-C6	171.832	390.165	390.165	139.242	1961.8
i-C7	328.238	266.283	266.283	49.8764	2900.93
Octane	213.314	38.1599	38.1599	2.5282	1200.56
Nonane	74.0474	3.34311	3.34311	0.0820406	259.466
Benzene	5.10733	7.20644	7.20644	2.24537	54.0113
Toluene	27.1215	11.1082	11.1082	1.53833	213.918
Ethylbenzene	1.89426	0.241878	0.241878	0.0147448	10.3861
o-Xylene	24.786	2.2206	2.2206	0.111541	123.328
n-Hexane	109.046	179.797	179.797	52.2186	1151.89
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.15196	0.0284883	0.0284883	0.000178722	9.68342
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	21 %	22 %	23 %	24 %	25 %
Triethylene Glycol	2.71113E-09	0.000112711	0.000112711	7.67809E-07	7.46629E-16
Water	39.6474	0.00403603	0.00403603	0.00410474	29.3642
Hydrogen Sulfide	0.000376394	0.000992409	0.000992409	0.000979481	0.000762303
Carbon Dioxide	0.0233788	0.152515	0.152515	0.154811	0.0547803
Nitrogen	0.0145627	0.649792	0.649792	0.67203	0.0483883
Methane	5.10878	78.0606	78.0606	80.2011	14.0017
Ethane	3.44707	11.3347	11.3347	11.2566	7.22605
Propane	4.3043	5.07626	5.07626	4.69599	7.50075
Isobutane	1.58808	0.871255	0.871255	0.722144	2.39374
n-Butane	4.52768	1.78093	1.78093	1.37029	6.46919
Isopentane	2.61838	0.496488	0.496488	0.307141	3.17153
n-Pentane	3.87941	0.573785	0.573785	0.321835	4.49549
i-C6	7.19863	0.45817	0.45817	0.169745	7.02064
i-C7	11.8261	0.268924	0.268924	0.0522913	8.92825
Octane	6.74177	0.0338061	0.0338061	0.00232512	3.24127
Nonane	2.08432	0.00263778	0.00263778	6.71992E-05	0.623895
Benzene	0.236051	0.00933611	0.00933611	0.00301982	0.213242
Toluene	1.06268	0.0122002	0.0122002	0.00175396	0.715998
Ethylbenzene	0.0644151	0.000230557	0.000230557	1.45904E-05	0.03017
o-Xylene	0.842856	0.00211666	0.00211666	0.000110373	0.358249
n-Hexane	4.56831	0.211135	0.211135	0.0636578	4.12226
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.215386	1.87933E-05	1.87933E-05	1.22395E-07	0.0194675
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	21 %	22 %	23 %	24 %	25 %
Triethylene Glycol	7.54302E-09	0.000782067	0.000782067	5.62198E-06	2.33312E-15
Water	13.233	0.00335955	0.00335955	0.00360555	11.0078
Hydrogen Sulfide	0.000237661	0.00156274	0.00156274	0.00162761	0.000540604
Carbon Dioxide	0.0190622	0.31013	0.31013	0.332194	0.0501662
Nitrogen	0.00755807	0.841057	0.841057	0.917908	0.0282063
Methane	1.51842	57.8613	57.8613	62.733	4.67404
Ethane	1.92032	15.7476	15.7476	16.5033	4.52128
Propane	3.51642	10.3425	10.3425	10.0964	6.88241
Isobutane	1.71008	2.33977	2.33977	2.04649	2.89507
n-Butane	4.87552	4.7827	4.7827	3.88328	7.82407
Isopentane	3.49998	1.6551	1.6551	1.08047	4.76144
n-Pentane	5.18559	1.91277	1.91277	1.13216	6.7491
i-C6	11.4931	1.8243	1.8243	0.713221	12.5893
i-C7	21.9544	1.24506	1.24506	0.255476	18.6158
Octane	14.2676	0.178425	0.178425	0.0129499	7.70426
Nonane	4.9527	0.0156314	0.0156314	0.000420226	1.66505
Benzene	0.341607	0.0336952	0.0336952	0.0115012	0.346601
Toluene	1.81404	0.0519387	0.0519387	0.00787961	1.37276
Ethylbenzene	0.126699	0.00113095	0.00113095	7.55253E-05	0.0666496
o-Xylene	1.65782	0.0103829	0.0103829	0.000571334	0.79142
n-Hexane	7.2936	0.840677	0.840677	0.267473	7.39194
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.612134	0.000133203	0.000133203	9.15444E-07	0.0621405
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	21	22	23	24	25
Temperature	°F	99.3328	93.2685	63.3013	120 *	111.92
Pressure	psig	141	1281	700 *	690	718
Molecular Weight	lb/lbmol	53.9755	21.6429	21.6429	20.5095	48.0573
Mass Flow	lb/h	1495.09	21387.1	21387.1	19522.9	15583.1
Std Vapor Volumetric Flow	MMSCFD	0.252276	9 *	9	8.66951	2.95324
Std Liquid Volumetric Flow	sgpm	4.44564	121.102	121.102	114.232	50.9466
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	2382.55	1176.43	1176.43	1119.76	2196.79

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	26	27	28	29	30
From Block	DRY GAS 2	Discharge Separator Scrubber	Discharge Separator Scrubber	DRY GAS 3	VLVE-104
To Block	MIX-105	VLVE-104	Line Heater	MIX-105	MIX-104

Stream Composition

Mass Flow	26 lb/h	27 lb/h	28 lb/h	29 lb/h	30 lb/h
Triethylene Glycol	1.4518	0.166164	0.00109758	1.4961	0.166164
Water	6.23046	0.0146013	0.703909	6.439	0.0146013
Hydrogen Sulfide	2.90055	0.0164671	0.317758	2.99046	0.0164671
Carbon Dioxide	575.722	1.4739	64.854	593.264	1.4739
Nitrogen	1561.41	0.675223	179.203	1608.74	0.675223
Methane	107418	127.534	12247.3	110675	127.534
Ethane	29234.9	146.035	3221.93	30122	146.035
Propane	19200.3	240.842	1971.12	19783.3	240.842
Isobutane	4343.67	100.873	399.536	4475.56	100.873
n-Butane	8878.78	264.751	758.131	9148.63	264.751
Isopentane	3072.57	143.039	210.939	3165.98	143.039
n-Pentane	3550.9	188.056	221.031	3658.95	188.056
i-C6	3386.63	250.923	139.242	3489.74	250.923
i-C7	2311.29	216.406	49.8764	2381.8	216.406
Octane	331.209	35.6317	2.5282	341.351	35.6317
Nonane	29.0157	3.26107	0.0820406	29.9067	3.26107
Benzene	62.4533	4.96107	2.24537	64.6537	4.96107
Toluene	96.2195	9.56987	1.53833	99.7542	9.56987
Ethylbenzene	2.09566	0.227134	0.0147448	2.17112	0.227134
o-Xylene	19.2344	2.10906	0.111541	19.9425	2.10906
n-Hexane	1560.62	127.578	52.2186	1608.18	127.578
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.247175	0.0283095	0.000178722	0.255013	0.0283095
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	26 %	27 %	28 %	29 %	30 %
Triethylene Glycol	0.000112704	0.00304928	7.67809E-07	0.000112724	0.00304928
Water	0.00403185	0.00223358	0.00410474	0.00404414	0.00223358
Hydrogen Sulfide	0.000992191	0.00133156	0.000979481	0.000992833	0.00133156
Carbon Dioxide	0.152508	0.0922942	0.154811	0.152528	0.0922942
Nitrogen	0.649797	0.0664253	0.67203	0.649782	0.0664253
Methane	78.0609	21.9082	80.2011	78.06	21.9082
Ethane	11.3346	13.3841	11.2566	11.3348	13.3841
Propane	5.07621	15.0518	4.69599	5.07637	15.0518
Isobutane	0.871245	4.78282	0.722144	0.871274	4.78282
n-Butane	1.78089	12.553	1.37029	1.781	12.553
Isopentane	0.496477	5.46357	0.307141	0.496511	5.46357
n-Pentane	0.573766	7.18309	0.321835	0.573821	7.18309
i-C6	0.458153	8.02434	0.169745	0.458205	8.02434
i-C7	0.268908	5.95176	0.0522913	0.268954	5.95176
Octane	0.0338029	0.859636	0.00232512	0.0338124	0.859636
Nonane	0.00263745	0.0700708	6.71992E-05	0.00263841	0.0700708
Benzene	0.00932104	0.175029	0.00301982	0.00936538	0.175029
Toluene	0.0121744	0.286231	0.00175396	0.0122501	0.286231
Ethylbenzene	0.000230126	0.00589593	1.45904E-05	0.000231394	0.00589593
o-Xylene	0.00211214	0.0547469	0.000110373	0.00212544	0.0547469
n-Hexane	0.211126	4.07986	0.0636578	0.211154	4.07986
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.87847E-05	0.00050858	1.22395E-07	1.88099E-05	0.00050858
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	26 %	27 %	28 %	29 %	30 %
Triethylene Glycol	0.000782024	0.00891356	5.62198E-06	0.00078215	0.00891356
Water	0.00335609	0.000783259	0.00360555	0.00336626	0.000783259
Hydrogen Sulfide	0.00156241	0.000883349	0.00162761	0.00156339	0.000883349
Carbon Dioxide	0.310118	0.0790648	0.332194	0.310154	0.0790648
Nitrogen	0.841069	0.0362211	0.917908	0.841035	0.0362211
Methane	57.8619	6.84133	62.733	57.8602	6.84133
Ethane	15.7476	7.83376	16.5033	15.7476	7.83376
Propane	10.3424	12.9195	10.0964	10.3426	12.9195
Isobutane	2.33975	5.41114	2.04649	2.33979	5.41114
n-Butane	4.78263	14.2021	3.88328	4.78284	14.2021
Isopentane	1.65507	7.67304	1.08047	1.65515	7.67304
n-Pentane	1.91272	10.0879	1.13216	1.91287	10.0879
i-C6	1.82424	13.4603	0.713221	1.82441	13.4603
i-C7	1.245	11.6087	0.255476	1.24518	11.6087
Octane	0.178409	1.9114	0.0129499	0.178456	1.9114
Nonane	0.0156295	0.174934	0.000420226	0.015635	0.174934
Benzene	0.033641	0.266127	0.0115012	0.0338005	0.266127
Toluene	0.0518295	0.513358	0.00787961	0.0521508	0.513358
Ethylbenzene	0.00112885	0.0121842	7.55253E-05	0.00113505	0.0121842
o-Xylene	0.0103608	0.113137	0.000571334	0.0104258	0.113137
n-Hexane	0.840644	6.84369	0.267473	0.840743	6.84369
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000133143	0.00151861	9.15444E-07	0.000133319	0.00151861
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	26	27	28	29	30
Temperature	°F	95	63.3013	63.3013	95	15.6923
Pressure	psig	1281	700	700	1281	55 *
Molecular Weight	lb/lbmol	21.6427	51.3733	20.5095	21.6431	51.3733
Mass Flow	lb/h	185646	1864.17	19522.9	191280	1864.17
Std Vapor Volumetric Flow	MMSCFD	78.123	0.330486	8.66951	80.4926	0.330486
Std Liquid Volumetric Flow	sgpm	1051.2	6.87026	114.232	1083.09	6.87026
API Gravity			122.791			
Net Ideal Gas Heating Value	Btu/ft ³	1176.43	2663.11	1119.76	1176.44	2663.11

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

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

Stream Composition

Mass Flow	31 lb/h	32 lb/h	33 lb/h	34 lb/h	35 lb/h
Triethylene Glycol	0.166164	0.166135	0.00109758	0.010583	0
Water	0.0146013	0.014598	0.703909	0.750143	0
Hydrogen Sulfide	0.0164671	0.0164609	0.317758	0.0246325	0
Carbon Dioxide	1.4739	1.47363	64.854	2.35023	0
Nitrogen	0.675223	0.675014	179.203	0.258251	0
Methane	127.534	127.498	12247.3	58.3575	0
Ethane	146.035	145.996	3221.93	36.0472	0
Propane	240.842	240.764	1971.12	30.3511	0
Isobutane	100.873	100.833	399.536	6.49601	0
n-Butane	264.751	264.641	758.131	17.1004	0
Isopentane	143.039	142.982	210.939	5.29965	0
n-Pentane	188.056	187.986	221.031	7.14755	0
i-C6	250.923	250.871	139.242	5.8276	0
i-C7	216.406	216.436	49.8764	4.09456	0
Octane	35.6317	35.6623	2.5282	0.491456	0
Nonane	3.26107	3.26651	0.0820406	0.0337787	0
Benzene	4.96107	4.95948	2.24537	0.41926	0
Toluene	9.56987	9.57239	1.53833	0.531422	0
Ethylbenzene	0.227134	0.227333	0.0147448	0.00768648	0
o-Xylene	2.10906	2.11111	0.111541	0.0745228	0
n-Hexane	127.578	127.563	52.2186	2.67335	0
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0283095	0.0283892	0.000178722	0.000238971	0
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	31 %	32 %	33 %	34 %	35 %
Triethylene Glycol	0.00304928	0.00304957	7.67809E-07	0.00110729	
Water	0.00223358	0.00223368	0.00410474	0.654258	
Hydrogen Sulfide	0.00133156	0.00133141	0.000979481	0.0113565	
Carbon Dioxide	0.0922942	0.0923022	0.154811	0.839093	
Nitrogen	0.0664253	0.0664227	0.67203	0.144851	
Methane	21.9082	21.9079	80.2011	57.1573	
Ethane	13.3841	13.3841	11.2566	18.8364	
Propane	15.0518	15.051	4.69599	10.815	
Isobutane	4.78282	4.78223	0.722144	1.75611	
n-Butane	12.553	12.5512	1.37029	4.62284	
Isopentane	5.46357	5.46288	0.307141	1.15415	
n-Pentane	7.18309	7.18235	0.321835	1.55659	
i-C6	8.02434	8.02486	0.169745	1.06256	
i-C7	5.95176	5.9542	0.0522913	0.642062	
Octane	0.859636	0.860607	0.00232512	0.0676014	
Nonane	0.0700708	0.0702067	6.71992E-05	0.00413823	
Benzene	0.175029	0.17502	0.00301982	0.084336	
Toluene	0.286231	0.286384	0.00175396	0.0906244	
Ethylbenzene	0.00589593	0.0059027	1.45904E-05	0.00113761	
o-Xylene	0.0547469	0.0548149	0.000110373	0.0110295	
n-Hexane	4.07986	4.08047	0.0636578	0.487437	
2,2,4-Trimethylpentane	0	0	0	0	
Decanes Plus	0.00050858	0.000510149	1.22395E-07	2.44774E-05	
Decanes Plus Sat	0	0	0	0	

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	31 %	32 %	33 %	34 %	35 %
Triethylene Glycol	0.00891356	0.00891405	5.62198E-06	0.00593391	
Water	0.000783259	0.000783262	0.00360555	0.420609	
Hydrogen Sulfide	0.000883349	0.000883215	0.00162761	0.0138116	
Carbon Dioxide	0.0790648	0.0790684	0.332194	1.31778	
Nitrogen	0.0362211	0.0362182	0.917908	0.144802	
Methane	6.84133	6.84095	62.733	32.7213	
Ethane	7.83376	7.83348	16.5033	20.2118	
Propane	12.9195	12.9183	10.0964	17.018	
Isobutane	5.41114	5.41025	2.04649	3.64234	
n-Butane	14.2021	14.1994	3.88328	9.58824	
Isopentane	7.67304	7.67176	1.08047	2.97153	
n-Pentane	10.0879	10.0865	1.13216	4.00766	
i-C6	13.4603	13.4606	0.713221	3.26756	
i-C7	11.6087	11.613	0.255476	2.29584	
Octane	1.9114	1.91348	0.0129499	0.275561	
Nonane	0.174934	0.175266	0.000420226	0.0189399	
Benzene	0.266127	0.266103	0.0115012	0.235081	
Toluene	0.513358	0.513611	0.00787961	0.297971	
Ethylbenzene	0.0121842	0.0121977	7.55253E-05	0.00430984	
o-Xylene	0.113137	0.113273	0.000571334	0.0417853	
n-Hexane	6.84369	6.84444	0.267473	1.49896	
2,2,4-Trimethylpentane	0	0	0	0	
Decanes Plus	0.00151861	0.00152324	9.15444E-07	0.000133992	
Decanes Plus Sat	0	0	0	0	

Stream Properties

Property	Units	31	32	33	34	35
Temperature	°F	15.6923	15.6942	78.4346	159.542	
Pressure	psig	55	55	120 *	55	120
Molecular Weight	lb/lbmol	51.3733	51.3754	20.5095	28.0228	
Mass Flow	lb/h	1864.17	1863.74	19522.9	178.347	0
Std Vapor Volumetric Flow	MMSCFD	0.330486	0.330396	8.66951	0.0579641	0
Std Liquid Volumetric Flow	sgpm	6.87026	6.86857	114.232	0.881668	0
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	2663.11	2663.21	1119.76	1479.77	

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	36	37	38	39	40
From Block	VLVE-106	3616 LPS	FT 3	RCYL-3	MIX-105
To Block	FS LIQUIDS	RCYL-7	RCYL-6	MIX-100	SPLT-100

Stream Composition

Mass Flow	36 lb/h	37 lb/h	38 lb/h	39 lb/h	40 lb/h
Triethylene Glycol	0	1.59832E-06	0.0105675	0.0105829	4.3997
Water	0	2047.8	0.76173	0.750141	18.8999
Hydrogen Sulfide	0	0.0289578	0.0246502	0.0246324	8.79156
Carbon Dioxide	0	2.33019	2.35222	2.34991	1744.71
Nitrogen	0	0.94783	0.258554	0.258251	4731.56
Methane	0	187.955	58.4094	58.3575	325512
Ethane	0	229.452	36.07	36.0471	88591.8
Propane	0	411.03	30.3648	30.351	58184
Isobutane	0	195.219	6.49847	6.49598	13162.9
n-Butane	0	551.007	17.1066	17.1003	26906.2
Isopentane	0	393.087	5.30137	5.29962	9311.13
n-Pentane	0	580.064	7.14861	7.14752	10760.7
i-C6	0	1284.31	5.82945	5.82757	10263
i-C7	0	2537.76	4.09582	4.09453	7004.38
Octane	0	1916.11	0.491524	0.491452	1003.77
Nonane	0	791.862	0.0337886	0.0337784	87.938
Benzene	0	38.8971	0.419917	0.419257	189.56
Toluene	0	219.894	0.532598	0.531419	292.193
Ethylbenzene	0	17.4022	0.00770349	0.00768642	6.36244
o-Xylene	0	236.701	0.0747522	0.0745223	58.4113
n-Hexane	0	815.465	2.67396	2.67333	4729.42
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0	119.954	0.000239094	0.000238969	0.749364
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	36 %	37 %	38 %	39 %	40 %
Triethylene Glycol		4.30108E-09	0.00110476	0.00110729	0.000112711
Water		45.9359	0.663816	0.654258	0.00403603
Hydrogen Sulfide		0.000343367	0.0113552	0.0113565	0.000992409
Carbon Dioxide		0.0213968	0.839112	0.838982	0.152515
Nitrogen		0.0136732	0.144901	0.144852	0.649792
Methane		4.73463	57.1609	57.1574	78.0606
Ethane		3.08374	18.8327	18.8364	11.3347
Propane		3.76689	10.8109	10.815	5.07626
Isobutane		1.35733	1.75532	1.7561	0.871255
n-Butane		3.83107	4.62073	4.62284	1.78093
Isopentane		2.20173	1.15358	1.15415	0.496488
n-Pentane		3.24901	1.55554	1.55659	0.573785
i-C6		6.02269	1.06202	1.06256	0.45817
i-C7		10.2348	0.64173	0.642059	0.268924
Octane		6.77875	0.0675551	0.0676011	0.0338061
Nonane		2.49505	0.00413602	0.0041382	0.00263778
Benzene		0.201235	0.0843984	0.0843357	0.00933611
Toluene		0.964443	0.09075	0.090624	0.0122002
Ethylbenzene		0.0662411	0.00113918	0.0011376	0.000230557
o-Xylene		0.900998	0.0110543	0.0110294	0.00211666
n-Hexane		3.82408	0.487147	0.487435	0.211135
2,2,4-Trimethylpentane		0	0	0	0
Decanes Plus		0.316004	2.44698E-05	2.44773E-05	1.87933E-05
Decanes Plus Sat		0	0	0	0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	36 %	37 %	38 %	39 %	40 %
Triethylene Glycol		1.2708E-08	0.00592125	0.00593392	0.000782067
Water		16.2818	0.426819	0.420609	0.00335955
Hydrogen Sulfide		0.000230239	0.0138122	0.0138116	0.00156274
Carbon Dioxide		0.018527	1.31802	1.31761	0.31013
Nitrogen		0.00753605	0.144875	0.144803	0.841057
Methane		1.4944	32.7285	32.7214	57.8613
Ethane		1.82434	20.211	20.2119	15.7476
Propane		3.26804	17.0142	17.018	10.3425
Isobutane		1.55216	3.64128	3.64234	2.33977
n-Butane		4.38097	9.58534	9.58825	4.7827
Isopentane		3.12538	2.97051	2.97153	1.6551
n-Pentane		4.612	4.00557	4.00766	1.91277
i-C6		10.2113	3.26641	3.26756	1.8243
i-C7		20.1774	2.29501	2.29583	1.24506
Octane		15.2347	0.275415	0.27556	0.178425
Nonane		6.29597	0.0189327	0.0189398	0.0156314
Benzene		0.309265	0.235292	0.235081	0.0336952
Toluene		1.74834	0.29843	0.29797	0.0519387
Ethylbenzene		0.138362	0.00431648	0.00430983	0.00113095
o-Xylene		1.88198	0.0418858	0.0417852	0.0103829
n-Hexane		6.48364	1.4983	1.49896	0.840677
2,2,4-Trimethylpentane		0	0	0	0
Decanes Plus		0.953733	0.000133971	0.000133991	0.000133203
Decanes Plus Sat		0	0	0	0

Stream Properties

Property	Units	36	37	38	39	40
Temperature	°F		115.749	159.54	159.542	93.2685
Pressure	psig	0.25 *	158	55	55	1281
Molecular Weight	lb/lbmol		50.8266	28.0185	28.0228	21.6429
Mass Flow	lb/h	0	12577.3	178.467	178.346	562573
Std Vapor Volumetric Flow	MMSCFD	0	2.25372	0.0580119	0.0579639	236.739
Std Liquid Volumetric Flow	sgpm	0	36.7987	0.88228	0.881666	3185.5
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³		2163.33	1479.46	1479.77	1176.43

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	41	43	44	45	46
From Block	RCYL-4	MIX-100	RCYL-6	RCYL-7	BTEX LIQUIDS 1
To Block	MIX-100	SPLT-105	MIX-100	MIX-107	MIX-107

Stream Composition

Mass Flow	41 lb/h	43 lb/h	44 lb/h	45 lb/h	46 lb/h
Triethylene Glycol	0.0105829	0.0317333	0.0105674	1.59832E-06	0.229918
Water	0.750141	2.26201	0.761728	2047.8	143.356
Hydrogen Sulfide	0.0246324	0.0739149	0.0246501	0.0289578	0.00235285
Carbon Dioxide	2.34991	7.05174	2.35191	2.33019	0.0143648
Nitrogen	0.258251	0.775055	0.258553	0.94783	2.87685E-06
Methane	58.3575	175.124	58.4093	187.955	0.00995652
Ethane	36.0471	108.164	36.0699	229.452	0.138523
Propane	30.351	91.0667	30.3647	411.03	0.717864
Isobutane	6.49598	19.4904	6.49845	195.219	0.50586
n-Butane	17.1003	51.3071	17.1066	551.007	2.67083
Isopentane	5.29962	15.9006	5.30134	393.087	2.29175
n-Pentane	7.14752	21.4436	7.14858	580.064	4.25124
i-C6	5.82757	17.4846	5.82942	1284.31	7.74352
i-C7	4.09453	12.2849	4.09579	2537.76	10.0507
Octane	0.491452	1.47442	0.49152	1916.11	2.82647
Nonane	0.0337784	0.101345	0.0337883	791.862	0.340663
Benzene	0.419257	1.25843	0.419914	38.8971	9.02164
Toluene	0.531419	1.59543	0.532595	219.894	21.9909
Ethylbenzene	0.00768642	0.0230763	0.00770344	17.4022	0.491796
o-Xylene	0.0745223	0.223796	0.0747516	236.701	6.01959
n-Hexane	2.67333	8.02061	2.67395	815.465	4.76646
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000238969	0.000717029	0.000239091	119.954	0.01278
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	41 %	43 %	44 %	45 %	46 %
Triethylene Glycol	0.00110729	0.00110645	0.00110476	4.30108E-09	0.0173689
Water	0.654258	0.657446	0.663816	45.9359	90.275
Hydrogen Sulfide	0.0113565	0.0113561	0.0113552	0.000343367	0.000783204
Carbon Dioxide	0.838982	0.838989	0.839002	0.0213968	0.00370291
Nitrogen	0.144852	0.144868	0.144902	0.0136732	1.16504E-06
Methane	57.1574	57.1586	57.1611	4.73463	0.0070409
Ethane	18.8364	18.8352	18.8328	3.08374	0.0522629
Propane	10.815	10.8136	10.8109	3.76689	0.184688
Isobutane	1.7561	1.75584	1.75532	1.35733	0.0987369
n-Butane	4.62284	4.62213	4.62072	3.83107	0.52131
Isopentane	1.15415	1.15396	1.15357	2.20173	0.360354
n-Pentane	1.55659	1.55624	1.55553	3.24901	0.668464
i-C6	1.06256	1.06238	1.06202	6.02269	1.01941
i-C7	0.642059	0.641949	0.641728	10.2348	1.13792
Octane	0.0676011	0.0675856	0.0675547	6.77875	0.280713
Nonane	0.0041382	0.00413746	0.00413599	2.49505	0.0301329
Benzene	0.0843357	0.0843565	0.0843981	0.201235	1.31027
Toluene	0.090624	0.0906659	0.0907496	0.964443	2.70766
Ethylbenzene	0.0011376	0.00113813	0.00113918	0.0662411	0.0525527
o-Xylene	0.0110294	0.0110377	0.0110542	0.900998	0.643246
n-Hexane	0.487435	0.487339	0.487145	3.82408	0.627486
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.44773E-05	2.44747E-05	2.44696E-05	0.316004	0.000945139
Decanes Plus Sat	0	0	0	0	0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	41 %	43 %	44 %	45 %	46 %
Triethylene Glycol	0.00593392	0.0059297	0.00592127	1.2708E-08	0.105732
Water	0.420609	0.42268	0.42682	16.2818	65.925
Hydrogen Sulfide	0.0138116	0.0138118	0.0138122	0.000230239	0.001082
Carbon Dioxide	1.31761	1.31769	1.31785	0.018527	0.0066059
Nitrogen	0.144803	0.144827	0.144875	0.00753605	1.32297E-06
Methane	32.7214	32.7238	32.7286	1.4944	0.00457869
Ethane	20.2119	20.2116	20.2111	1.82434	0.0637023
Propane	17.018	17.0168	17.0143	3.26804	0.330123
Isobutane	3.64234	3.64199	3.64128	1.55216	0.232629
n-Butane	9.58825	9.58728	9.58534	4.38097	1.22823
Isopentane	2.97153	2.97119	2.97051	3.12538	1.0539
n-Pentane	4.00766	4.00696	4.00557	4.612	1.95501
i-C6	3.26756	3.26717	3.26641	10.2113	3.561
i-C7	2.29583	2.29555	2.295	20.1774	4.62199
Octane	0.27556	0.275511	0.275414	15.2347	1.29981
Nonane	0.0189398	0.0189374	0.0189326	6.29597	0.15666
Benzene	0.235081	0.235151	0.235291	0.309265	4.14877
Toluene	0.29797	0.298123	0.298429	1.74834	10.1129
Ethylbenzene	0.00430983	0.00431205	0.00431647	0.138362	0.226161
o-Xylene	0.0417852	0.0418187	0.0418857	1.88198	2.76822
n-Hexane	1.49896	1.49874	1.4983	6.48364	2.19194
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000133991	0.000133984	0.00013397	0.953733	0.0058771
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	41	43	44	45	46
Temperature	°F	159.542	159.541	159.54	115.749	84.4694
Pressure	psig	55	55	55	158	16
Molecular Weight	lb/lbmol	28.0228	28.0213	28.0185	50.8266	24.6694
Mass Flow	lb/h	178.346	535.159	178.466	12577.3	217.454
Std Vapor Volumetric Flow	MMSCFD	0.0579639	0.17394	0.0580117	2.25372	0.0802811
Std Liquid Volumetric Flow	sgpm	0.881666	2.64561	0.882277	36.7987	0.484237
API Gravity						25.5291
Net Ideal Gas Heating Value	Btu/ft ³	1479.77	1479.67	1479.46	2163.33	408.058

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	47	48	49	50	51
From Block	BTEX LIQUIDS 2	BTEX LIQUIDS 3	MIX-107	RCYL-8	SPLT-103
To Block	MIX-107	MIX-107	RCYL-8	MIX-106	SAT-1

Stream Composition

Mass Flow	47 lb/h	48 lb/h	49 lb/h	50 lb/h	51 lb/h
Triethylene Glycol	0.229918	0.233256	0.693094	0.693093	0
Water	143.356	147.707	2680.07	2680.06	0
Hydrogen Sulfide	0.00235285	0.00237415	0.0395909	0.0395869	8.98076
Carbon Dioxide	0.0143648	0.014509	2.65842	2.65795	1751.16
Nitrogen	2.87685E-06	2.89319E-06	1.06084	1.06084	4731.8
Methane	0.00995652	0.00999798	210.686	210.685	325712
Ethane	0.138523	0.138874	258.579	258.576	89092.8
Propane	0.717864	0.719097	465.759	465.755	59260.8
Isobutane	0.50586	0.506563	222.305	222.303	13707.8
n-Butane	2.67083	2.67441	631.917	631.912	28487.7
Isopentane	2.29175	2.29348	452.292	452.288	10437.7
n-Pentane	4.25124	4.25253	670.348	670.342	12433.9
i-C6	7.74352	7.74343	1479.37	1479.35	13897.5
i-C7	10.0507	10.045	2896.15	2896.11	13862.4
Octane	2.82647	2.82352	2137.9	2137.85	6260.95
Nonane	0.340663	0.340294	866.931	866.901	2906.53
Benzene	9.02164	9.04272	71.0904	71.0884	329.336
Toluene	21.9909	22.0798	313.077	313.075	946.907
Ethylbenzene	0.491796	0.495047	20.7751	20.7753	55.9517
o-Xylene	6.01959	6.07964	279.606	279.612	755.348
n-Hexane	4.76646	4.76451	938.808	938.798	7016.87
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.01278	0.0128255	129.144	129.079	1374.38
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	47 %	48 %	49 %	50 %	51 %
Triethylene Glycol	0.0173689	0.0171476	0.00152905	0.00152906	0
Water	90.275	90.5152	49.2863	49.2865	0
Hydrogen Sulfide	0.000783204	0.00076906	0.000384862	0.000384827	0.00099999
Carbon Dioxide	0.00370291	0.00363959	0.0200124	0.020009	0.150998
Nitrogen	1.16504E-06	1.14018E-06	0.012546	0.0125461	0.640994
Methane	0.0070409	0.00688024	4.35097	4.35099	77.0472
Ethane	0.0522629	0.0509874	2.84901	2.84901	11.2439
Propane	0.184688	0.180034	3.49935	3.49935	5.09995
Isobutane	0.0987369	0.0962174	1.26715	1.26715	0.894991
n-Butane	0.52131	0.507983	3.60196	3.60197	1.85998
Isopentane	0.360354	0.350936	2.07688	2.07688	0.548995
n-Pentane	0.668464	0.6507	3.07817	3.07817	0.653993
i-C6	1.01941	0.992002	5.68741	5.68741	0.611994
i-C7	1.13792	1.10671	9.5756	9.57556	0.524995
Octane	0.280713	0.272884	6.2006	6.20052	0.207998
Nonane	0.0301329	0.0292915	2.2394	2.23934	0.0859991
Benzene	1.31027	1.27804	0.301519	0.301514	0.0159998
Toluene	2.70766	2.64556	1.12572	1.12573	0.0389996
Ethylbenzene	0.0525527	0.0514787	0.064831	0.0648324	0.00199998
o-Xylene	0.643246	0.632206	0.872542	0.87257	0.0269997
n-Hexane	0.627486	0.610376	3.60923	3.60923	0.308997
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000945139	0.000923019	0.278914	0.278777	0.0339997
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	47 %	48 %	49 %	50 %	51 %
Triethylene Glycol	0.105732	0.10508	0.00470556	0.00470564	0
Water	65.925	66.541	18.1956	18.1958	0
Hydrogen Sulfide	0.001082	0.00106954	0.000268791	0.000268768	0.00151438
Carbon Dioxide	0.0066059	0.0065362	0.0180486	0.0180457	0.295289
Nitrogen	1.32297E-06	1.30336E-06	0.00720225	0.00720235	0.7979
Methane	0.00457869	0.00450403	1.43039	1.43041	54.9233
Ethane	0.0637023	0.0625617	1.75554	1.75556	15.0233
Propane	0.330123	0.323949	3.16214	3.16216	9.99287
Isobutane	0.232629	0.228203	1.50927	1.50929	2.31148
n-Butane	1.22823	1.20481	4.29022	4.29025	4.80374
Isopentane	1.0539	1.0332	3.07071	3.07073	1.76005
n-Pentane	1.95501	1.91574	4.55113	4.55117	2.09668
i-C6	3.561	3.48837	10.0437	10.0438	2.34347
i-C7	4.62199	4.5252	19.6626	19.6626	2.33754
Octane	1.29981	1.27198	14.5146	14.5146	1.05575
Nonane	0.15666	0.1533	5.88578	5.88567	0.490115
Benzene	4.14877	4.07369	0.482648	0.482642	0.0555343
Toluene	10.1129	9.94683	2.12555	2.12557	0.159672
Ethylbenzene	0.226161	0.223016	0.141047	0.14105	0.00943487
o-Xylene	2.76822	2.73884	1.8983	1.89838	0.127371
n-Hexane	2.19194	2.14638	6.37377	6.3738	1.18322
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0058771	0.0057778	0.876786	0.876362	0.231755
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	47	48	49	50	51
Temperature	°F	77.2136	77.0379	92.5284	92.5281	100
Pressure	psig	16	16	16	16	48
Molecular Weight	lb/lbmol	24.6694	24.5061	48.798	48.7977	22.5046
Mass Flow	lb/h	217.454	221.979	14729.3	14729	593031
Std Vapor Volumetric Flow	MMSCFD	0.0802811	0.0824978	2.74906	2.74903	240
Std Liquid Volumetric Flow	sgpm	0.484237	0.493334	42.7061	42.7054	3277.73
API Gravity		25.4919	25.1905			
Net Ideal Gas Heating Value	Btu/ft ³	408.058	397.981	2027.95	2027.93	1219.09

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	52	53	54	55	56
From Block	SPLT-105	SPLT-105	SPLT-101	HP Separator	RCYL-9
To Block	MIX-101	XFS2	HP Separator	RCYL-9	MIX-101

Stream Composition

Mass Flow	52 lb/h	53 lb/h	54 lb/h	55 lb/h	56 lb/h
Triethylene Glycol	0.0317333	0.0317333	3.64094E-13	3.57638E-20	0
Water	2.26201	2.26201	1782.61	2.13379	2.13541
Hydrogen Sulfide	0.0739149	0.0739149	0.0889862	0.0198097	0.0198263
Carbon Dioxide	7.05174	7.05174	8.32573	3.36313	3.36558
Nitrogen	0.775055	0.775055	4.78081	3.89192	3.89547
Methane	175.124	175.124	782.57	473.841	474.265
Ethane	108.164	108.164	745.325	189.181	189.357
Propane	91.0667	91.0667	1124.57	125.271	125.396
Isobutane	19.4904	19.4904	470.207	26.5495	26.577
n-Butane	51.3071	51.3071	1268.07	52.7932	52.8481
Isopentane	15.9006	15.9006	767.709	16.5192	16.5358
n-Pentane	21.4436	21.4436	1086.89	18.7337	18.7521
i-C6	17.4846	17.4846	2018.24	16.2537	16.2679
i-C7	12.2849	12.2849	2967.92	9.80952	9.81611
Octane	1.47442	1.47442	1218.52	1.22048	1.22083
Nonane	0.101345	0.101345	261.832	0.0987335	0.0987229
Benzene	1.25843	1.25843	55.4877	0.350229	0.350543
Toluene	1.59543	1.59543	218.503	0.505417	0.505731
Ethylbenzene	0.0230763	0.0230763	10.5422	0.00981279	0.00981587
o-Xylene	0.223796	0.223796	125.016	0.0946456	0.0946694
n-Hexane	8.02061	8.02061	1183.13	7.17716	7.18303
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000717029	0.000717029	9.71392	0.000848511	0.000846369
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	52 %	53 %	54 %	55 %	56 %
Triethylene Glycol	0.00110645	0.00110645	7.17527E-16	5.77343E-22	0
Water	0.657446	0.657446	29.2842	0.28714	0.287096
Hydrogen Sulfide	0.0113561	0.0113561	0.000772731	0.00140913	0.00140902
Carbon Dioxide	0.838989	0.838989	0.0559877	0.185259	0.185225
Nitrogen	0.144868	0.144868	0.0505071	0.336806	0.336807
Methane	57.1586	57.1586	14.4367	71.605	71.6039
Ethane	18.8352	18.8352	7.33573	15.2525	15.2527
Propane	10.8136	10.8136	7.54759	6.88713	6.8877
Isobutane	1.75584	1.75584	2.39422	1.10738	1.10752
n-Butane	4.62213	4.62213	6.45682	2.20201	2.20229
Isopentane	1.15396	1.15396	3.14909	0.555062	0.555115
n-Pentane	1.55624	1.55624	4.45835	0.629471	0.629517
i-C6	1.06238	1.06238	6.93117	0.457247	0.457231
i-C7	0.641949	0.641949	8.76582	0.23733	0.237274
Octane	0.0675856	0.0675856	3.15699	0.0259022	0.0258861
Nonane	0.00413746	0.00413746	0.604178	0.00186626	0.00186436
Benzene	0.0843565	0.0843565	0.210231	0.0108697	0.0108695
Toluene	0.0906659	0.0906659	0.701832	0.0132981	0.0132943
Ethylbenzene	0.00113813	0.00113813	0.0293877	0.000224075	0.000223941
o-Xylene	0.0110377	0.0110377	0.348498	0.00216123	0.00215981
n-Hexane	0.487339	0.487339	4.06317	0.201907	0.201888
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.44747E-05	2.44747E-05	0.0187407	1.34096E-05	1.33635E-05
Decanes Plus Sat	0	0	0	0	0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Mass Fraction	52 %	53 %	54 %	55 %	56 %
Triethylene Glycol	0.0059297	0.0059297	2.26004E-15	3.77328E-21	0
Water	0.42268	0.42268	11.0652	0.225127	0.225089
Hydrogen Sulfide	0.0138118	0.0138118	0.000552364	0.00209004	0.00208985
Carbon Dioxide	1.31769	1.31769	0.0516804	0.354829	0.354759
Nitrogen	0.144827	0.144827	0.0296759	0.410618	0.410614
Methane	32.7238	32.7238	4.85765	49.9928	49.9913
Ethane	20.2116	20.2116	4.62646	19.9597	19.9597
Propane	17.0168	17.0168	6.98056	13.2168	13.2177
Isobutane	3.64199	3.64199	2.91872	2.80112	2.80143
n-Butane	9.58728	9.58728	7.8713	5.56998	5.57062
Isopentane	2.97119	2.97119	4.76541	1.74286	1.743
n-Pentane	4.00696	4.00696	6.74667	1.9765	1.97662
i-C6	3.26717	3.26717	12.5278	1.71485	1.71477
i-C7	2.29555	2.29555	18.4228	1.03496	1.0347
Octane	0.275511	0.275511	7.5637	0.128767	0.128685
Nonane	0.0189374	0.0189374	1.62527	0.0104169	0.0104062
Benzene	0.235151	0.235151	0.344429	0.036951	0.03695
Toluene	0.298123	0.298123	1.35631	0.0533242	0.0533081
Ethylbenzene	0.00431205	0.00431205	0.0654384	0.0010353	0.00103467
o-Xylene	0.0418187	0.0418187	0.776012	0.00998563	0.00997891
n-Hexane	1.49874	1.49874	7.34403	0.75723	0.757149
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000133984	0.000133984	0.0602972	8.95225E-05	8.92141E-05
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	52	53	54	55	56
Temperature	°F	159.541	159.541	104.468	104.468	104.463
Pressure	psig	55	55	400	400	400
Molecular Weight	lb/lbmol	28.0213	28.0213	47.6775	22.9777	22.9781
Mass Flow	lb/h	535.159	535.159	16110.1	947.818	948.695
Std Vapor Volumetric Flow	MMSCFD	0.17394	0.17394	3.07743	0.375684	0.376026
Std Liquid Volumetric Flow	sgpm	2.64561	2.64561	52.8443	5.22913	5.23392
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1479.67	1479.67	2178.85	1244.62	1244.64

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Inlet	

Connections

	60			
From Block	Low Pressure Separator			
To Block	SPLT-102			

Stream Composition

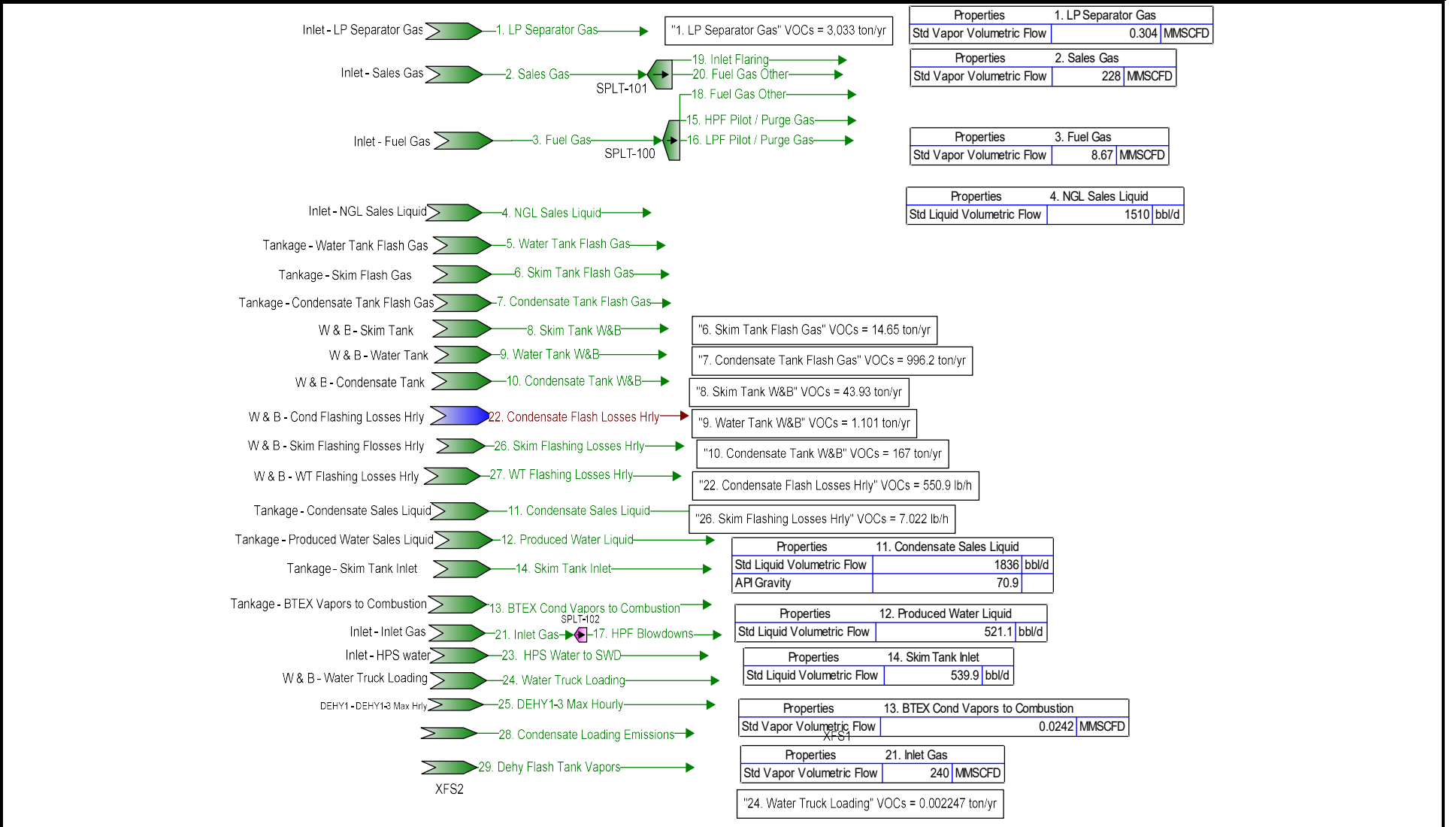
Mass Flow	60 lb/h			
Triethylene Glycol	1.22979E-08			
Water	11.6962			
Hydrogen Sulfide	0.029832			
Carbon Dioxide	2.53826			
Nitrogen	1.11928			
Methane	216.914			
Ethane	214.175			
Propane	243.07			
Isobutane	66.0947			
n-Butane	141.469			
Isopentane	48.8422			
n-Pentane	56.7021			
i-C6	54.991			
i-C7	40.0174			
Octane	8.71489			
Nonane	1.74077			
Benzene	1.72374			
Toluene	2.7209			
Ethylbenzene	0.0780583			
o-Xylene	0.889378			
n-Hexane	25.2349			
2,2,4-Trimethylpentane	0			
Decanes Plus	0.147899			
Decanes Plus Sat	0			

Mole Fraction	60 %			
Triethylene Glycol	2.45037E-10			
Water	1.94266			
Hydrogen Sulfide	0.00261918			
Carbon Dioxide	0.172577			
Nitrogen	0.119555			
Methane	40.4586			
Ethane	21.3129			
Propane	16.4941			
Isobutane	3.40265			
n-Butane	7.28305			
Isopentane	2.02563			
n-Pentane	2.3516			
i-C6	1.90942			
i-C7	1.195			
Octane	0.228287			
Nonane	0.0406124			
Benzene	0.0660311			
Toluene	0.0883618			
Ethylbenzene	0.00220004			
o-Xylene	0.0250668			
n-Hexane	0.876216			
2,2,4-Trimethylpentane	0			
Decanes Plus	0.00288492			
Decanes Plus Sat	0			

Process Streams Report					
All Streams					
Tabulated by Total Phase					
Client Name:	DELAWARE DIVISION				Job:
Location:	Spartan Compressor Station				
Flowsheet:	Inlet				
Mass Fraction					
	60				
	%				
Triethylene Glycol	1.0798E-09				
Water	1.02696				
Hydrogen Sulfide	0.00261935				
Carbon Dioxide	0.222868				
Nitrogen	0.0982766				
Methane	19.0458				
Ethane	18.8053				
Propane	21.3423				
Isobutane	5.80333				
n-Butane	12.4215				
Isopentane	4.2885				
n-Pentane	4.97863				
i-C6	4.82839				
i-C7	3.51366				
Octane	0.765195				
Nonane	0.152845				
Benzene	0.15135				
Toluene	0.238904				
Ethylbenzene	0.00685378				
o-Xylene	0.0780903				
n-Hexane	2.2157				
2,2,4-Trimethylpentane	0				
Decanes Plus	0.012986				
Decanes Plus Sat	0				
Stream Properties					
Property	Units	60			
Temperature	°F	83	*		
Pressure	psig	16			
Molecular Weight	lb/lbmol	34.0787			
Mass Flow	lb/h	1138.91			
Std Vapor Volumetric Flow	MMSCFD	0.304377			
Std Liquid Volumetric Flow	sgpm	5.09538			
API Gravity					
Net Ideal Gas Heating Value	Btu/ft ³	1784.74			
Remarks					

Output Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	



* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Connections

	1. LP Separator Gas	2. Sales Gas	3. Fuel Gas	4. NGL Sales Liquid	5. Water Tank Flash Gas
From Block	Inlet - LP Separator Gas	Inlet - Sales Gas	Inlet - Fuel Gas	Inlet - NGL Sales Liquid	Tankage - Water Tank Flash Gas
To Block	--	SPLT-101	SPLT-100	--	--

Stream Composition

Mass Flow	1. LP Separator Gas lb/h	2. Sales Gas lb/h	3. Fuel Gas lb/h	4. NGL Sales Liquid lb/h	5. Water Tank Flash Gas lb/h
Triethylene Glycol	1.22979E-08	4.23244	0.00109758	3.97916E-16	4.96717E-12
Water	11.6962	18.1814	0.703909	3.37229	0.0020019
Hydrogen Sulfide	0.029832	8.45733	0.317758	0.0679552	3.09179E-06
Carbon Dioxide	2.53826	1678.38	64.854	4.89025	0.000207183
Nitrogen	1.11928	4551.68	179.203	0.886183	6.18512E-06
Methane	216.914	313137	12247.3	308.115	0.00329957
Ethane	214.175	85223.8	3221.93	555.869	0.00965401
Propane	243.07	55972.1	1971.12	999.189	0.0168575
Isobutane	66.0947	12662.5	399.536	443.645	0.00557622
n-Butane	141.469	25883.3	758.131	1215.24	0.0122013
Isopentane	48.8422	8957.15	210.939	751.184	0.00437871
n-Pentane	56.7021	10351.7	221.031	1068.15	0.00341129
i-C6	54.991	9872.84	139.242	2001.98	0.00396962
i-C7	40.0174	6738.09	49.8764	2958.11	0.00263151
Octane	8.71489	965.61	2.5282	1217.3	0.00020204
Nonane	1.74077	84.5949	0.0820406	261.733	4.05838E-05
Benzene	1.72374	182.354	2.24537	55.1145	0.000235854
Toluene	2.7209	281.085	1.53833	217.975	0.000364757
Ethylbenzene	0.0780583	6.12056	0.0147448	10.5321	1.10327E-05
o-Xylene	0.889378	56.1907	0.111541	124.917	0.000123997
n-Hexane	25.2349	4549.63	52.2186	1175.95	0.00130264
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.147899	0.720875	0.000178722	9.71307	2.10851E-05
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	1. LP Separator Gas %	2. Sales Gas %	3. Fuel Gas %	4. NGL Sales Liquid %	5. Water Tank Flash Gas %
Triethylene Glycol	2.45037E-10	0.000112711	7.67809E-07	1.33859E-18	2.15211E-09
Water	1.94266	0.00403603	0.00410474	0.0945652	7.23016
Hydrogen Sulfide	0.00261918	0.000992409	0.000979481	0.0010073	0.00590264
Carbon Dioxide	0.172577	0.152515	0.154811	0.0561347	0.306305
Nitrogen	0.119555	0.649792	0.67203	0.015981	0.0143658
Methane	40.4586	78.0606	80.2011	9.70261	13.3824
Ethane	21.3129	11.3347	11.2566	9.33899	20.8899
Propane	16.4941	5.07626	4.69599	11.4472	24.8739
Isobutane	3.40265	0.871255	0.722144	3.85603	6.2423
n-Butane	7.28305	1.78093	1.37029	10.5625	13.6588
Isopentane	2.02563	0.496488	0.307141	5.25974	3.94879
n-Pentane	2.3516	0.573785	0.321835	7.47915	3.07636
i-C6	1.90942	0.45817	0.169745	11.7361	2.99718
i-C7	1.195	0.268924	0.0522913	14.9137	1.70874
Octane	0.228287	0.0338061	0.00232512	5.38355	0.115082
Nonane	0.0406124	0.00263778	6.71992E-05	1.03093	0.0205885
Benzene	0.0660311	0.00933611	0.00301982	0.356448	0.19646
Toluene	0.0883618	0.0122002	0.00175396	1.19513	0.257579
Ethylbenzene	0.00220004	0.000230557	1.45904E-05	0.0501163	0.00676159
o-Xylene	0.0250668	0.00211666	0.000110373	0.594411	0.0759933
n-Hexane	0.876216	0.211135	0.0636578	6.8937	0.983534
2,2,4-Trimethylpentane	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report					
All Streams					
Tabulated by Total Phase					

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Mole Fraction	1. LP Separator Gas %	2. Sales Gas %	3. Fuel Gas %	4. NGL Sales Liquid %	5. Water Tank Flash Gas %
Decanes Plus	0.00288492	1.87933E-05	1.22395E-07	0.0319873	0.00894328
Decanes Plus Sat	0	0	0	0	0

Mass Fraction	1. LP Separator Gas %	2. Sales Gas %	3. Fuel Gas %	4. NGL Sales Liquid %	5. Water Tank Flash Gas %
Triethylene Glycol	1.0798E-09	0.000782067	5.62198E-06	2.97308E-18	7.46942E-09
Water	1.02696	0.00335955	0.00360555	0.0251966	3.01037
Hydrogen Sulfide	0.00261935	0.00156274	0.00162761	0.000507737	0.0046493
Carbon Dioxide	0.222868	0.31013	0.332194	0.0365382	0.311553
Nitrogen	0.0982766	0.841057	0.917908	0.00662124	0.00930093
Methane	19.0458	57.8613	62.733	2.30212	4.96175
Ethane	18.8053	15.7476	16.5033	4.15325	14.5173
Propane	21.3423	10.3425	10.0964	7.46559	25.3496
Isobutane	5.80333	2.33977	2.04649	3.31476	8.38528
n-Butane	12.4215	4.7827	3.88328	9.07984	18.3478
Isopentane	4.2885	1.6551	1.08047	5.61258	6.58452
n-Pentane	4.97863	1.91277	1.13216	7.98087	5.12976
i-C6	4.82839	1.8243	0.713221	14.9581	5.96934
i-C7	3.51366	1.24506	0.255476	22.1019	3.95716
Octane	0.765195	0.178425	0.0129499	9.0952	0.303819
Nonane	0.152845	0.0156314	0.000420226	1.95558	0.0610282
Benzene	0.15135	0.0336952	0.0115012	0.411796	0.354667
Toluene	0.238904	0.0519387	0.00787961	1.62863	0.548506
Ethylbenzene	0.00685378	0.00113095	7.55253E-05	0.0786918	0.0165905
o-Xylene	0.0780903	0.0103829	0.000571334	0.933335	0.186461
n-Hexane	2.2157	0.840677	0.267473	8.78628	1.95886
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.012986	0.000133203	9.15444E-07	0.0725726	0.0317068
Decanes Plus Sat	0	0	0	0	0

Stream Properties						
Property	Units	1. LP Separator Gas	2. Sales Gas	3. Fuel Gas	4. NGL Sales Liquid	5. Water Tank Flash Gas
Temperature	°F	83	93.2685	78.4346	104.468	100
Pressure	psig	16	1281	120	400	0.25
Molecular Weight	lb/lbmol	34.0787	21.6429	20.5095	67.6131	43.2683
Mass Flow	lb/h	1138.91	541186	19522.9	13383.9	0.0665001
Std Vapor Volumetric Flow	MMSCFD	0.304377	227.739	8.66951	1.80284	1.39977E-05
Std Liquid Volumetric Flow	sgpm	5.09538	3064.4	114.232	44.056	0.000259607
API Gravity					94.2821	
Net Ideal Gas Heating Value	Btu/ft ³	1784.74	1176.43	1119.76	3459.59	2186.58

Remarks

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Connections

	6. Skim Tank Flash Gas	7. Condensate Tank Flash Gas	8. Skim Tank W&B	9. Water Tank W&B	10. Condensate Tank W&B
From Block	Tankage - Skim Flash Gas	Tankage - Condensate Tank Flash Gas	W & B - Skim Tank	W & B - Water Tank	W & B - Condensate Tank
To Block	--	--	--	--	--

Stream Composition

	6. Skim Tank Flash Gas	7. Condensate Tank Flash Gas	8. Skim Tank W&B	9. Water Tank W&B	10. Condensate Tank W&B
Mass Flow	lb/h	Gas lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	5.30911E-11	4.10867E-09	1.48553E-10	1.34291E-10	4.48083E-13
Water	0.0630678	1.55884	0.213633	0.200926	0.00013176
Hydrogen Sulfide	0.000149152	0.00619247	0.00051495	0.000516711	0.000799283
Carbon Dioxide	0.0100756	0.281138	0.0197378	0.0129385	0.0372506
Nitrogen	0.000456711	0.0167436	2.53968E-05	1.44943E-05	0.000113698
Methane	0.207603	10.6444	0.0306119	0.013513	0.359939
Ethane	0.536155	39.2077	0.318916	0.0508582	7.55616
Propane	0.977101	70.267	1.86064	0.0649821	12.6855
Isobutane	0.321983	22.0382	1.08603	0.0145103	3.66533
n-Butane	0.722971	48.6933	2.47365	0.0439748	8.12732
Isopentane	0.264479	17.4227	0.921101	0.0111485	2.78292
n-Pentane	0.309524	20.309	1.07962	0.00540084	3.20249
i-C6	0.304037	19.7903	1.0629	0.00712792	3.226
i-C7	0.219788	14.261	0.76305	0.00337612	2.2127
Octane	0.0468776	3.03921	0.160248	0.00017121	0.427106
Nonane	0.00925025	0.599107	0.0312695	3.24935E-05	0.0716235
Benzene	0.00948652	0.618356	0.033083	0.0316162	0.0659982
Toluene	0.0148872	0.966437	0.0515155	0.0497139	0.102683
Ethylbenzene	0.000420647	0.0272918	0.00143901	0.00138328	0.0030196
o-Xylene	0.0047802	0.310144	0.016322	0.0157628	0.0307698
n-Hexane	0.139255	9.04973	0.485215	0.00163448	1.52406
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000764393	0.0495751	0.00253756	0.000540429	0.00532095
Decanes Plus Sat	0	0	0	0	0

	6. Skim Tank Flash Gas	7. Condensate Tank Flash Gas	8. Skim Tank W&B	9. Water Tank W&B	10. Condensate Tank W&B
Mole Fraction	%	Gas %	%	%	%
Triethylene Glycol	3.89473E-10	4.61786E-10	5.36447E-10	4.98126E-09	3.20162E-13
Water	3.85668	1.46046	6.43079	62.1265	0.000784774
Hydrogen Sulfide	0.00482133	0.00306679	0.0081939	0.0844538	0.00251648
Carbon Dioxide	0.252216	0.107821	0.243214	1.63764	0.0908218
Nitrogen	0.0179607	0.0100882	0.000491643	0.00288214	0.000435503
Methane	14.2564	11.1991	1.0348	4.69204	2.40747
Ethane	19.6435	22.0081	5.75166	9.42158	26.964
Propane	24.4113	26.896	22.8825	8.20882	30.8684
Isobutane	6.10293	6.39977	10.133	1.39064	6.76666
n-Butane	13.7033	14.1403	23.0798	4.21448	15.0041
Isopentane	4.0384	4.07583	6.92333	0.860732	4.13881
n-Pentane	4.72621	4.75105	8.11482	0.416979	4.76279
i-C6	3.88679	3.87614	6.68876	0.460747	4.01684
i-C7	2.41644	2.40218	4.12965	0.187683	2.36947
Octane	0.452104	0.449073	0.76077	0.00834904	0.401204
Nonane	0.0794559	0.0788425	0.132216	0.00141125	0.0599217
Benzene	0.133794	0.133614	0.229681	2.25463	0.0906605
Toluene	0.178	0.177037	0.303203	3.00552	0.11958

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

	6. Skim Tank Flash Gas	7. Condensate Tank Flash Gas	8. Skim Tank W&B	9. Water Tank W&B	10. Condensate Tank W&B
Mole Fraction	%	%	%	%	%
Ethylbenzene	0.004365	0.00433892	0.00735056	0.0725788	0.00305191
o-Xylene	0.0496035	0.0493075	0.0833739	0.827055	0.031099
n-Hexane	1.78023	1.77249	3.05343	0.105652	1.89768
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00548958	0.00545468	0.00897073	0.0196244	0.00372192
Decanes Plus Sat	0	0	0	0	0

	6. Skim Tank Flash Gas	7. Condensate Tank Flash Gas	8. Skim Tank W&B	9. Water Tank W&B	10. Condensate Tank W&B
Mass Fraction	%	%	%	%	%
Triethylene Glycol	1.27528E-09	1.47182E-09	1.39985E-09	2.53312E-08	9.7225E-13
Water	1.51492	0.55841	2.01312	37.9004	0.000285892
Hydrogen Sulfide	0.00358271	0.00221828	0.00485249	0.0974665	0.00173428
Carbon Dioxide	0.242021	0.10071	0.185994	2.44057	0.0808264
Nitrogen	0.0109704	0.00599794	0.00023932	0.00273405	0.000246702
Methane	4.98672	3.81308	0.288463	2.54893	0.780995
Ethane	12.8787	14.0451	3.00522	9.59331	16.3954
Propane	23.4704	25.1712	17.5333	12.2575	27.5249
Isobutane	7.7342	7.89456	10.234	2.73705	7.95303
n-Butane	17.3661	17.443	23.3098	8.29491	17.6347
Isopentane	6.35291	6.24118	8.67976	2.10292	6.03838
n-Pentane	7.43493	7.27512	10.1735	1.01875	6.94875
i-C6	7.30312	7.08931	10.016	1.34453	6.99978
i-C7	5.27942	5.10861	7.19041	0.636833	4.80112
Octane	1.12602	1.08871	1.51005	0.0322951	0.926735
Nonane	0.222196	0.214613	0.29466	0.00612921	0.155409
Benzene	0.227871	0.221509	0.311749	5.96373	0.143203
Toluene	0.357597	0.346199	0.485443	9.37748	0.222801
Ethylbenzene	0.0101042	0.00977652	0.0135602	0.260926	0.00655193
o-Xylene	0.114823	0.1111	0.153807	2.97332	0.0667643
n-Hexane	3.34497	3.24181	4.5723	0.308311	3.30691
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0183611	0.0177589	0.0239121	0.10194	0.0115454
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	6. Skim Tank Flash Gas	7. Condensate Tank Flash Gas	8. Skim Tank W&B	9. Water Tank W&B	10. Condensate Tank W&B
Temperature	°F	80	80	86.1583	85.2658	84.5378
Pressure	psig	0.25	0.25	-3.75267	-11.9113	3.04322
Molecular Weight	lb/lbmol	45.8633	47.1171	57.5488	29.5308	49.452
Mass Flow	lb/h	4.16311	279.156	10.6121	0.530142	46.0872
Std Vapor Volumetric Flow	MMSCFD	0.000826718	0.0539602	0.00167945	0.000163502	0.00848792
Std Liquid Volumetric Flow	sgpm	0.0160538	1.08062	0.0361955	0.00158362	0.177515
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	2351.2	2441.75	2904.15	892.096	2574.72

Remarks

Process Streams Report	
All Streams	
Tabulated by Total Phase	

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Connections

	11. Condensate Sales Liquid	12. Produced Water Liquid	13. BTEX Cond Vapors to Combustion	14. Skim Tank Inlet	15. HPF Pilot / Purge Gas
From Block	Tankage - Condensate Sales Liquid	Tankage - Produced Water Sales Liquid	Tankage - BTEX Vapors to Combustion	Tankage - Skim Tank Inlet	SPLT-100
To Block	--	--	--	--	--

Stream Composition

	11. Condensate Sales Liquid	12. Produced Water Liquid	13. BTEX Cond Vapors to Combustion	14. Skim Tank Inlet	15. HPF Pilot / Purge Gas
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	0.000106308	0.890854	8.49722E-09	0.890855	1.51922E-05
Water	0.814934	7601.68	1.35171	7601.76	0.00974324
Hydrogen Sulfide	0.00721203	0.000877291	0.123282	0.00114196	0.00439828
Carbon Dioxide	0.111515	0.0193181	2.61217	0.0321856	0.897684
Nitrogen	0.000649383	1.5688E-05	0.00955884	0.000490019	2.48045
Methane	1.51234	0.0170926	7.96437	0.24705	169.523
Ethane	35.3992	0.0670952	16.0553	0.92585	44.5966
Propane	223.123	0.0812059	24.0306	3.0817	27.2834
Isobutane	173.626	0.016321	6.09304	1.98476	5.53022
n-Butane	560.511	0.0541603	20.95	6.17251	10.4938
Isopentane	493.439	0.0124452	7.2047	5.12847	2.91973
n-Pentane	762.493	0.00473902	9.9204	7.8396	3.05942
i-C6	1855.63	0.00678701	7.65147	18.7681	1.92733
i-C7	4098.78	0.00246333	3.01924	41.1376	0.69037
Octane	4072.25	5.63301E-05	0.155893	40.7536	0.0349943
Nonane	2559.48	8.45161E-06	0.00639944	25.601	0.00113557
Benzene	84.6186	0.11695	4.26488	0.968518	0.0310796
Toluene	442.327	0.137764	2.92344	4.57009	0.021293
Ethylbenzene	39.2379	0.0034131	0.0186748	0.396042	0.000204091
o-Xylene	573.597	0.0578997	0.211619	5.79674	0.00154391
n-Hexane	1226.66	0.00116393	3.20625	12.361	0.722789
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1363.83	0.000794467	3.17602E-05	13.6396	2.4738E-06
Decanes Plus Sat	0	0	0	0	0

	11. Condensate Sales Liquid	12. Produced Water Liquid	13. BTEX Cond Vapors to Combustion	14. Skim Tank Inlet	15. HPF Pilot / Purge Gas
Mole Fraction	%	%	%	%	%
Triethylene Glycol	3.74068E-07	0.00140582	2.12527E-09	0.00139929	7.67809E-07
Water	0.0239033	99.996	2.81819	99.5329	0.00410474
Hydrogen Sulfide	0.000111821	6.10025E-06	0.135868	7.90374E-06	0.000979481
Carbon Dioxide	0.00133895	0.000104024	2.22938	0.000172508	0.154811
Nitrogen	1.22493E-05	1.32714E-07	0.0128164	4.12611E-06	0.67203
Methane	0.0498144	0.000252494	18.647	0.00363252	80.2011
Ethane	0.622088	0.000528794	20.0552	0.00726297	11.2566
Propane	2.67378	0.000436422	20.4691	0.016485	4.69599
Isobutane	1.57852	6.65455E-05	3.9375	0.00805489	0.722144
n-Butane	5.09588	0.000220828	13.5385	0.0250503	1.37029
Isopentane	3.61395	4.08779E-05	3.75073	0.0167669	0.307141
n-Pentane	5.5845	1.55659E-05	5.1645	0.0256306	0.321835
i-C6	11.3785	1.86642E-05	3.33496	0.0513724	0.169745
i-C7	21.6151	5.82587E-06	1.13175	0.0968404	0.0522913
Octane	18.8381	1.16864E-07	0.0512603	0.084156	0.00232512

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

	11. Condensate Sales Liquid	12. Produced Water Liquid	13. BTEX Cond Vapors to Combustion	14. Skim Tank Inlet	15. HPF Pilot / Purge Gas
Mole Fraction	%	%	%	%	%
Nonane	10.5452	1.56163E-08	0.00187411	0.0470842	6.71992E-05
Benzene	0.572436	0.00035481	2.05078	0.00292472	0.00301982
Toluene	2.53676	0.000354331	1.19174	0.0116998	0.00175396
Ethylbenzene	0.1953	7.61872E-06	0.00660699	0.00087994	1.45904E-05
o-Xylene	2.85498	0.000129244	0.0748691	0.0128794	0.000110373
n-Hexane	7.52175	3.20079E-06	1.39747	0.0338348	0.0636578
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	4.69799	1.22734E-06	7.77653E-06	0.0209734	1.22395E-07
Decanes Plus Sat	0	0	0	0	0

	11. Condensate Sales Liquid	12. Produced Water Liquid	13. BTEX Cond Vapors to Combustion	14. Skim Tank Inlet	15. HPF Pilot / Purge Gas
Mass Fraction	%	%	%	%	%
Triethylene Glycol	5.72549E-07	0.0117169	7.21491E-09	0.0114329	5.62198E-06
Water	0.00438904	99.9804	1.14772	97.5578	0.00360555
Hydrogen Sulfide	3.88423E-05	1.15385E-05	0.104678	1.46554E-05	0.00162761
Carbon Dioxide	0.000600594	0.000254079	2.21797	0.000413057	0.332194
Nitrogen	3.49742E-06	2.06335E-07	0.00811632	6.2887E-06	0.917908
Methane	0.0081451	0.000224809	6.76247	0.00317054	62.733
Ethane	0.190652	0.000882464	13.6324	0.011882	16.5033
Propane	1.20169	0.00106805	20.4042	0.0395493	10.0964
Isobutane	0.93511	0.00021466	5.17354	0.0254716	2.04649
n-Butane	3.01878	0.000712339	17.7884	0.0792154	3.88328
Isopentane	2.65755	0.000163685	6.11745	0.0658166	1.08047
n-Pentane	4.10661	6.23295E-05	8.42332	0.10061	1.13216
i-C6	9.99398	8.92656E-05	6.4968	0.240862	0.713221
i-C7	22.0751	3.23987E-05	2.56361	0.527943	0.255476
Octane	21.9322	7.40876E-07	0.132368	0.523015	0.0129499
Nonane	13.7848	1.11159E-07	0.0054337	0.328552	0.000420226
Benzene	0.455736	0.00153817	3.62127	0.0124296	0.0115012
Toluene	2.38227	0.00181193	2.48227	0.0586506	0.00787961
Ethylbenzene	0.211326	4.48905E-05	0.0158566	0.00508264	7.55253E-05
o-Xylene	3.08926	0.000761521	0.179684	0.0743929	0.000571334
n-Hexane	6.60651	1.53085E-05	2.7224	0.158636	0.267473
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.34526	1.04492E-05	2.69673E-05	0.175045	9.15444E-07
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	11. Condensate Sales Liquid	12. Produced Water Liquid	13. BTEX Cond Vapors to Combustion	14. Skim Tank Inlet	15. HPF Pilot / Purge Gas
Temperature	°F	80	100	70	83	78.4346
Pressure	psig	0.25	0.25	0	16	120
Molecular Weight	lb/lbmol	98.1137	18.0181	44.2358	18.38	20.5095
Mass Flow	lb/h	18567.5	7603.17	117.773	7792.06	270.229
Std Vapor Volumetric Flow	MMSCFD	1.72356	3.84318	0.024248	3.8611	0.12 *
Std Liquid Volumetric Flow	sgpm	53.548	15.1998	0.454192	15.7481	1.58115
API Gravity		70.8677	9.99769		11.5075	
Net Ideal Gas Heating Value	Btu/ft ³	4950.43	0.120851	2221.84	22.6049	1119.76

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Connections

	16. LPF Pilot / Purge Gas	17. HPF Blowdowns	18. Fuel Gas Other	19. Inlet Flaring	20. Fuel Gas Other
From Block	SPLT-100	SPLT-102	SPLT-100	SPLT-101	SPLT-101
To Block	--	--	--	--	--

Stream Composition

Mass Flow	16. LPF Pilot / Purge Gas lb/h	17. HPF Blowdowns lb/h	18. Fuel Gas Other lb/h	19. Inlet Flaring lb/h	20. Fuel Gas Other lb/h
Triethylene Glycol	1.26602E-05	0	0.00161851	1.30092	2.93151
Water	0.00811936	0	1.038	5.58842	12.593
Hydrogen Sulfide	0.00366524	0.000854582	0.468574	2.59953	5.8578
Carbon Dioxide	0.74807	0.166635	95.6353	515.884	1162.5
Nitrogen	2.06704	0.450263	264.257	1399.05	3152.63
Methane	141.269	30.9938	18060.2	96248.9	216888
Ethane	37.1639	8.4778	4751.13	26195.2	59028.6
Propane	22.7362	5.63908	2906.66	17204.1	38767.9
Isobutane	4.60851	1.30439	589.165	3892.07	8770.42
n-Butane	8.7448	2.7108	1117.96	7955.75	17927.6
Isopentane	2.43311	0.993217	311.056	2753.16	6203.99
n-Pentane	2.54952	1.18318	325.937	3181.79	7169.87
i-C6	1.60611	1.32244	205.329	3034.61	6838.22
i-C7	0.575308	1.3191	73.5489	2071.09	4667.01
Octane	0.0291619	0.595773	3.72814	296.799	668.811
Nonane	0.000946311	0.276577	0.120979	26.0019	58.593
Benzene	0.0258996	0.0313386	3.31108	56.0501	126.304
Toluene	0.0177442	0.0901049	2.26846	86.3971	194.688
Ethylbenzene	0.000170076	0.0053242	0.021743	1.88128	4.23929
o-Xylene	0.00128659	0.0718767	0.164481	17.2713	38.9194
n-Hexane	0.602324	0.667705	77.0027	1398.42	3151.21
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.0615E-06	0.130782	0.000263547	0.221575	0.4993
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	16. LPF Pilot / Purge Gas %	17. HPF Blowdowns %	18. Fuel Gas Other %	19. Inlet Flaring %	20. Fuel Gas Other %
Triethylene Glycol	7.67809E-07	0	7.67809E-07	0.000112711	0.000112711
Water	0.00410474	0	0.00410474	0.00403603	0.00403603
Hydrogen Sulfide	0.000979481	0.000999999	0.000979481	0.000992409	0.000992409
Carbon Dioxide	0.154811	0.150998	0.154811	0.152515	0.152515
Nitrogen	0.67203	0.640994	0.67203	0.649792	0.649792
Methane	80.2011	77.0472	80.2011	78.0606	78.0606
Ethane	11.2566	11.2439	11.2566	11.3347	11.3347
Propane	4.69599	5.09995	4.69599	5.07626	5.07626
Isobutane	0.722144	0.894991	0.722144	0.871255	0.871255
n-Butane	1.37029	1.85998	1.37029	1.78093	1.78093
Isopentane	0.307141	0.548995	0.307141	0.496488	0.496488
n-Pentane	0.321835	0.653993	0.321835	0.573785	0.573785
i-C6	0.169745	0.611994	0.169745	0.45817	0.45817
i-C7	0.0522913	0.524995	0.0522913	0.268924	0.268924
Octane	0.00232512	0.207998	0.00232512	0.0338061	0.0338061
Nonane	6.71992E-05	0.0859991	6.71992E-05	0.00263778	0.00263778
Benzene	0.00301982	0.0159998	0.00301982	0.00933611	0.00933611
Toluene	0.00175396	0.0389996	0.00175396	0.0122002	0.0122002
Ethylbenzene	1.45904E-05	0.00199998	1.45904E-05	0.000230557	0.000230557
o-Xylene	0.000110373	0.0269997	0.000110373	0.00211666	0.00211666
n-Hexane	0.0636578	0.308997	0.0636578	0.211135	0.211135
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.22395E-07	0.0339997	1.22395E-07	1.87933E-05	1.87933E-05
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Mass Fraction	16. LPF Pilot / Purge Gas %	17. HPF Blowdowns %	18. Fuel Gas Other %	19. Inlet Flaring %	20. Fuel Gas Other %
Triethylene Glycol	5.62198E-06	0	5.62198E-06	0.000782067	0.000782067
Water	0.00360555	0	0.00360555	0.00335955	0.00335955
Hydrogen Sulfide	0.00162761	0.00151438	0.00162761	0.00156274	0.00156274
Carbon Dioxide	0.332194	0.295289	0.332194	0.31013	0.31013
Nitrogen	0.917908	0.7979	0.917908	0.841057	0.841057
Methane	62.733	54.9233	62.733	57.8613	57.8613
Ethane	16.5033	15.0233	16.5033	15.7476	15.7476
Propane	10.0964	9.99287	10.0964	10.3425	10.3425
Isobutane	2.04649	2.31148	2.04649	2.33977	2.33977
n-Butane	3.88328	4.80374	3.88328	4.7827	4.7827
Isopentane	1.08047	1.76005	1.08047	1.6551	1.6551
n-Pentane	1.13216	2.09668	1.13216	1.91277	1.91277
i-C6	0.713221	2.34347	0.713221	1.8243	1.8243
i-C7	0.255476	2.33754	0.255476	1.24506	1.24506
Octane	0.0129499	1.05575	0.0129499	0.178425	0.178425
Nonane	0.000420226	0.490115	0.000420226	0.0156314	0.0156314
Benzene	0.0115012	0.0555343	0.0115012	0.0336952	0.0336952
Toluene	0.00787961	0.159672	0.00787961	0.0519387	0.0519387
Ethylbenzene	7.55253E-05	0.00943487	7.55253E-05	0.00113095	0.00113095
o-Xylene	0.000571334	0.127371	0.000571334	0.0103829	0.0103829
n-Hexane	0.267473	1.18322	0.267473	0.840677	0.840677
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.15444E-07	0.231755	9.15444E-07	0.000133203	0.000133203
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	16. LPF Pilot / Purge Gas	17. HPF Blowdowns	18. Fuel Gas Other	19. Inlet Flaring	20. Fuel Gas Other
Temperature	°F	78.4346	100	78.4346	93.2685	93.2685
Pressure	psig	120	48	120	1281	1281
Molecular Weight	lb/lbmol	20.5095	22.5046	20.5095	21.6429	21.6429
Mass Flow	lb/h	225.191	56.4311	28789	166344	374842
Std Vapor Volumetric Flow	MMSCFD	0.1 *	0.0228377 *	12.7843	70 *	157.739
Std Liquid Volumetric Flow	sgpm	1.31763	0.311899	168.449	941.904	2122.5
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1119.76	1219.09	1119.76	1176.43	1176.43

Remarks

<h2 style="margin:0;">Process Streams Report</h2> <h3 style="margin:0;">All Streams</h3> <p style="margin:0;">Tabulated by Total Phase</p>	
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Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Connections

	21. Inlet Gas	22. Condensate Flash Losses Hrly	23. HPS Water to SWD	24. Water Truck Loading	25. DEHY1-3 Max Hourly
From Block	Inlet - Inlet Gas	W & B - Cond Flashing Losses Hrly	Inlet - HPS water	W & B - Water Truck Loading	DEHY1 - DEHY1-3 Max Hrly
To Block	SPLT-102	--	--	--	--

Stream Composition

	21. Inlet Gas	22. Condensate Flash Losses Hrly	23. HPS Water to SWD	24. Water Truck Loading	25. DEHY1-3 Max Hourly
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	0	1.08732E-11	3.63696E-13	5.54624E-10	9.69277E-07
Water	0	0.000383157	1777.11	0.147892	10.6034
Hydrogen Sulfide	8.98076	0.00520047	0.0012213	8.80524E-06	0.128663
Carbon Dioxide	1751.16	0.117608	0.072354	0.000612451	2.644
Nitrogen	4731.8	0.000774963	0.00270781	2.29223E-07	0.00956034
Methane	325712	1.3073	0.614716	0.000337817	7.98439
Ethane	89092.8	43.6476	0.274955	0.00126926	16.3894
Propane	59260.8	149.07	0.110454	0.000396273	25.8255
Isobutane	13707.8	49.8763	0.0123856	2.92772E-05	7.3583
n-Butane	28487.7	157.241	0.0375728	6.66546E-05	27.5934
Isopentane	10437.7	52.0431	0.00642267	6.06183E-06	12.6647
n-Pentane	12433.9	61.9424	0.00369741	1.73634E-06	19.8254
i-C6	13897.5	25.0364	0.003524	1.05345E-06	23.7985
i-C7	13862.4	27.4026	0.000980058	1.23599E-07	18.2947
Octane	6260.95	5.06515	3.19503E-05	5.88657E-10	1.86991
Nonane	2906.53	0.559906	1.5714E-06	2.36783E-11	0.106043
Benzene	329.336	1.89558	0.0229467	8.40848E-06	19.1243
Toluene	946.907	1.56789	0.022181	3.05746E-06	23.8182
Ethylbenzene	55.9517	0.0457585	0.000295319	2.61735E-08	0.232233
o-Xylene	755.348	0.309433	0.00425943	3.13168E-07	2.66196
n-Hexane	7016.87	17.782	0.000786287	1.30803E-07	12.4561
2,2,4-Trimethylpentane	0	1.09206	0	0	0
Decanes Plus	1374.38	0.000369404	2.00163E-06	3.45955E-10	0.000705663
Decanes Plus Sat	0	0	0	0	0

	21. Inlet Gas	22. Condensate Flash Losses Hrly	23. HPS Water to SWD	24. Water Truck Loading	25. DEHY1-3 Max Hourly
Mole Fraction	%	%	%	%	%
Triethylene Glycol	0	6.62247E-13	2.4538E-15	4.45095E-08	1.43944E-07
Water	0	0.000194532	99.9459	98.9352	13.1263
Hydrogen Sulfide	0.000999999	0.00139568	3.63081E-05	0.0031137	0.0841939
Carbon Dioxide	0.150998	0.0244426	0.00166575	0.167715	1.33984
Nitrogen	0.640994	0.000253029	9.79367E-05	9.86138E-05	0.00761108
Methane	77.0472	0.745348	0.0388236	0.25378	11.0997
Ethane	11.2439	13.2769	0.00926476	0.50872	12.1558
Propane	5.09995	30.9207	0.00253792	0.108304	13.0615
Isobutane	0.894991	7.84887	0.000215907	0.00607062	2.82341
n-Butane	1.85998	24.7445	0.000654974	0.0138208	10.5877
Isopentane	0.548995	6.59765	9.01942E-05	0.00101256	3.91474
n-Pentane	0.653993	7.85262	5.19232E-05	0.000290035	6.12817
i-C6	0.611994	2.65732	4.14329E-05	0.000147325	6.15894
i-C7	0.524995	2.50133	9.90987E-06	1.48657E-05	4.07182
Octane	0.207998	0.405576	2.83395E-07	6.2106E-08	0.365077
Nonane	0.0859991	0.0399297	1.24138E-08	2.22496E-09	0.0184393

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

	21. Inlet Gas	22. Condensate Flash Losses Hrly	23. HPS Water to SWD	24. Water Truck Loading	25. DEHY1-3 Max Hourly
Mole Fraction	%	%	%	%	%
Benzene	0.0159998	0.221963	0.000297643	0.00129732	5.46017
Toluene	0.0389996	0.155643	0.000243912	0.000399914	5.7651
Ethylbenzene	0.00199998	0.00394226	2.8184E-06	2.97117E-06	0.0487844
o-Xylene	0.0269997	0.0266588	4.06502E-05	3.55502E-05	0.55919
n-Hexane	0.308997	1.88736	9.24465E-06	1.82928E-05	3.22356
2,2,4-Trimethylpentane	0	0.0874435	0	0	0
Decanes Plus	0.0339997	2.20258E-05	1.32206E-08	2.71794E-08	0.000102591
Decanes Plus Sat	0	0	0	0	0

	21. Inlet Gas	22. Condensate Flash Losses Hrly	23. HPS Water to SWD	24. Water Truck Loading	25. DEHY1-3 Max Hourly
Mass Fraction	%	%	%	%	%
Triethylene Glycol	0	1.82433E-12	2.04519E-14	3.68193E-07	4.15305E-07
Water	0	6.42871E-05	99.933	98.1799	4.54321
Hydrogen Sulfide	0.00151438	0.00087255	6.8678E-05	0.00584546	0.055128
Carbon Dioxide	0.295289	0.0197327	0.00406872	0.406582	1.13287
Nitrogen	0.7979	0.000130026	0.00015227	0.000152172	0.00409631
Methane	54.9233	0.219342	0.0345676	0.224264	3.42106
Ethane	15.0233	7.32333	0.0154617	0.842615	7.02234
Propane	9.99287	25.0113	0.0062112	0.26307	11.0654
Isobutane	2.31148	8.36839	0.000696485	0.019436	3.1528
n-Butane	4.80374	26.3823	0.00211285	0.0442493	11.8229
Isopentane	1.76005	8.73194	0.000361169	0.00402421	5.42641
n-Pentane	2.09668	10.3929	0.000207918	0.00115268	8.49455
i-C6	2.34347	4.20068	0.000198167	0.000699343	10.1969
i-C7	2.33754	4.59769	5.51121E-05	8.20525E-05	7.83872
Octane	1.05575	0.849845	1.79668E-06	3.90786E-07	0.801198
Nonane	0.490115	0.0939427	8.83655E-08	1.57191E-08	0.0454361
Benzene	0.0555343	0.318045	0.00129037	0.00558206	8.19415
Toluene	0.159672	0.263065	0.00124732	0.00202973	10.2053
Ethylbenzene	0.00943487	0.00767749	1.66068E-05	1.73756E-05	0.0995046
o-Xylene	0.127371	0.0519176	0.000239523	0.0002079	1.14057
n-Hexane	1.18322	2.98352	4.42157E-05	8.6835E-05	5.33703
2,2,4-Trimethylpentane	0	0.183229	0	0	0
Decanes Plus	0.231755	6.19796E-05	1.12559E-07	2.29666E-07	0.000302355
Decanes Plus Sat	0	0	0	0	0

Stream Properties						
Property	Units	21. Inlet Gas	22. Condensate Flash Losses Hrly	23. HPS Water to SWD	24. Water Truck Loading	25. DEHY1-3 Max Hourly
Temperature	°F	100		104.468	97.1838	120
Pressure	psig	48	8.20393	400	-11.998	0
Molecular Weight	lb/lbmol	22.5046	54.5139	18.0176	18.1539	52.0498
Mass Flow	lb/h	593031	596.008	1778.3	0.150634	233.389
Std Vapor Volumetric Flow	MMSCFD	240	0.0995748	0.898902	7.55716E-05	0.0408381
Std Liquid Volumetric Flow	sgpm	3277.73	2.15692	3.55916	0.000308492	0.772193
API Gravity				10.0377		
Net Ideal Gas Heating Value	Btu/ft^3	1219.09	2826.67	0.619497	13.7896	2489.25

Remarks

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report	
All Streams	
Tabulated by Total Phase	

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

Connections

	26. Skim Flashing Losses Hrly	27. WT Flashing Losses Hrly	28. Condensate Loading Emissions	29. Dehy Flash Tank Vapors
From Block	W & B - Skim Flashing Losses Hrly	W & B - WT Flashing Losses Hrly	XFS1	XFS2
To Block	--	--	--	--

Stream Composition

	26. Skim Flashing Losses Hrly	27. WT Flashing Losses Hrly	28. Condensate Loading Emissions	29. Dehy Flash Tank Vapors
Mass Flow	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	3.8728E-10	2.78052E-12	2.52203E-13	0.0317333
Water	0.188594	0.00146023	7.12895E-05	2.26201
Hydrogen Sulfide	0.000276474	2.50871E-06	0.000451819	0.0739149
Carbon Dioxide	0.0157901	0.000168254	0.0191024	7.05174
Nitrogen	0.00047212	5.39528E-06	2.0203E-05	0.775055
Methane	0.225231	0.00281356	0.135602	175.124
Ethane	0.689228	0.00803461	4.22112	108.164
Propane	1.57114	0.0141246	7.1645	91.0667
Isobutane	0.619634	0.00465282	2.03919	19.4904
n-Butane	1.48278	0.0102626	4.49788	51.3071
Isopentane	0.610029	0.00368353	1.52885	15.9006
n-Pentane	0.736768	0.0030475	1.75755	21.4436
i-C6	0.777082	0.0034638	1.76701	17.4846
i-C7	0.602997	0.00231188	1.21289	12.2849
Octane	0.139872	0.000192909	0.234902	1.47442
Nonane	0.029372	3.86277E-05	0.0394006	0.101345
Benzene	0.0246204	0.000182888	0.0361913	1.25843
Toluene	0.0415334	0.000283859	0.0563606	1.59543
Ethylbenzene	0.00124899	8.44632E-06	0.00166087	0.0230763
o-Xylene	0.0143233	9.51635E-05	0.0169353	0.223796
n-Hexane	0.367854	0.00118103	0.83484	8.02061
2,2,4-Trimethylpentane	0	0	0	0
Decanes Plus	0.00261821	1.59583E-05	0.00294568	0.000717029
Decanes Plus Sat	0	0	0	0

	26. Skim Flashing Losses Hrly	27. WT Flashing Losses Hrly	28. Condensate Loading Emissions	29. Dehy Flash Tank Vapors
Mole Fraction	%	%	%	%
Triethylene Glycol	1.61211E-09	1.44266E-09	3.25649E-13	0.00110645
Water	6.54409	6.31551	0.000767319	0.657446
Hydrogen Sulfide	0.00507113	0.00573545	0.00257066	0.0113561
Carbon Dioxide	0.224284	0.297884	0.0841654	0.838989
Nitrogen	0.0105353	0.0150064	0.000139843	0.144868
Methane	8.77642	13.6651	1.63903	57.1586
Ethane	14.3286	20.8197	27.2207	18.8352
Propane	22.2731	24.9579	31.5052	10.8136
Isobutane	6.6643	6.23739	6.80309	1.75584
n-Butane	15.9476	13.7576	15.0057	4.62213
Isopentane	5.28546	3.978	4.10892	1.15396
n-Pentane	6.38356	3.29111	4.72356	1.55624
i-C6	5.63696	3.13183	3.97602	1.06238
i-C7	3.76184	1.7977	2.34712	0.641949
Octane	0.76545	0.131585	0.398752	0.0675856
Nonane	0.14316	0.0234667	0.0595689	0.00413746

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Output	

	26. Skim Flashing Losses Hrlly	27. WT Flashing Losses Hrlly	28. Condensate Loading Emissions	29. Dehy Flash Tank Vapors
Mole Fraction	%	%	%	%
Benzene	0.197033	0.182431	0.0898419	0.0843565
Toluene	0.281785	0.240044	0.118611	0.0906659
Ethylbenzene	0.00735426	0.0061989	0.00303352	0.00113813
o-Xylene	0.0843382	0.0698421	0.0309317	0.0110377
n-Hexane	2.66842	1.06784	1.8785	0.487339
2,2,4-Trimethylpentane	0	0	0	0
Decanes Plus	0.0106694	0.00810571	0.00372351	2.44747E-05
Decanes Plus Sat	0	0	0	0

	26. Skim Flashing Losses Hrlly	27. WT Flashing Losses Hrlly	28. Condensate Loading Emissions	29. Dehy Flash Tank Vapors
Mass Fraction	%	%	%	%
Triethylene Glycol	4.75689E-09	4.96255E-09	9.8642E-13	0.0059297
Water	2.31647	2.60615	0.000278829	0.42268
Hydrogen Sulfide	0.00339588	0.00447743	0.00176716	0.0138118
Carbon Dioxide	0.193946	0.300291	0.0747138	1.31769
Nitrogen	0.00579897	0.00962924	7.90184E-05	0.144827
Methane	2.76647	5.02152	0.530369	32.7238
Ethane	8.46566	14.3398	16.5097	20.2116
Propane	19.298	25.2089	28.0219	17.0168
Isobutane	7.61085	8.30415	7.97571	3.64199
n-Butane	18.2127	18.3162	17.5922	9.58728
Isopentane	7.49287	6.57421	5.97968	2.97119
n-Pentane	9.04958	5.43903	6.87415	4.00696
i-C6	9.54476	6.18203	6.91118	3.26717
i-C7	7.4065	4.12614	4.74387	2.29555
Octane	1.71802	0.344294	0.918753	0.275511
Nonane	0.360771	0.0689409	0.154104	0.0189374
Benzene	0.302408	0.326411	0.141552	0.235151
Toluene	0.510147	0.506619	0.220439	0.298123
Ethylbenzene	0.0153411	0.0150746	0.00649604	0.00431205
o-Xylene	0.175931	0.169843	0.0662379	0.0418187
n-Hexane	4.51828	2.10785	3.26524	1.49874
2,2,4-Trimethylpentane	0	0	0	0
Decanes Plus	0.032159	0.0284817	0.0115212	0.000133984
Decanes Plus Sat	0	0	0	0

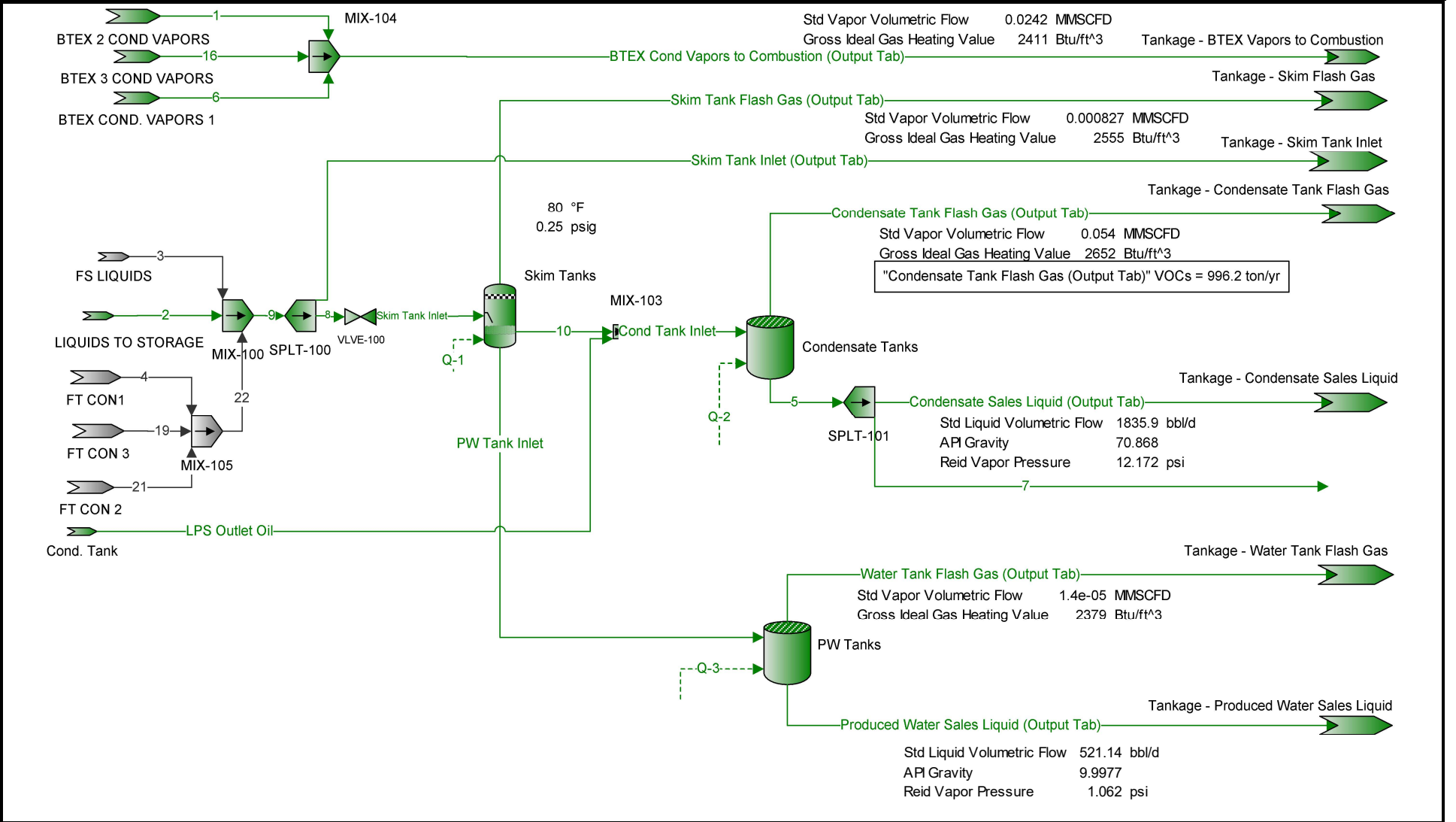
Stream Properties

Property	Units	26. Skim Flashing Losses Hrlly	27. WT Flashing Losses Hrlly	28. Condensate Loading Emissions	29. Dehy Flash Tank Vapors
Temperature	°F	96.163	94.9252	85.2658	159.541
Pressure	psig	-6.32587E-07	9.6198E-07	3.45592	55
Molecular Weight	lb/lbmol	50.8936	43.6566	49.5769	28.0213
Mass Flow	lb/h	8.14146	0.0560301	25.5675	535.159
Std Vapor Volumetric Flow	MMSCFD	0.00145695	1.1689E-05	0.00469692	0.17394
Std Liquid Volumetric Flow	sgpm	0.0294421	0.000218778	0.0984342	2.64561
API Gravity					
Net Ideal Gas Heating Value	Btu/ft^3	2573.03	2215.44	2581.2	1479.67

Remarks

Tankage Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	



* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Connections

	BTEX Cond Vapors to Combustion (Output Tab)	Cond Tank Inlet	Condensate Sales Liquid (Output Tab)	Condensate Tank Flash Gas (Output Tab)	LPS Outlet Oil
From Block	MIX-104	MIX-103	SPLT-101	Condensate Tanks	Cond. Tank
To Block	Tankage - BTEX Vapors to Combustion	Condensate Tanks	Tankage - Condensate Sales Liquid	Tankage - Condensate Tank Flash Gas	MIX-103

Stream Composition

	BTEX Cond Vapors to Combustion (Output Tab)	Cond Tank Inlet	Condensate Sales Liquid (Output Tab)	Condensate Tank Flash Gas (Output Tab)	LPS Outlet Oil
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h
Triethylene Glycol	8.49722E-09	0.000106312	0.000106308	4.10867E-09	0.000105418
Water	1.35171	2.37377	0.814934	1.55884	2.35238
Hydrogen Sulfide	0.123282	0.0134045	0.00721203	0.00619247	0.0132921
Carbon Dioxide	2.61217	0.392653	0.111515	0.281138	0.390069
Nitrogen	0.00955884	0.017393	0.000649383	0.0167436	0.0173816
Methane	7.96437	12.1568	1.51234	10.6444	12.1377
Ethane	16.0553	74.6069	35.3992	39.2077	74.294
Propane	24.0306	293.39	223.123	70.267	291.383
Isobutane	6.09304	195.664	173.626	22.0382	194.023
n-Butane	20.95	609.204	560.511	48.6933	603.821
Isopentane	7.2047	510.862	493.439	17.4227	506.015
n-Pentane	9.9204	782.802	762.493	20.309	775.28
i-C6	7.65147	1875.42	1855.63	19.7903	1856.96
i-C7	3.01924	4113.05	4098.78	14.261	4072.13
Octane	0.155893	4075.29	4072.25	3.03921	4034.58
Nonane	0.00639944	2560.08	2559.48	0.599107	2534.49
Benzene	4.26488	85.237	84.6186	0.618356	84.3951
Toluene	2.92344	443.293	442.327	0.966437	438.876
Ethylbenzene	0.0186748	39.2652	39.2379	0.0272918	38.873
o-Xylene	0.211619	573.908	573.597	0.310144	568.174
n-Hexane	3.20625	1235.71	1226.66	9.04973	1223.49
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	3.17602E-05	1363.88	1363.83	0.0495751	1350.24
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors to Combustion (Output Tab)	Cond Tank Inlet	Condensate Sales Liquid (Output Tab)	Condensate Tank Flash Gas (Output Tab)	LPS Outlet Oil
Mole Fraction	%	%	%	%	%
Triethylene Glycol	2.12527E-09	3.62726E-07	3.74068E-07	4.61786E-10	3.63168E-07
Water	2.81819	0.0675129	0.0239033	1.46046	0.067554
Hydrogen Sulfide	0.135868	0.000201525	0.000111821	0.00306679	0.000201774
Carbon Dioxide	2.22938	0.00457143	0.00133895	0.107821	0.00458542
Nitrogen	0.0128164	0.000318125	1.22493E-05	0.0100882	0.000321002
Methane	18.647	0.388273	0.0498144	11.1991	0.391427
Ethane	20.0552	1.2713	0.622088	22.0081	1.27826
Propane	20.4691	3.4091	2.67378	26.896	3.41864
Isobutane	3.9375	1.72488	1.57852	6.39977	1.72702
n-Butane	13.5385	5.37044	5.09588	14.1403	5.37465
Isopentane	3.75073	3.62797	3.61395	4.07583	3.62843
n-Pentane	5.1645	5.5592	5.5845	4.75105	5.55922
i-C6	3.33496	11.1508	11.3785	3.87614	11.1482
i-C7	1.13175	21.0318	21.6151	2.40218	21.0247
Octane	0.0512603	18.2799	18.8381	0.449073	18.2729

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

	BTEX Cond Vapors to Combustion (Output Tab)	Cond Tank Inlet	Condensate Sales Liquid (Output Tab)	Condensate Tank Flash Gas (Output Tab)	LPS Outlet Oil
Mole Fraction	%	%	%	%	%
Nonane	0.00187411	10.2275	10.5452	0.0788425	10.2235
Benzene	2.05078	0.559114	0.572436	0.133614	0.558965
Toluene	1.19174	2.46513	2.53676	0.177037	2.46425
Ethylbenzene	0.00660699	0.189503	0.1953	0.00433892	0.189431
o-Xylene	0.0748691	2.76981	2.85498	0.0493075	2.76875
n-Hexane	1.39747	7.34722	7.52175	1.77249	7.34517
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.77653E-06	4.55554	4.69799	0.00545468	4.55376
Decanes Plus Sat	0	0	0	0	0

	BTEX Cond Vapors to Combustion (Output Tab)	Cond Tank Inlet	Condensate Sales Liquid (Output Tab)	Condensate Tank Flash Gas (Output Tab)	LPS Outlet Oil
Mass Fraction	%	%	%	%	%
Triethylene Glycol	7.21491E-09	5.6409E-07	5.72549E-07	1.47182E-09	5.64882E-07
Water	1.14772	0.0125952	0.00438904	0.55841	0.0126052
Hydrogen Sulfide	0.104678	7.11242E-05	3.88423E-05	0.00221828	7.12256E-05
Carbon Dioxide	2.21797	0.00208342	0.000600594	0.10071	0.00209018
Nitrogen	0.00811632	9.22871E-05	3.49742E-06	0.00599794	9.3139E-05
Methane	6.76247	0.0645038	0.0081451	3.81308	0.06504
Ethane	13.6324	0.395864	0.190652	14.0451	0.398104
Propane	20.4042	1.55673	1.20169	25.1712	1.56138
Isobutane	5.17354	1.03819	0.93511	7.89456	1.03967
n-Butane	17.7884	3.23243	3.01878	17.443	3.23557
Isopentane	6.11745	2.71063	2.65755	6.24118	2.71148
n-Pentane	8.42332	4.15354	4.10661	7.27512	4.15434
i-C6	6.4968	9.95096	9.99398	7.08931	9.95054
i-C7	2.56361	21.8238	22.0751	5.10861	21.8205
Octane	0.132368	21.6235	21.9322	1.08871	21.6193
Nonane	0.0054337	13.5838	13.7848	0.214613	13.5811
Benzene	3.62127	0.452267	0.455736	0.221509	0.452231
Toluene	2.48227	2.35211	2.38227	0.346199	2.35172
Ethylbenzene	0.0158566	0.208341	0.211326	0.00977652	0.208301
o-Xylene	0.179684	3.04515	3.08926	0.1111	3.04456
n-Hexane	2.7224	6.55667	6.60651	3.24181	6.55608
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.69673E-05	7.23673	7.34526	0.0177589	7.23526
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	BTEX Cond Vapors to Combustion (Output Tab)	Cond Tank Inlet	Condensate Sales Liquid (Output Tab)	Condensate Tank Flash Gas (Output Tab)	LPS Outlet Oil
Temperature	°F	70	78.7783	80	80 *	83
Pressure	psig	0	0.25	0.25	0.25 *	16
Molecular Weight	lb/lbmol	44.2358	96.5656	98.1137	47.1171	96.5475
Mass Flow	lb/h	117.773	18846.6	18567.5	279.156	18661.9
Std Vapor Volumetric Flow	MMSCFD	0.024248	1.77752	1.72356	0.0539602	1.76044
Std Liquid Volumetric Flow	sgpm	0.454192	54.6286	53.548	1.08062	54.0967
API Gravity				70.8677		71.5
Net Ideal Gas Heating Value	Btu/ft ³	2221.84	4874.27	4950.43	2441.75	4873.39

Remarks

Process Streams Report		
All Streams		
Tabulated by Total Phase		

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Connections

	Produced Water Sales Liquid (Output Tab)	PW Tank Inlet	Skim Tank Flash Gas (Output Tab)	Skim Tank Inlet	Skim Tank Inlet (Output Tab)
From Block	PW Tanks	Skim Tanks	Skim Tanks	VLVE-100	SPLT-100
To Block	Tankage - Produced Water Sales Liquid	PW Tanks	Tankage - Skim Flash Gas	Skim Tanks	Tankage - Skim Tank Inlet

Stream Composition

	Produced Water Sales Liquid (Output Tab) lb/h	PW Tank Inlet lb/h	Skim Tank Flash Gas (Output Tab) lb/h	Skim Tank Inlet lb/h	Skim Tank Inlet (Output Tab) lb/h
Mass Flow					
Triethylene Glycol	0.890854	0.890854	5.30911E-11	0.890855	0.890855
Water	7601.68	7601.68	0.0630678	7601.76	7601.76
Hydrogen Sulfide	0.000877291	0.000880383	0.000149152	0.00114196	0.00114196
Carbon Dioxide	0.0193181	0.0195253	0.0100756	0.0321856	0.0321856
Nitrogen	1.5688E-05	2.18732E-05	0.000456711	0.000490019	0.000490019
Methane	0.0170926	0.0203922	0.207603	0.24705	0.24705
Ethane	0.0670952	0.0767492	0.536155	0.92585	0.92585
Propane	0.0812059	0.0980633	0.977101	3.0817	3.0817
Isobutane	0.016321	0.0218972	0.321983	1.98476	1.98476
n-Butane	0.0541603	0.0663616	0.722971	6.17251	6.17251
Isopentane	0.0124452	0.0168239	0.264479	5.12847	5.12847
n-Pentane	0.00473902	0.00815031	0.309524	7.8396	7.8396
i-C6	0.00678701	0.0107566	0.304037	18.7681	18.7681
i-C7	0.00246333	0.00509484	0.219788	41.1376	41.1376
Octane	5.63301E-05	0.00025837	0.0468776	40.7536	40.7536
Nonane	8.45161E-06	4.90354E-05	0.00925025	25.601	25.601
Benzene	0.11695	0.117185	0.00948652	0.968518	0.968518
Toluene	0.137764	0.138129	0.0148872	4.57009	4.57009
Ethylbenzene	0.0034131	0.00342413	0.000420647	0.396042	0.396042
o-Xylene	0.0578997	0.0580237	0.0047802	5.79674	5.79674
n-Hexane	0.00116393	0.00246657	0.139255	12.361	12.361
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000794467	0.000815552	0.000764393	13.6396	13.6396
Decanes Plus Sat	0	0	0	0	0

	Produced Water Sales Liquid (Output Tab) %	PW Tank Inlet %	Skim Tank Flash Gas (Output Tab) %	Skim Tank Inlet %	Skim Tank Inlet (Output Tab) %
Mole Fraction					
Triethylene Glycol	0.00140582	0.00140581	3.89473E-10	0.00139929	0.00139929
Water	99.996	99.9957	3.85668	99.5329	99.5329
Hydrogen Sulfide	6.10025E-06	6.12172E-06	0.00482133	7.90374E-06	7.90374E-06
Carbon Dioxide	0.000104024	0.000105139	0.252216	0.000172508	0.000172508
Nitrogen	1.32714E-07	1.85037E-07	0.0179607	4.12611E-06	4.12611E-06
Methane	0.000252494	0.000301235	14.2564	0.00363252	0.00363252
Ethane	0.000528794	0.000604877	19.6435	0.00726297	0.00726297
Propane	0.000436422	0.000527016	24.4113	0.016485	0.016485
Isobutane	6.65455E-05	8.9281E-05	6.10293	0.00805489	0.00805489
n-Butane	0.000220828	0.000270575	13.7033	0.0250503	0.0250503
Isopentane	4.08779E-05	5.52601E-05	4.0384	0.0167669	0.0167669
n-Pentane	1.55659E-05	2.67706E-05	4.72621	0.0256306	0.0256306
i-C6	1.86642E-05	2.95805E-05	3.88679	0.0513724	0.0513724
i-C7	5.82587E-06	1.20495E-05	2.41644	0.0968404	0.0968404
Octane	1.16864E-07	5.36019E-07	0.452104	0.084156	0.084156

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

	Produced Water Sales Liquid (Output Tab)	PW Tank Inlet	Skim Tank Flash Gas (Output Tab)	Skim Tank Inlet	Skim Tank Inlet (Output Tab)
Mole Fraction	%	%	%	%	%
Nonane	1.56163E-08	9.06041E-08	0.0794559	0.0470842	0.0470842
Benzene	0.00035481	0.000355524	0.133794	0.00292472	0.00292472
Toluene	0.000354331	0.000355268	0.178	0.0116998	0.0116998
Ethylbenzene	7.61872E-06	7.64332E-06	0.004365	0.00087994	0.00087994
o-Xylene	0.000129244	0.00012952	0.0496035	0.0128794	0.0128794
n-Hexane	3.20079E-06	6.78302E-06	1.78023	0.0338348	0.0338348
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.22734E-06	1.25991E-06	0.00548958	0.0209734	0.0209734
Decanes Plus Sat	0	0	0	0	0

	Produced Water Sales Liquid (Output Tab)	PW Tank Inlet	Skim Tank Flash Gas (Output Tab)	Skim Tank Inlet	Skim Tank Inlet (Output Tab)
Mass Fraction	%	%	%	%	%
Triethylene Glycol	0.0117169	0.0117168	1.27528E-09	0.0114329	0.0114329
Water	99.9804	99.9795	1.51492	97.5578	97.5578
Hydrogen Sulfide	1.15385E-05	1.15791E-05	0.00358271	1.46554E-05	1.46554E-05
Carbon Dioxide	0.000254079	0.000256802	0.242021	0.000413057	0.000413057
Nitrogen	2.06335E-07	2.87682E-07	0.0109704	6.2887E-06	6.2887E-06
Methane	0.000224809	0.000268204	4.98672	0.00317054	0.00317054
Ethane	0.000882464	0.00100943	12.8787	0.011882	0.011882
Propane	0.00106805	0.00128976	23.4704	0.0395493	0.0395493
Isobutane	0.00021466	0.000287998	7.7342	0.0254716	0.0254716
n-Butane	0.000712339	0.000872808	17.3661	0.0792154	0.0792154
Isopentane	0.000163685	0.000221273	6.35291	0.0658166	0.0658166
n-Pentane	6.23295E-05	0.000107195	7.43493	0.10061	0.10061
i-C6	8.92656E-05	0.000141474	7.30312	0.240862	0.240862
i-C7	3.23987E-05	6.70089E-05	5.27942	0.527943	0.527943
Octane	7.40876E-07	3.39815E-06	1.12602	0.523015	0.523015
Nonane	1.11159E-07	6.44928E-07	0.222196	0.328552	0.328552
Benzene	0.00153817	0.00154126	0.227871	0.0124296	0.0124296
Toluene	0.00181193	0.00181671	0.357597	0.0586506	0.0586506
Ethylbenzene	4.48905E-05	4.50352E-05	0.0101042	0.00508264	0.00508264
o-Xylene	0.000761521	0.000763145	0.114823	0.0743929	0.0743929
n-Hexane	1.53085E-05	3.24411E-05	3.34497	0.158636	0.158636
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.04492E-05	1.07264E-05	0.0183611	0.175045	0.175045
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	Produced Water Sales Liquid (Output Tab)	PW Tank Inlet	Skim Tank Flash Gas (Output Tab)	Skim Tank Inlet	Skim Tank Inlet (Output Tab)
Temperature	°F	100	80	80 *	82.9391	83
Pressure	psig	0.25	0.25	0.25	0.25 *	16
Molecular Weight	lb/lbmol	18.0181	18.0182	45.8633	18.38	18.38
Mass Flow	lb/h	7603.17	7603.23	4.16311	7792.06	7792.06
Std Vapor Volumetric Flow	MMSCFD	3.84318	3.84319	0.000826718	3.8611	3.8611
Std Liquid Volumetric Flow	sgpm	15.1998	15.2	0.0160538	15.7481	15.7481
API Gravity		9.99769	9.99818			11.5075
Net Ideal Gas Heating Value	Btu/ft^3	0.120851	0.128814	2351.2	22.6049	22.6049

Remarks

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Connections

	Water Tank Flash Gas (Output Tab)	1	2	3	4
From Block	PW Tanks	BTEX 2 COND VAPORS	LIQUIDS TO STORAGE	FS LIQUIDS	FT CON1
To Block	Tankage - Water Tank Flash Gas	MIX-104	MIX-100	MIX-100	MIX-105

Stream Composition

	Water Tank Flash Gas (Output Tab) lb/h	1 lb/h	2 lb/h	3 lb/h	4 lb/h
Triethylene Glycol	4.96717E-12	2.84705E-09	0.890855	0	0
Water	0.0020019	0.450577	7601.76	0	0
Hydrogen Sulfide	3.09179E-06	0.0410911	0.00114196	0	0
Carbon Dioxide	0.000207183	0.870473	0.0321856	0	0
Nitrogen	6.18512E-06	0.0031847	0.000490019	0	0
Methane	0.00329957	2.65393	0.24705	0	0
Ethane	0.00965401	5.351	0.92585	0	0
Propane	0.0168575	8.01028	3.0817	0	0
Isobutane	0.00557622	2.03135	1.98476	0	0
n-Butane	0.0122013	6.98469	6.17251	0	0
Isopentane	0.00437871	2.40259	5.12847	0	0
n-Pentane	0.00341129	3.30874	7.8396	0	0
i-C6	0.00396962	2.55199	18.7681	0	0
i-C7	0.00263151	1.00713	41.1376	0	0
Octane	0.00020204	0.0520159	40.7536	0	0
Nonane	4.05838E-05	0.00213516	25.601	0	0
Benzene	0.000235854	1.42186	0.968518	0	0
Toluene	0.000364757	0.974053	4.57009	0	0
Ethylbenzene	1.10327E-05	0.00621697	0.396042	0	0
o-Xylene	0.000123997	0.0703699	5.79674	0	0
n-Hexane	0.00130264	1.06953	12.361	0	0
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	2.10851E-05	1.05807E-05	13.6396	0	0
Decanes Plus Sat	0	0	0	0	0

	Water Tank Flash Gas (Output Tab) %	1 %	2 %	3 %	4 %
Triethylene Glycol	2.15211E-09	2.13621E-09	0.00139929		
Water	7.23016	2.81818	99.5329		
Hydrogen Sulfide	0.00590264	0.135856	7.90374E-06		
Carbon Dioxide	0.306305	2.22869	0.000172508		
Nitrogen	0.0143658	0.0128098	4.12611E-06		
Methane	13.3824	18.6406	0.00363252		
Ethane	20.8899	20.0519	0.00726297		
Propane	24.8739	20.4688	0.016485		
Isobutane	6.2423	3.93806	0.00805489		
n-Butane	13.6588	13.5408	0.0250503		
Isopentane	3.94879	3.75225	0.0167669		
n-Pentane	3.07636	5.16742	0.0256306		
i-C6	2.99718	3.33685	0.0513724		
i-C7	1.70874	1.13253	0.0968404		
Octane	0.115082	0.05131	0.084156		
Nonane	0.0205885	0.00187584	0.0470842		
Benzene	0.19646	2.05107	0.00292472		
Toluene	0.257579	1.19119	0.0116998		

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? Extrapolated or Approximate Values

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Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

	Water Tank Flash Gas (Output Tab) %	1 %	2 %	3 %	4 %
Mole Fraction					
Ethylbenzene	0.00676159	0.00659839	0.00087994		
o-Xylene	0.0759933	0.0746871	0.0128794		
n-Hexane	0.983534	1.39846	0.0338348		
2,2,4-Trimethylpentane	0	0	0		
Decanes Plus	0.00894328	7.77195E-06	0.0209734		
Decanes Plus Sat	0	0	0		

	Water Tank Flash Gas (Output Tab) %	1 %	2 %	3 %	4 %
Mass Fraction					
Triethylene Glycol	7.46942E-09	7.2512E-09	0.0114329		
Water	3.01037	1.14758	97.5578		
Hydrogen Sulfide	0.0046493	0.104655	1.46554E-05		
Carbon Dioxide	0.311553	2.21702	0.000413057		
Nitrogen	0.00930093	0.00811116	6.2887E-06		
Methane	4.96175	6.75933	0.00317054		
Ethane	14.5173	13.6285	0.011882		
Propane	25.3496	20.4015	0.0395493		
Isobutane	8.38528	5.17367	0.0254716		
n-Butane	18.3478	17.7894	0.0792154		
Isopentane	6.58452	6.11919	0.0658166		
n-Pentane	5.12976	8.42707	0.10061		
i-C6	5.96934	6.49969	0.240862		
i-C7	3.95716	2.56508	0.527943		
Octane	0.303819	0.13248	0.523015		
Nonane	0.0610282	0.00543806	0.328552		
Benzene	0.354667	3.62136	0.0124296		
Toluene	0.548506	2.48083	0.0586506		
Ethylbenzene	0.0165905	0.0158341	0.00508264		
o-Xylene	0.186461	0.179226	0.0743929		
n-Hexane	1.95886	2.724	0.158636		
2,2,4-Trimethylpentane	0	0	0		
Decanes Plus	0.0317068	2.69481E-05	0.175045		
Decanes Plus Sat	0	0	0		

Stream Properties

Property	Units	Water Tank Flash Gas (Output Tab)	1	2	3	4
Temperature	°F	100 *	70	83		
Pressure	psig	0.25 *	0	16	0.25	55
Molecular Weight	lb/lbmol	43.2683	44.2412	18.38		
Mass Flow	lb/h	0.0665001	39.2632	7792.06	0	0
Std Vapor Volumetric Flow	MMSCFD	1.39977E-05	0.00808285	3.8611	0	0
Std Liquid Volumetric Flow	sgpm	0.000259607	0.151411	15.7481	0	0
API Gravity				11.5075		
Net Ideal Gas Heating Value	Btu/ft ³	2186.58	2222.12	22.6049		

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Connections

	5	6	7	8	9
From Block	Condensate Tanks	BTEX COND. VAPORS 1	SPLT-101	SPLT-100	MIX-100
To Block	SPLT-101	MIX-104	--	VLVE-100	SPLT-100

Stream Composition

Mass Flow	5 lb/h	6 lb/h	7 lb/h	8 lb/h	9 lb/h
Triethylene Glycol	0.000106308	2.84705E-09	0.000106308	0.890855	0.890855
Water	0.814934	0.450577	0.814934	7601.76	7601.76
Hydrogen Sulfide	0.00721203	0.0410911	0.00721203	0.00114196	0.00114196
Carbon Dioxide	0.111515	0.870473	0.111515	0.0321856	0.0321856
Nitrogen	0.000649383	0.0031847	0.000649383	0.000490019	0.000490019
Methane	1.51234	2.65393	1.51234	0.24705	0.24705
Ethane	35.3992	5.351	35.3992	0.92585	0.92585
Propane	223.123	8.01028	223.123	3.0817	3.0817
Isobutane	173.626	2.03135	173.626	1.98476	1.98476
n-Butane	560.511	6.98469	560.511	6.17251	6.17251
Isopentane	493.439	2.40259	493.439	5.12847	5.12847
n-Pentane	762.493	3.30874	762.493	7.8396	7.8396
i-C6	1855.63	2.55199	1855.63	18.7681	18.7681
i-C7	4098.78	1.00713	4098.78	41.1376	41.1376
Octane	4072.25	0.0520159	4072.25	40.7536	40.7536
Nonane	2559.48	0.00213516	2559.48	25.601	25.601
Benzene	84.6186	1.42186	84.6186	0.968518	0.968518
Toluene	442.327	0.974053	442.327	4.57009	4.57009
Ethylbenzene	39.2379	0.00621697	39.2379	0.396042	0.396042
o-Xylene	573.597	0.0703699	573.597	5.79674	5.79674
n-Hexane	1226.66	1.06953	1226.66	12.361	12.361
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1363.83	1.05807E-05	1363.83	13.6396	13.6396
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol	3.74068E-07	2.13621E-09	3.74068E-07	0.00139929	0.00139929
Water	0.0239033	2.81818	0.0239033	99.5329	99.5329
Hydrogen Sulfide	0.000111821	0.135856	0.000111821	7.90374E-06	7.90374E-06
Carbon Dioxide	0.00133895	2.22869	0.00133895	0.000172508	0.000172508
Nitrogen	1.22493E-05	0.0128098	1.22493E-05	4.12611E-06	4.12611E-06
Methane	0.0498144	18.6406	0.0498144	0.00363252	0.00363252
Ethane	0.622088	20.0519	0.622088	0.00726297	0.00726297
Propane	2.67378	20.4688	2.67378	0.016485	0.016485
Isobutane	1.57852	3.93806	1.57852	0.00805489	0.00805489
n-Butane	5.09588	13.5408	5.09588	0.0250503	0.0250503
Isopentane	3.61395	3.75225	3.61395	0.0167669	0.0167669
n-Pentane	5.5845	5.16742	5.5845	0.0256306	0.0256306
i-C6	11.3785	3.33685	11.3785	0.0513724	0.0513724
i-C7	21.6151	1.13253	21.6151	0.0968404	0.0968404
Octane	18.8381	0.05131	18.8381	0.084156	0.084156
Nonane	10.5452	0.00187584	10.5452	0.0470842	0.0470842
Benzene	0.572436	2.05107	0.572436	0.00292472	0.00292472
Toluene	2.53676	1.19119	2.53676	0.0116998	0.0116998
Ethylbenzene	0.1953	0.00659839	0.1953	0.00087994	0.00087994
o-Xylene	2.85498	0.0746871	2.85498	0.0128794	0.0128794
n-Hexane	7.52175	1.39846	7.52175	0.0338348	0.0338348
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	4.69799	7.77195E-06	4.69799	0.0209734	0.0209734
Decanes Plus Sat	0	0	0	0	0

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Mass Fraction	5 %	6 %	7 %	8 %	9 %
Triethylene Glycol	5.72549E-07	7.2512E-09	5.72549E-07	0.0114329	0.0114329
Water	0.00438904	1.14758	0.00438904	97.5578	97.5578
Hydrogen Sulfide	3.88423E-05	0.104655	3.88423E-05	1.46554E-05	1.46554E-05
Carbon Dioxide	0.000600594	2.21702	0.000600594	0.000413057	0.000413057
Nitrogen	3.49742E-06	0.00811116	3.49742E-06	6.2887E-06	6.2887E-06
Methane	0.0081451	6.75933	0.0081451	0.00317054	0.00317054
Ethane	0.190652	13.6285	0.190652	0.011882	0.011882
Propane	1.20169	20.4015	1.20169	0.0395493	0.0395493
Isobutane	0.93511	5.17367	0.93511	0.0254716	0.0254716
n-Butane	3.01878	17.7894	3.01878	0.0792154	0.0792154
Isopentane	2.65755	6.11919	2.65755	0.0658166	0.0658166
n-Pentane	4.10661	8.42707	4.10661	0.10061	0.10061
i-C6	9.99398	6.49969	9.99398	0.240862	0.240862
i-C7	22.0751	2.56508	22.0751	0.527943	0.527943
Octane	21.9322	0.13248	21.9322	0.523015	0.523015
Nonane	13.7848	0.00543806	13.7848	0.328552	0.328552
Benzene	0.455736	3.62136	0.455736	0.0124296	0.0124296
Toluene	2.38227	2.48083	2.38227	0.0586506	0.0586506
Ethylbenzene	0.211326	0.0158341	0.211326	0.00508264	0.00508264
o-Xylene	3.08926	0.179226	3.08926	0.0743929	0.0743929
n-Hexane	6.60651	2.724	6.60651	0.158636	0.158636
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.34526	2.69481E-05	7.34526	0.175045	0.175045
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	5	6	7	8	9
Temperature	°F	80	70	80	83	83
Pressure	psig	0.25	0	0.25	16	16
Molecular Weight	lb/lbmol	98.1137	44.2412	98.1137	18.38	18.38
Mass Flow	lb/h	18567.5	39.2632	18567.5	7792.06	7792.06
Std Vapor Volumetric Flow	MMSCFD	1.72356	0.00808285	1.72356	3.8611	3.8611
Std Liquid Volumetric Flow	sgpm	53.548	0.151411	53.548	15.7481	15.7481
API Gravity		70.8677		70.8677	11.5075	11.5075
Net Ideal Gas Heating Value	Btu/ft ³	4950.43	2222.12	4950.43	22.6049	22.6049

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Connections

	10	16	19	21	22
From Block	Skim Tanks	BTEX 3 COND VAPORS	FT CON 3	FT CON 2	MIX-105
To Block	MIX-103	MIX-104	MIX-105	MIX-105	MIX-100

Stream Composition

Mass Flow	10 lb/h	16 lb/h	19 lb/h	21 lb/h	22 lb/h
Triethylene Glycol	8.93775E-07	2.80311E-09	0	0	0
Water	0.0213875	0.450552	0	0	0
Hydrogen Sulfide	0.000112423	0.0411	0	0	0
Carbon Dioxide	0.00258477	0.871224	0	0	0
Nitrogen	1.14348E-05	0.00318943	0	0	0
Methane	0.0190555	2.65651	0	0	0
Ethane	0.312946	5.35325	0	0	0
Propane	2.00654	8.01007	0	0	0
Isobutane	1.64088	2.03034	0	0	0
n-Butane	5.38318	6.98058	0	0	0
Isopentane	4.84717	2.39952	0	0	0
n-Pentane	7.52192	3.30292	0	0	0
i-C6	18.4533	2.54749	0	0	0
i-C7	40.9128	1.00498	0	0	0
Octane	40.7065	0.0518614	0	0	0
Nonane	25.5917	0.00212912	0	0	0
Benzene	0.841846	1.42116	0	0	0
Toluene	4.41707	0.975334	0	0	0
Ethylbenzene	0.392197	0.00624088	0	0	0
o-Xylene	5.73393	0.0708795	0	0	0
n-Hexane	12.2193	1.0672	0	0	0
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	13.638	1.05987E-05	0	0	0
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	10 %	16 %	19 %	21 %	22 %
Triethylene Glycol	3.17235E-07	2.10338E-09			
Water	0.0632795	2.8182			
Hydrogen Sulfide	0.000175828	0.135894			
Carbon Dioxide	0.00313054	2.23075			
Nitrogen	2.17575E-05	0.0128297			
Methane	0.0633133	18.6599			
Ethane	0.554747	20.0616			
Propane	2.42548	20.4696			
Isobutane	1.5048	3.93636			
n-Butane	4.93676	13.5337			
Isopentane	3.581	3.74769			
n-Pentane	5.55706	5.15866			
i-C6	11.4139	3.33118			
i-C7	21.7634	1.13018			
Octane	18.9948	0.0511609			
Nonane	10.6358	0.00187065			
Benzene	0.574461	2.05019			
Toluene	2.55528	1.19284			
Ethylbenzene	0.19691	0.00662419			
o-Xylene	2.87883	0.0752329			
n-Hexane	7.55801	1.3955			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	4.73883	7.78568E-06			
Decanes Plus Sat	0	0			

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	Tankage	

Mass Fraction	10 %	16 %	19 %	21 %	22 %
Triethylene Glycol	4.84005E-07	7.14232E-09			
Water	0.0115819	1.14801			
Hydrogen Sulfide	6.08802E-05	0.104723			
Carbon Dioxide	0.00139972	2.21987			
Nitrogen	6.19228E-06	0.00812666			
Methane	0.0103191	6.76877			
Ethane	0.169469	13.6401			
Propane	1.0866	20.4096			
Isobutane	0.888584	5.1733			
n-Butane	2.91515	17.7865			
Isopentane	2.62488	6.11396			
n-Pentane	4.07334	8.41582			
i-C6	9.99298	6.49101			
i-C7	22.1554	2.56068			
Octane	22.0437	0.132143			
Nonane	13.8586	0.00542499			
Benzene	0.455884	3.6211			
Toluene	2.39197	2.48515			
Ethylbenzene	0.212386	0.0159017			
o-Xylene	3.10509	0.180601			
n-Hexane	6.6171	2.71921			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	7.38538	2.70055E-05			
Decanes Plus Sat	0	0			

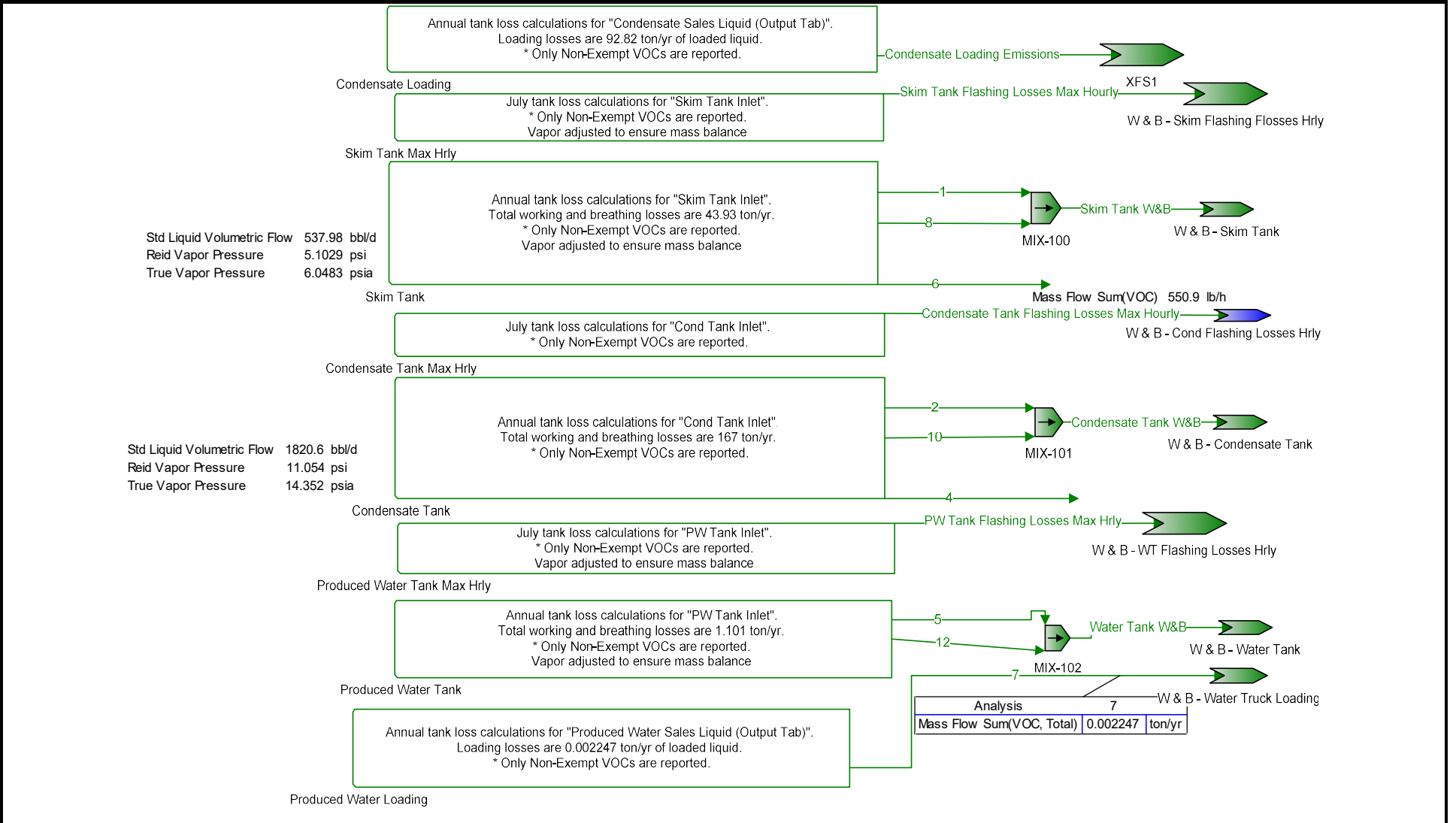
Stream Properties

Property	Units	10	16	19	21	22
Temperature	°F	80	70			
Pressure	psig	0.25	0	55	55	55
Molecular Weight	lb/lbmol	98.429	44.2252			
Mass Flow	lb/h	184.662	39.2465	0	0	0
Std Vapor Volumetric Flow	MMSCFD	0.0170868	0.00808233	0	0	0
Std Liquid Volumetric Flow	sgpm	0.531958	0.151371	0	0	0
API Gravity		70.6763				
Net Ideal Gas Heating Value	Btu/ft ³	4965.31	2221.27			

Remarks

W & B Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	



* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report		
All Streams		
Tabulated by Total Phase		

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

Connections

	Condensate Loading Emissions	Condensate Tank Flashing Losses Max Hourly	Condensate Tank W&B	PW Tank Flashing Losses Max Hrlly	Skim Tank Flashing Losses Max Hourly
From Block	--	--	MIX-101	--	--
To Block	XFS1	W & B - Cond Flashing Losses Hrlly	W & B - Condensate Tank	W & B - WT Flashing Losses Hrlly	W & B - Skim Flashing Flosses Hrlly

Stream Composition

	Condensate Loading Emissions lb/h	Condensate Tank Flashing Losses Max Hourly lb/h	Condensate Tank W&B lb/h	PW Tank Flashing Losses Max Hrlly lb/h	Skim Tank Flashing Losses Max Hourly lb/h
Triethylene Glycol	2.52203E-13 *	1.08732E-11	4.48083E-13	2.78052E-12 *	3.8728E-10 *
Water	7.12895E-05 *	0.000383157	0.00013176	0.00146023 *	0.188594 *
Hydrogen Sulfide	0.000451819 *	0.00520047	0.000799283	2.50871E-06 *	0.000276474 *
Carbon Dioxide	0.0191024 *	0.117608	0.0372506	0.000168254 *	0.0157901 *
Nitrogen	2.0203E-05 *	0.000774963	0.000113698	5.39528E-06 *	0.00047212 *
Methane	0.135602 *	1.3073	0.359939	0.00281356 *	0.225231 *
Ethane	4.22112 *	43.6476	7.55616	0.00803461 *	0.689228 *
Propane	7.1645 *	149.07	12.6855	0.0141246 *	1.57114 *
Isobutane	2.03919 *	49.8763	3.66533	0.00465282 *	0.619634 *
n-Butane	4.49788 *	157.241	8.12732	0.0102626 *	1.48278 *
Isopentane	1.52885 *	52.0431	2.78292	0.00368353 *	0.610029 *
n-Pentane	1.75755 *	61.9424	3.20249	0.0030475 *	0.736768 *
i-C6	1.76701 *	25.0364	3.226	0.0034638 *	0.777082 *
i-C7	1.21289 *	27.4026	2.2127	0.00231188 *	0.602997 *
Octane	0.234902 *	5.06515	0.427106	0.000192909 *	0.139872 *
Nonane	0.0394006 *	0.559906	0.0716235	3.86277E-05 *	0.029372 *
Benzene	0.0361913 *	1.89558	0.0659982	0.000182888 *	0.0246204 *
Toluene	0.0563606 *	1.56789	0.102683	0.000283859 *	0.0415334 *
Ethylbenzene	0.00166087 *	0.0457585	0.0030196	8.44632E-06 *	0.00124899 *
o-Xylene	0.0169353 *	0.309433	0.0307698	9.51635E-05 *	0.0143233 *
n-Hexane	0.83484 *	17.782	1.52406	0.00118103 *	0.367854 *
2,2,4-Trimethylpentane	0 *	1.09206	0	0 *	0 *
Decanes Plus	0.00294568 *	0.000369404	0.00532095	1.59583E-05 *	0.00261821 *
Decanes Plus Sat	0 *	0	0	0 *	0 *

	Condensate Loading Emissions %	Condensate Tank Flashing Losses Max Hourly %	Condensate Tank W&B %	PW Tank Flashing Losses Max Hrlly %	Skim Tank Flashing Losses Max Hourly %
Triethylene Glycol	3.25649E-13 *	6.62247E-13	3.20162E-13	1.44266E-09 *	1.61211E-09 *
Water	0.000767319 *	0.000194532	0.000784774	6.31551 *	6.54409 *
Hydrogen Sulfide	0.00257066 *	0.00139568	0.00251648	0.00573545 *	0.00507113 *
Carbon Dioxide	0.0841654 *	0.0244426	0.0908218	0.297884 *	0.224284 *
Nitrogen	0.000139843 *	0.000253029	0.000435503	0.0150064 *	0.0105353 *
Methane	1.63903 *	0.745348	2.40747	13.6651 *	8.77642 *
Ethane	27.2207 *	13.2769	26.964	20.8197 *	14.3286 *
Propane	31.5052 *	30.9207	30.8684	24.9579 *	22.2731 *
Isobutane	6.80309 *	7.84887	6.76666	6.23739 *	6.6643 *
n-Butane	15.0057 *	24.7445	15.0041	13.7576 *	15.9476 *
Isopentane	4.10892 *	6.59765	4.13881	3.978 *	5.28546 *
n-Pentane	4.72356 *	7.85262	4.76279	3.29111 *	6.38356 *
i-C6	3.97602 *	2.65732	4.01684	3.13183 *	5.63696 *
i-C7	2.34712 *	2.50133	2.36947	1.7977 *	3.76184 *
Octane	0.398752 *	0.405576	0.401204	0.131585 *	0.76545 *
Nonane	0.0595689 *	0.0399297	0.0599217	0.0234667 *	0.14316 *
Benzene	0.0898419 *	0.221963	0.0906605	0.182431 *	0.197033 *

* User Specified Values
 ? Extrapolated or Approximate Values
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Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

	Condensate Loading Emissions	Condensate Tank Flashing Losses Max Hourly	Condensate Tank W&B	PW Tank Flashing Losses Max Hrly	Skim Tank Flashing Losses Max Hourly
Mole Fraction	%	%	%	%	%
Toluene	0.118611 *	0.155643	0.11958	0.240044 *	0.281785 *
Ethylbenzene	0.00303352 *	0.00394226	0.00305191	0.0061989 *	0.00735426 *
o-Xylene	0.0309317 *	0.0266588	0.031099	0.0698421 *	0.0843382 *
n-Hexane	1.8785 *	1.88736	1.89768	1.06784 *	2.66842 *
2,2,4-Trimethylpentane	0 *	0.0874435	0	0 *	0 *
Decanes Plus	0.00372351 *	2.20258E-05	0.00372192	0.00810571 *	0.0106694 *
Decanes Plus Sat	0 *	0	0	0 *	0 *

	Condensate Loading Emissions	Condensate Tank Flashing Losses Max Hourly	Condensate Tank W&B	PW Tank Flashing Losses Max Hrly	Skim Tank Flashing Losses Max Hourly
Mass Fraction	%	%	%	%	%
Triethylene Glycol	9.8642E-13	1.82433E-12	9.7225E-13	4.96255E-09	4.75689E-09
Water	0.000278829	6.42871E-05	0.000285892	2.60615	2.31647
Hydrogen Sulfide	0.00176716	0.00087255	0.00173428	0.00447743	0.00339588
Carbon Dioxide	0.0747138	0.0197327	0.0808264	0.300291	0.193946
Nitrogen	7.90184E-05	0.000130026	0.000246702	0.00962924	0.00579897
Methane	0.530369	0.219342	0.780995	5.02152	2.76647
Ethane	16.5097	7.32333	16.3954	14.3398	8.46566
Propane	28.0219	25.0113	27.5249	25.2089	19.298
Isobutane	7.97571	8.36839	7.95303	8.30415	7.61085
n-Butane	17.5922	26.3823	17.6347	18.3162	18.2127
Isopentane	5.97968	8.73194	6.03838	6.57421	7.49287
n-Pentane	6.87415	10.3929	6.94875	5.43903	9.04958
i-C6	6.91118	4.20068	6.99978	6.18203	9.54476
i-C7	4.74387	4.59769	4.80112	4.12614	7.4065
Octane	0.918753	0.849845	0.926735	0.344294	1.71802
Nonane	0.154104	0.0939427	0.155409	0.0689409	0.360771
Benzene	0.141552	0.318045	0.143203	0.326411	0.302408
Toluene	0.220439	0.263065	0.222801	0.506619	0.510147
Ethylbenzene	0.00649604	0.00767749	0.00655193	0.0150746	0.0153411
o-Xylene	0.0662379	0.0519176	0.0667643	0.169843	0.175931
n-Hexane	3.26524	2.98352	3.30691	2.10785	4.51828
2,2,4-Trimethylpentane	0	0.183229	0	0	0
Decanes Plus	0.0115212	6.19796E-05	0.0115454	0.0284817	0.032159
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	Condensate Loading Emissions	Condensate Tank Flashing Losses Max Hourly	Condensate Tank W&B	PW Tank Flashing Losses Max Hrly	Skim Tank Flashing Losses Max Hourly
Temperature	°F	85.2658	97.6568	84.5378	94.9252	96.163
Pressure	psig	3.45592	8.20393	3.04322	9.6198E-07	-6.32587E-07
Molecular Weight	lb/lbmol	49.5769	54.5139	49.452	43.6566	50.8936
Mass Flow	lb/h	25.5675	596.008	46.0872	0.0560301	8.14146
Std Vapor Volumetric Flow	MMSCFD	0.00469692	0.0995748	0.00848792	1.1689E-05	0.00145695
Std Liquid Volumetric Flow	sgpm	0.0984342	2.15692	0.177515	0.000218778	0.0294421
API Gravity						
Net Ideal Gas Heating Value	Btu/ft^3	2581.2	2826.67	2574.72	2215.44	2573.03

Remarks

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

Connections

	Skim Tank W&B	Water Tank W&B	1	2	3
From Block	MIX-100	MIX-102	--	--	--
To Block	W & B - Skim Tank	W & B - Water Tank	MIX-100	MIX-101	--

Stream Composition

	Skim Tank W&B lb/h	Water Tank W&B lb/h	1 lb/h	2 lb/h	3 lb/h
Triethylene Glycol	1.48553E-10	1.34291E-10	1.27651E-10 *	4.06413E-13 *	2.41106E-13 *
Water	0.213633	0.200926	0.183573 *	0.000119507 *	7.08976E-05 *
Hydrogen Sulfide	0.00051495	0.000516711	0.000442492 *	0.000724954 *	0.00043008 *
Carbon Dioxide	0.0197378	0.0129385	0.0169605 *	0.0337865 *	0.0200439 *
Nitrogen	2.53968E-05	1.44943E-05	2.18233E-05 *	0.000103125 *	6.11791E-05 *
Methane	0.0306119	0.013513	0.0263046 *	0.326466 *	0.193677 *
Ethane	0.318916	0.0508582	0.274042 *	6.85348 *	4.06584 *
Propane	1.86064	0.0649821	1.59883 *	11.5058 *	6.82583 *
Isobutane	1.08603	0.0145103	0.93322 *	3.32447 *	1.97225 *
n-Butane	2.47365	0.0439748	2.12558 *	7.37152 *	4.37317 *
Isopentane	0.921101	0.0111485	0.791495 *	2.52412 *	1.49744 *
n-Pentane	1.07962	0.00540084	0.927709 *	2.90467 *	1.7232 *
i-C6	1.0629	0.00712792	0.913341 *	2.926 *	1.73586 *
i-C7	0.76305	0.00337612	0.655683 *	2.00693 *	1.19062 *
Octane	0.160248	0.00017121	0.137699 *	0.387388 *	0.229819 *
Nonane	0.0312695	3.24935E-05	0.0268696 *	0.0649629 *	0.0385394 *
Benzene	0.033083	0.0316162	0.028428 *	0.0598607 *	0.0355125 *
Toluene	0.0515155	0.0497139	0.0442668 *	0.0931337 *	0.0552518 *
Ethylbenzene	0.00143901	0.00138328	0.00123653 *	0.00273879 *	0.0016248 *
o-Xylene	0.016322	0.0157628	0.0140254 *	0.0279083 *	0.0165567 *
n-Hexane	0.485215	0.00163448	0.416941 *	1.38233 *	0.820071 *
2,2,4-Trimethylpentane	0	0	0 *	0 *	0 *
Decanes Plus	0.00253756	0.000540429	0.00218051 *	0.00482613 *	0.00286311 *
Decanes Plus Sat	0	0	0 *	0 *	0 *

	Skim Tank W&B %	Water Tank W&B %	1 %	2 %	3 %
Triethylene Glycol	5.36447E-10	4.98126E-09	5.36447E-10 *	3.20162E-13 *	3.20162E-13 *
Water	6.43079	62.1265	6.43079 *	0.000784774 *	0.000784774 *
Hydrogen Sulfide	0.0081939	0.0844538	0.0081939 *	0.00251648 *	0.00251648 *
Carbon Dioxide	0.243214	1.63764	0.243214 *	0.0908218 *	0.0908218 *
Nitrogen	0.000491643	0.00288214	0.000491643 *	0.000435503 *	0.000435503 *
Methane	1.0348	4.69204	1.0348 *	2.40747 *	2.40747 *
Ethane	5.75166	9.42158	5.75166 *	26.964 *	26.964 *
Propane	22.8825	8.20882	22.8825 *	30.8684 *	30.8684 *
Isobutane	10.133	1.39064	10.133 *	6.76666 *	6.76666 *
n-Butane	23.0798	4.21448	23.0798 *	15.0041 *	15.0041 *
Isopentane	6.92333	0.860732	6.92333 *	4.13881 *	4.13881 *
n-Pentane	8.11482	0.416979	8.11482 *	4.76279 *	4.76279 *
i-C6	6.68876	0.460747	6.68876 *	4.01684 *	4.01684 *
i-C7	4.12965	0.187683	4.12965 *	2.36947 *	2.36947 *
Octane	0.76077	0.00834904	0.76077 *	0.401204 *	0.401204 *
Nonane	0.132216	0.00141125	0.132216 *	0.0599217 *	0.0599217 *
Benzene	0.229681	2.25463	0.229681 *	0.0906605 *	0.0906605 *
Toluene	0.303203	3.00552	0.303203 *	0.11958 *	0.11958 *
Ethylbenzene	0.00735056	0.0725788	0.00735056 *	0.00305191 *	0.00305191 *
o-Xylene	0.0833739	0.827055	0.0833739 *	0.031099 *	0.031099 *
n-Hexane	3.05343	0.105652	3.05343 *	1.89768 *	1.89768 *
2,2,4-Trimethylpentane	0	0	0 *	0 *	0 *
Decanes Plus	0.00897073	0.0196244	0.00897073 *	0.00372192 *	0.00372192 *

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report					
All Streams					
Tabulated by Total Phase					

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

	Skim Tank W&B %	Water Tank W&B %	1 %	2 %	3 %
Mole Fraction					
Decanes Plus Sat	0	0	0 *	0 *	0 *

	Skim Tank W&B %	Water Tank W&B %	1 %	2 %	3 %
Mass Fraction					
Triethylene Glycol	1.39985E-09	2.53312E-08	1.39985E-09	9.7225E-13	9.7225E-13
Water	2.01312	37.9004	2.01312	0.000285892	0.000285892
Hydrogen Sulfide	0.00485249	0.0974665	0.00485249	0.00173428	0.00173428
Carbon Dioxide	0.185994	2.44057	0.185994	0.0808264	0.0808264
Nitrogen	0.00023932	0.00273405	0.00023932	0.000246702	0.000246702
Methane	0.288463	2.54893	0.288463	0.780995	0.780995
Ethane	3.00522	9.59331	3.00522	16.3954	16.3954
Propane	17.5333	12.2575	17.5333	27.5249	27.5249
Isobutane	10.234	2.73705	10.234	7.95303	7.95303
n-Butane	23.3098	8.29491	23.3098	17.6347	17.6347
Isopentane	8.67976	2.10292	8.67976	6.03838	6.03838
n-Pentane	10.1735	1.01875	10.1735	6.94875	6.94875
i-C6	10.016	1.34453	10.016	6.99978	6.99978
i-C7	7.19041	0.636833	7.19041	4.80112	4.80112
Octane	1.51005	0.0322951	1.51005	0.926735	0.926735
Nonane	0.29466	0.00612921	0.29466	0.155409	0.155409
Benzene	0.311749	5.96373	0.311749	0.143203	0.143203
Toluene	0.485443	9.37748	0.485443	0.222801	0.222801
Ethylbenzene	0.0135602	0.260926	0.0135602	0.00655193	0.00655193
o-Xylene	0.153807	2.97332	0.153807	0.0667643	0.0667643
n-Hexane	4.5723	0.308311	4.5723	3.30691	3.30691
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0239121	0.10194	0.0239121	0.0115454	0.0115454
Decanes Plus Sat	0	0	0	0	0

Stream Properties						
Property	Units	Skim Tank W&B	Water Tank W&B	1	2	3
Temperature	°F	86.1583	85.2658	86.1583	84.5378	84.5378
Pressure	psig	-3.75267	-11.9113	-3.75267	3.04322	3.04322
Molecular Weight	lb/lbmol	57.5488	29.5308	57.5488	49.452	49.452
Mass Flow	lb/h	10.6121	0.530142	9.11886	41.8013	24.7987
Std Vapor Volumetric Flow	MMSCFD	0.00167945	0.000163502	0.00144314	0.00769859	0.00456721
Std Liquid Volumetric Flow	sgpm	0.0361955	0.00158362	0.0311025	0.161007	0.0955176
API Gravity						
Net Ideal Gas Heating Value	Btu/ft^3	2904.15	892.096	2904.15	2574.72	2574.72

Remarks

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

Connections					
	4	5	6	7	8
From Block	--	--	--	--	--
To Block	--	MIX-102	--	W & B - Water Truck Loading	MIX-100

Stream Composition					
Mass Flow	4 lb/h	5 lb/h	6 lb/h	7 lb/h	8 lb/h
Triethylene Glycol	0.000106306 *	1.15395E-10 *	0.890855 *	5.54624E-10 *	2.09026E-11 *
Water	0.683233 *	0.172653 *	7601.45 *	0.147892 *	0.0300598 *
Hydrogen Sulfide	0.0055107 *	0.000444004 *	0.000429973 *	8.80524E-06 *	7.24574E-05 *
Carbon Dioxide	0.0548006 *	0.0111179 *	0 *	0.000612451 *	0.00277726 *
Nitrogen	0.000406962 *	1.24548E-05 *	0 *	2.29223E-07 *	3.57353E-06 *
Methane	0.858615 *	0.0116115 *	0 *	0.000337817 *	0.00430733 *
Ethane	22.9502 *	0.0437019 *	0 *	0.00126926 *	0.0448739 *
Propane	194.225 *	0.0558384 *	0 *	0.000396273 *	0.261807 *
Isobutane	163.492 *	0.0124685 *	0.46632 *	2.92772E-05 *	0.152813 *
n-Butane	537.115 *	0.0377871 *	2.70442 *	6.66546E-05 *	0.348061 *
Isopentane	484.574 *	0.00957975 *	3.8276 *	6.06183E-06 *	0.129606 *
n-Pentane	751.996 *	0.00464088 *	6.31038 *	1.73634E-06 *	0.151911 *
i-C6	1844.84 *	0.00612495 *	17.2521 *	1.05345E-06 *	0.149558 *
i-C7	4090.76 *	0.00290106 *	40.0383 *	1.23599E-07 *	0.107367 *
Octane	4070.49 *	0.000147119 *	40.5193 *	5.88657E-10 *	0.0225481 *
Nonane	2559.13 *	2.79213E-05 *	25.5547 *	2.36783E-11 *	0.00439986 *
Benzene	84.3116 *	0.0271675 *	0.921218 *	8.40848E-06 *	0.00465504 *
Toluene	441.823 *	0.0427187 *	4.49565 *	3.05746E-06 *	0.00724863 *
Ethylbenzene	39.2229 *	0.00118863 *	0.39394 *	2.61735E-08 *	0.000202481 *
o-Xylene	573.429 *	0.0135448 *	5.77285 *	3.13168E-07 *	0.00229664 *
n-Hexane	1221.57 *	0.00140449 *	11.6657 *	1.30803E-07 *	0.0682735 *
2,2,4-Trimethylpentane	0 *	0 *	0 *	0 *	0 *
Decanes Plus	1363.8 *	0.000464385 *	13.6358 *	3.45955E-10 *	0.000357055 *
Decanes Plus Sat	0 *	0 *	0 *	0 *	0 *

Mole Fraction	4 %	5 %	6 %	7 %	8 %
Triethylene Glycol	3.78577E-07 *	4.98126E-09 *	0.00140028 *	4.45095E-08 *	5.36447E-10 *
Water	0.0202823 *	62.1265 *	99.5993 *	98.9352 *	6.43079 *
Hydrogen Sulfide	8.64741E-05 *	0.0844538 *	2.97804E-06 *	0.0031137 *	0.0081939 *
Carbon Dioxide	0.000665931 *	1.63764 *	0 *	0.167715 *	0.243214 *
Nitrogen	7.76923E-06 *	0.00288214 *	0 *	9.86138E-05 *	0.000491643 *
Methane	0.0286232 *	4.69204 *	0 *	0.25378 *	1.0348 *
Ethane	0.408184 *	9.42158 *	0 *	0.50872 *	5.75166 *
Propane	2.35559 *	8.20882 *	0 *	0.108304 *	22.8825 *
Isobutane	1.50434 *	1.39064 *	0.00189384 *	0.00607062 *	10.133 *
n-Butane	4.94214 *	4.21448 *	0.0109833 *	0.0138208 *	23.0798 *
Isopentane	3.59187 *	0.860732 *	0.0125227 *	0.00101256 *	6.92333 *
n-Pentane	5.57412 *	0.416979 *	0.0206456 *	0.000290035 *	8.11482 *
i-C6	11.449 *	0.460747 *	0.0472562 *	0.000147325 *	6.68876 *
i-C7	21.8332 *	0.187683 *	0.0943193 *	1.48657E-05 *	4.12965 *
Octane	19.0573 *	0.00834904 *	0.0837315 *	6.2106E-08 *	0.76077 *
Nonane	10.6711 *	0.00141125 *	0.0470324 *	2.22496E-09 *	0.132216 *
Benzene	0.577245 *	2.25463 *	0.00278385 *	0.00129732 *	0.229681 *
Toluene	2.56447 *	3.00552 *	0.0115174 *	0.000399914 *	0.303203 *
Ethylbenzene	0.197582 *	0.0725788 *	0.000875889 *	2.97117E-06 *	0.00735056 *
o-Xylene	2.88861 *	0.827055 *	0.0128354 *	3.55502E-05 *	0.0833739 *
n-Hexane	7.58099 *	0.105652 *	0.0319542 *	1.82928E-05 *	3.05343 *
2,2,4-Trimethylpentane	0 *	0 *	0 *	0 *	0 *
Decanes Plus	4.75461 *	0.0196244 *	0.0209824 *	2.71794E-08 *	0.00897073 *
Decanes Plus Sat	0 *	0 *	0 *	0 *	0 *

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

Mass Fraction	4 %	5 %	6 %	7 %	8 %
Triethylene Glycol	5.76328E-07	2.53312E-08	0.0114566	3.68193E-07	1.39985E-09
Water	0.00370409	37.9004	97.7565	98.1799	2.01312
Hydrogen Sulfide	2.98758E-05	0.0974665	5.52956E-06	0.00584546	0.00485249
Carbon Dioxide	0.000297097	2.44057	0	0.406582	0.185994
Nitrogen	2.20631E-06	0.00273405	0	0.000152172	0.00023932
Methane	0.00465492	2.54893	0	0.224264	0.288463
Ethane	0.124423	9.59331	0	0.842615	3.00522
Propane	1.05298	12.2575	0	0.26307	17.5333
Isobutane	0.886362	2.73705	0.005997	0.019436	10.234
n-Butane	2.91193	8.29491	0.0347795	0.0442493	23.3098
Isopentane	2.62708	2.10292	0.0492239	0.00402421	8.67976
n-Pentane	4.07689	1.01875	0.0811531	0.00115268	10.1735
i-C6	10.0017	1.34453	0.221866	0.000699343	10.016
i-C7	22.1778	0.636833	0.514903	8.20525E-05	7.19041
Octane	22.0678	0.0322951	0.521089	3.90786E-07	1.51005
Nonane	13.8741	0.00612921	0.32864	1.57191E-08	0.29466
Benzene	0.457089	5.96373	0.0118471	0.00558206	0.311749
Toluene	2.39531	9.37748	0.0578152	0.00202973	0.485443
Ethylbenzene	0.212644	0.260926	0.00506616	1.73756E-05	0.0135602
o-Xylene	3.1088	2.97332	0.0742403	0.0002079	0.153807
n-Hexane	6.62266	0.308311	0.150023	8.6835E-05	4.5723
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	7.39373	0.10194	0.17536	2.29666E-07	0.0239121
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	4	5	6	7	8
Temperature	°F	84.5378	85.2658	86.1583	97.1838	86.1583
Pressure	psig	-1.2402	-11.9113	-8.35264	-11.998	-3.75267
Molecular Weight	lb/lbmol	98.6453	29.5308	18.3549	18.1539	57.5488
Mass Flow	lb/h	18445.3	0.455545	7775.9	0.150634	1.4932
Std Vapor Volumetric Flow	MMSCFD	1.703	0.000140495	3.85837	7.55716E-05	0.000236312
Std Liquid Volumetric Flow	sgpm	53.102	0.00136079	15.691	0.000308492	0.00509299
API Gravity		70.6307		11.3231		
Net Ideal Gas Heating Value	Btu/ft ³	4976.39	892.096	20.689	13.7896	2904.15

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

Connections

	10	12		
From Block	--	--		
To Block	MIX-101	MIX-102		

Stream Composition

Mass Flow	10 lb/h	12 lb/h		
Triethylene Glycol	4.16693E-14 *	1.88962E-11 *		
Water	1.22529E-05 *	0.0282723 *		
Hydrogen Sulfide	7.4329E-05 *	7.27065E-05 *		
Carbon Dioxide	0.00346411 *	0.00182058 *		
Nitrogen	1.05733E-05 *	2.0395E-06 *		
Methane	0.0334724 *	0.00190141 *		
Ethane	0.702683 *	0.00715627 *		
Propane	1.17968 *	0.00914364 *		
Isobutane	0.340856 *	0.00204174 *		
n-Butane	0.755797 *	0.00618771 *		
Isopentane	0.258797 *	0.0015687 *		
n-Pentane	0.297814 *	0.000759953 *		
i-C6	0.300001 *	0.00100297 *		
i-C7	0.20577 *	0.000475055 *		
Octane	0.0397186 *	2.4091E-05 *		
Nonane	0.0066606 *	4.57217E-06 *		
Benzene	0.00613748 *	0.00444873 *		
Toluene	0.00954893 *	0.00699526 *		
Ethylbenzene	0.000280807 *	0.000194641 *		
o-Xylene	0.00286142 *	0.00221799 *		
n-Hexane	0.141729 *	0.000229989 *		
2,2,4-Trimethylpentane	0 *	0 *		
Decanes Plus	0.000494819 *	7.60439E-05 *		
Decanes Plus Sat	0 *	0 *		

Mole Fraction	10 %	12 %		
Triethylene Glycol	3.20162E-13 *	4.98126E-09 *		
Water	0.000784774 *	62.1265 *		
Hydrogen Sulfide	0.00251648 *	0.0844538 *		
Carbon Dioxide	0.0908218 *	1.63764 *		
Nitrogen	0.000435503 *	0.00288214 *		
Methane	2.40747 *	4.69204 *		
Ethane	26.964 *	9.42158 *		
Propane	30.8684 *	8.20882 *		
Isobutane	6.76666 *	1.39064 *		
n-Butane	15.0041 *	4.21448 *		
Isopentane	4.13881 *	0.860732 *		
n-Pentane	4.76279 *	0.416979 *		
i-C6	4.01684 *	0.460747 *		
i-C7	2.36947 *	0.187683 *		
Octane	0.401204 *	0.00834904 *		
Nonane	0.0599217 *	0.00141125 *		
Benzene	0.0906605 *	2.25463 *		
Toluene	0.11958 *	3.00552 *		
Ethylbenzene	0.00305191 *	0.0725788 *		
o-Xylene	0.031099 *	0.827055 *		
n-Hexane	1.89768 *	0.105652 *		
2,2,4-Trimethylpentane	0 *	0 *		
Decanes Plus	0.00372192 *	0.0196244 *		
Decanes Plus Sat	0 *	0 *		

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	W & B	

Mass Fraction	10 %	12 %			
Triethylene Glycol	9.7225E-13	2.53312E-08			
Water	0.000285892	37.9004			
Hydrogen Sulfide	0.00173428	0.0974665			
Carbon Dioxide	0.0808264	2.44057			
Nitrogen	0.000246702	0.00273405			
Methane	0.780995	2.54893			
Ethane	16.3954	9.59331			
Propane	27.5249	12.2575			
Isobutane	7.95303	2.73705			
n-Butane	17.6347	8.29491			
Isopentane	6.03838	2.10292			
n-Pentane	6.94875	1.01875			
i-C6	6.99978	1.34453			
i-C7	4.80112	0.636833			
Octane	0.926735	0.0322951			
Nonane	0.155409	0.00612921			
Benzene	0.143203	5.96373			
Toluene	0.222801	9.37748			
Ethylbenzene	0.00655193	0.260926			
o-Xylene	0.0667643	2.97332			
n-Hexane	3.30691	0.308311			
2,2,4-Trimethylpentane	0	0			
Decanes Plus	0.0115454	0.10194			
Decanes Plus Sat	0	0			

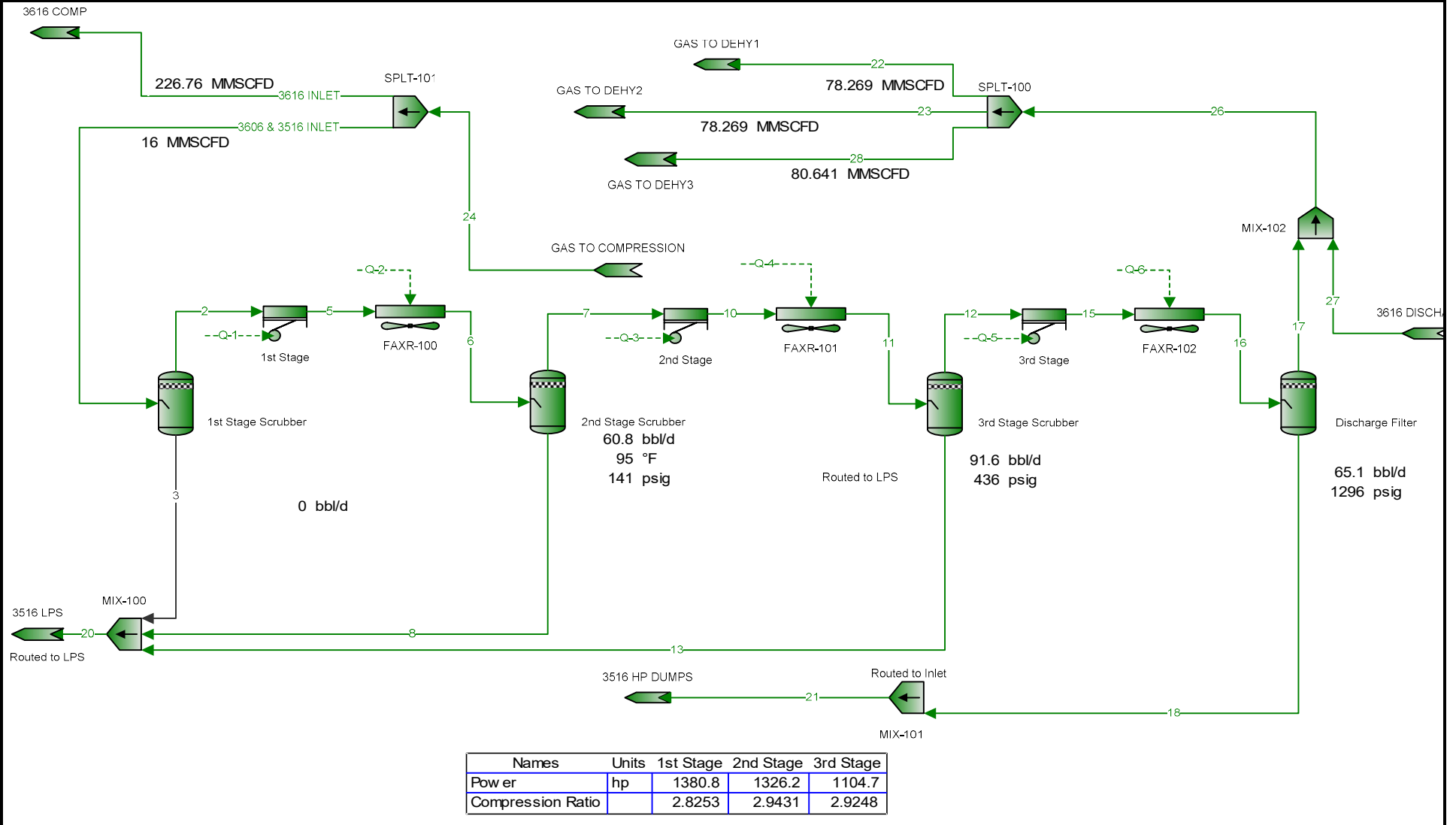
Stream Properties

Property	Units	10	12			
Temperature	°F	84.5378	85.2658			
Pressure	psig	3.04322	-11.9113			
Molecular Weight	lb/lbmol	49.452	29.5308			
Mass Flow	lb/h	4.28586	0.0745964			
Std Vapor Volumetric Flow	MMSCFD	0.000789331	2.30064E-05			
Std Liquid Volumetric Flow	sgpm	0.0165079	0.000222831			
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	2574.72	892.096			

Remarks

3516s Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	



* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Connections

	2	3	5	6	7
From Block	1st Stage Scrubber	1st Stage Scrubber	1st Stage	FAXR-100	2nd Stage Scrubber
To Block	1st Stage	MIX-100	FAXR-100	2nd Stage Scrubber	2nd Stage

Stream Composition

Mass Flow	2 lb/h	3 lb/h	5 lb/h	6 lb/h	7 lb/h
Triethylene Glycol	1.12775E-07	0	1.12775E-07	1.12775E-07	3.73795E-12
Water	295.61	0	295.61	295.61	172.76
Hydrogen Sulfide	0.600904	0	0.600904	0.600904	0.600203
Carbon Dioxide	116.351	0	116.351	116.351	116.301
Nitrogen	312.284	0	312.284	312.284	312.269
Methane	21531.3	0	21531.3	21531.3	21527.8
Ethane	5913.25	0	5913.25	5913.25	5907.96
Propane	3947.19	0	3947.19	3947.19	3936.07
Isobutane	914.867	0	914.867	914.867	908.923
n-Butane	1903.32	0	1903.32	1903.32	1885.81
Isopentane	695.608	0	695.608	695.608	681.281
n-Pentane	827.101	0	827.101	827.101	805.143
i-C6	908.59	0	908.59	908.59	853.762
i-C7	849.141	0	849.141	849.141	720.765
Octane	287.478	0	287.478	287.478	166.939
Nonane	80.1973	0	80.1973	80.1973	25.8592
Benzene	21.1994	0	21.1994	21.1994	19.442
Toluene	54.587	0	54.587	54.587	42.743
Ethylbenzene	2.48595	0	2.48595	2.48595	1.39487
o-Xylene	30.5433	0	30.5433	30.5433	15.3531
n-Hexane	452.299	0	452.299	452.299	415.213
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	9.20128	0	9.20128	9.20128	0.730953
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	2 %	3 %	5 %	6 %	7 %
Triethylene Glycol	4.2747E-11		4.2747E-11	4.2747E-11	1.42706E-15
Water	0.934035		0.934035	0.934035	0.549798
Hydrogen Sulfide	0.00100364		0.00100364	0.00100364	0.00100969
Carbon Dioxide	0.15049		0.15049	0.15049	0.151509
Nitrogen	0.634554		0.634554	0.634554	0.639093
Methane	76.3985		76.3985	76.3985	76.9362
Ethane	11.1942		11.1942	11.1942	11.2647
Propane	5.09539		5.09539	5.09539	5.11762
Isobutane	0.895985		0.895985	0.895985	0.896574
n-Butane	1.86403		1.86403	1.86403	1.86018
Isopentane	0.548808		0.548808	0.548808	0.541375
n-Pentane	0.652551		0.652551	0.652551	0.639801
i-C6	0.600163		0.600163	0.600163	0.568008
i-C7	0.482379		0.482379	0.482379	0.4124
Octane	0.143257		0.143257	0.143257	0.0837886
Nonane	0.0355935		0.0355935	0.0355935	0.0115596
Benzene	0.0154487		0.0154487	0.0154487	0.0142701
Toluene	0.0337236		0.0337236	0.0337236	0.0265965
Ethylbenzene	0.00133289		0.00133289	0.00133289	0.000753273
o-Xylene	0.0163764		0.0163764	0.0163764	0.00829117
n-Hexane	0.298763		0.298763	0.298763	0.276241
2,2,4-Trimethylpentane	0		0	0	0
Decanes Plus	0.00341435		0.00341435	0.00341435	0.00027319
Decanes Plus Sat	0		0	0	0

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Mass Fraction	2 %	3 %	5 %	6 %	7 %
Triethylene Glycol	2.88035E-10		2.88035E-10	2.88035E-10	9.70465E-15
Water	0.755008		0.755008	0.755008	0.448527
Hydrogen Sulfide	0.00153475		0.00153475	0.00153475	0.00155827
Carbon Dioxide	0.297168		0.297168	0.297168	0.301945
Nitrogen	0.797594		0.797594	0.797594	0.810726
Methane	54.9925		54.9925	54.9925	55.8916
Ethane	15.1028		15.1028	15.1028	15.3385
Propane	10.0814		10.0814	10.0814	10.219
Isobutane	2.33663		2.33663	2.33663	2.35979
n-Butane	4.8612		4.8612	4.8612	4.89601
Isopentane	1.77663		1.77663	1.77663	1.76877
n-Pentane	2.11247		2.11247	2.11247	2.09035
i-C6	2.3206		2.3206	2.3206	2.21658
i-C7	2.16876		2.16876	2.16876	1.87128
Octane	0.734238		0.734238	0.734238	0.433415
Nonane	0.204829		0.204829	0.204829	0.0671368
Benzene	0.0541447		0.0541447	0.0541447	0.0504763
Toluene	0.139419		0.139419	0.139419	0.110971
Ethylbenzene	0.00634928		0.00634928	0.00634928	0.00362142
o-Xylene	0.0780096		0.0780096	0.0780096	0.0398604
n-Hexane	1.1552		1.1552	1.1552	1.07799
2,2,4-Trimethylpentane	0		0	0	0
Decanes Plus	0.0235007		0.0235007	0.0235007	0.00189773
Decanes Plus Sat	0		0	0	0

Stream Properties

Property	Units	2	3	5	6	7
Temperature	°F	82.7421		260 *	95 *	95
Pressure	psig	43	43	145 *	141	141
Molecular Weight	lb/lbmol	22.2871		22.2871	22.2871	22.0829
Mass Flow	lb/h	39153.2	0	39153.2	39153.2	38517.2
Std Vapor Volumetric Flow	MMSCFD	16	0	16	16	15.8856
Std Liquid Volumetric Flow	sgpm	216.451	0	216.451	216.451	214.678
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1199.1		1199.1	1199.1	1192.84

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Connections

	8	10	11	12	13
From Block	2nd Stage Scrubber	2nd Stage	FAXR-101	3rd Stage Scrubber	3rd Stage Scrubber
To Block	MIX-100	FAXR-101	3rd Stage Scrubber	3rd Stage	MIX-100

Stream Composition

Mass Flow	8 lb/h	10 lb/h	11 lb/h	12 lb/h	13 lb/h
Triethylene Glycol	1.12771E-07	3.73795E-12	3.73795E-12	5.2166E-16	3.73743E-12
Water	122.85	172.76	172.76	97.7642	74.9958
Hydrogen Sulfide	0.000701693	0.600203	0.600203	0.597351	0.00285155
Carbon Dioxide	0.050261	116.301	116.301	116.066	0.234735
Nitrogen	0.0151561	312.269	312.269	312.171	0.0978438
Methane	3.49482	21527.8	21527.8	21508.6	19.2069
Ethane	5.2951	5907.96	5907.96	5884.54	23.4154
Propane	11.1197	3936.07	3936.07	3894.62	41.454
Isobutane	5.94401	908.923	908.923	889.3	19.6233
n-Butane	17.5122	1885.81	1885.81	1830.42	55.3813
Isopentane	14.3266	681.281	681.281	643.28	38.0013
n-Pentane	21.9583	805.143	805.143	749.572	55.571
i-C6	54.8279	853.762	853.762	736.758	117.004
i-C7	128.376	720.765	720.765	520.903	199.863
Octane	120.539	166.939	166.939	74.164	92.7753
Nonane	54.3381	25.8592	25.8592	6.14996	19.7092
Benzene	1.75736	19.442	19.442	16.0921	3.34997
Toluene	11.844	42.743	42.743	27.4655	15.2775
Ethylbenzene	1.09108	1.39487	1.39487	0.591691	0.803176
o-Xylene	15.1902	15.3531	15.3531	5.75735	9.59575
n-Hexane	37.0857	415.213	415.213	343.253	71.9601
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	8.47032	0.730953	0.730953	0.0493191	0.681634
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	8 %	10 %	11 %	12 %	13 %
Triethylene Glycol	5.97893E-09	1.42706E-15	1.42706E-15	2.00902E-19	1.64387E-13
Water	54.2939	0.549798	0.549798	0.313853	27.4967
Hydrogen Sulfide	0.000163928	0.00100969	0.00100969	0.00101369	0.000552656
Carbon Dioxide	0.00909289	0.151509	0.151509	0.152527	0.0352304
Nitrogen	0.00430764	0.639093	0.639093	0.644486	0.0230703
Methane	1.73449	76.9362	76.9362	77.5406	7.90808
Ethane	1.40208	11.2647	11.2647	11.3183	5.14359
Propane	2.00777	5.11762	5.11762	5.10806	6.20949
Isobutane	0.814244	0.896574	0.896574	0.884898	2.23005
n-Butane	2.39892	1.86018	1.86018	1.82136	6.2937
Isopentane	1.58099	0.541375	0.541375	0.515653	3.479
n-Pentane	2.42318	0.639801	0.639801	0.600858	5.0875
i-C6	5.06565	0.568008	0.568008	0.494457	8.96814
i-C7	10.2005	0.4124	0.4124	0.300654	13.1747
Octane	8.40174	0.0837886	0.0837886	0.0375496	5.36467
Nonane	3.37324	0.0115596	0.0115596	0.00277322	1.01503
Benzene	0.179127	0.0142701	0.0142701	0.0119147	0.283276
Toluene	1.02347	0.0265965	0.0265965	0.0172399	1.09521
Ethylbenzene	0.0818264	0.000753273	0.000753273	0.00032233	0.0499706
o-Xylene	1.1392	0.00829117	0.00829117	0.00313638	0.597012
n-Hexane	3.42642	0.276241	0.276241	0.230366	5.51562
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.439634	0.00027319	0.00027319	1.85942E-05	0.0293502
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Mass Fraction	8 %	10 %	11 %	12 %	13 %
Triethylene Glycol	1.77289E-08	9.70465E-15	9.70465E-15	1.38525E-18	4.35089E-13
Water	19.3134	0.448527	0.448527	0.25961	8.73056
Hydrogen Sulfide	0.000110314	0.00155827	0.00155827	0.00158625	0.00033196
Carbon Dioxide	0.00790161	0.301945	0.301945	0.30821	0.0273265
Nitrogen	0.00238271	0.810726	0.810726	0.82896	0.0113904
Methane	0.549426	55.8916	55.8916	57.1155	2.23595
Ethane	0.832451	15.3385	15.3385	15.6262	2.72587
Propane	1.74814	10.219	10.219	10.342	4.82582
Isobutane	0.934467	2.35979	2.35979	2.36151	2.28442
n-Butane	2.75312	4.89601	4.89601	4.86063	6.44715
Isopentane	2.2523	1.76877	1.76877	1.70821	4.42388
n-Pentane	3.45209	2.09035	2.09035	1.99046	6.46924
i-C6	8.61957	2.21658	2.21658	1.95644	13.6209
i-C7	20.1821	1.87128	1.87128	1.38324	23.2668
Octane	18.9501	0.433415	0.433415	0.19694	10.8003
Nonane	8.54258	0.0671368	0.0671368	0.016331	2.29443
Benzene	0.276277	0.0504763	0.0504763	0.042732	0.389983
Toluene	1.86202	0.110971	0.110971	0.0729338	1.77851
Ethylbenzene	0.171531	0.00362142	0.00362142	0.00157122	0.0935009
o-Xylene	2.38807	0.0398604	0.0398604	0.0152884	1.11708
n-Hexane	5.8303	1.07799	1.07799	0.911497	8.37716
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.33163	0.00189773	0.00189773	0.000130965	0.0793517
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	8	10	11	12	13
Temperature	°F	95	272 *	110 *	110	110
Pressure	psig	141	440 *	436	436	436
Molecular Weight	lb/lbmol	50.6445	22.0829	22.0829	21.7794	56.7388
Mass Flow	lb/h	636.086	38517.2	38517.2	37658.2	859.004
Std Vapor Volumetric Flow	MMSCFD	0.11439	15.8856	15.8856	15.7477	0.137886
Std Liquid Volumetric Flow	sgpm	1.77343	214.678	214.678	212.005	2.67221
API Gravity		63.2304				83.0526
Net Ideal Gas Heating Value	Btu/ft ³	2068.6	1192.84	1192.84	1180.14	2643.01

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Connections

	15	16	17	18	20
From Block	3rd Stage	FAXR-102	Discharge Filter	Discharge Filter	MIX-100
To Block	FAXR-102	Discharge Filter	MIX-102	MIX-101	3516 LPS

Stream Composition

Mass Flow	15 lb/h	16 lb/h	17 lb/h	18 lb/h	20 lb/h
Triethylene Glycol	5.2166E-16	5.2166E-16	1.85296E-19	5.21475E-16	1.12775E-07
Water	97.7642	97.7642	30.5019	67.2624	197.846
Hydrogen Sulfide	0.597351	0.597351	0.592608	0.00474335	0.00355324
Carbon Dioxide	116.066	116.066	115.558	0.508278	0.284996
Nitrogen	312.171	312.171	311.786	0.385382	0.113
Methane	21508.6	21508.6	21454.4	54.2089	22.7017
Ethane	5884.54	5884.54	5843.77	40.7699	28.7105
Propane	3894.62	3894.62	3842.54	52.078	52.5737
Isobutane	889.3	889.3	870.234	19.0657	25.5673
n-Butane	1830.42	1830.42	1781.59	48.8384	72.8935
Isopentane	643.28	643.28	617.551	25.729	52.3279
n-Pentane	749.572	749.572	714.4	35.1725	77.5293
i-C6	736.758	736.758	680.316	56.4422	171.832
i-C7	520.903	520.903	453.91	66.9925	328.238
Octane	74.164	74.164	56.2098	17.9542	213.314
Nonane	6.14996	6.14996	3.78416	2.3658	74.0474
Benzene	16.0921	16.0921	14.6157	1.47641	5.10733
Toluene	27.4655	27.4655	22.8805	4.58498	27.1215
Ethylbenzene	0.591691	0.591691	0.435601	0.156089	1.89426
o-Xylene	5.75735	5.75735	4.06924	1.68811	24.786
n-Hexane	343.253	343.253	312.02	31.2331	109.046
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0493191	0.0493191	0.0188237	0.0304954	9.15196
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	15 %	16 %	17 %	18 %	20 %
Triethylene Glycol	2.00902E-19	2.00902E-19	7.19281E-23	2.54669E-17	2.71113E-09
Water	0.313853	0.313853	0.0986985	27.3821	39.6474
Hydrogen Sulfide	0.00101369	0.00101369	0.00101364	0.00102073	0.000376394
Carbon Dioxide	0.152527	0.152527	0.153066	0.0847013	0.0233788
Nitrogen	0.644486	0.644486	0.648807	0.100893	0.0145627
Methane	77.5406	77.5406	77.9599	24.7819	5.10878
Ethane	11.3183	11.3183	11.3292	9.94387	3.44707
Propane	5.10806	5.10806	5.07982	8.66151	4.3043
Isobutane	0.884898	0.884898	0.872809	2.40572	1.58808
n-Butane	1.82136	1.82136	1.78686	6.16247	4.52768
Isopentane	0.515653	0.515653	0.498964	2.61535	2.61838
n-Pentane	0.600858	0.600858	0.577215	3.57528	3.87941
i-C6	0.494457	0.494457	0.460207	4.80348	7.19863
i-C7	0.300654	0.300654	0.26407	4.90326	11.8261
Octane	0.0375496	0.0375496	0.0286855	1.15273	6.74177
Nonane	0.00277322	0.00277322	0.00171997	0.135282	2.08432
Benzene	0.0119147	0.0119147	0.0109075	0.13862	0.236051
Toluene	0.0172399	0.0172399	0.0144761	0.364948	1.06268
Ethylbenzene	0.00032233	0.00032233	0.000239185	0.0107827	0.0644151
o-Xylene	0.00313638	0.00313638	0.00223438	0.116615	0.842856
n-Hexane	0.230366	0.230366	0.211069	2.65808	4.56831
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	1.85942E-05	1.85942E-05	7.15329E-06	0.00145795	0.215386
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Mass Fraction	15 %	16 %	17 %	18 %	20 %
Triethylene Glycol	1.38525E-18	1.38525E-18	4.99029E-22	9.89616E-17	7.54302E-09
Water	0.25961	0.25961	0.0821461	12.7645	13.233
Hydrogen Sulfide	0.00158625	0.00158625	0.00159598	0.000900156	0.000237661
Carbon Dioxide	0.30821	0.30821	0.311215	0.0964572	0.0190622
Nitrogen	0.82896	0.82896	0.839686	0.0731348	0.00755807
Methane	57.1155	57.1155	57.7801	10.2873	1.51842
Ethane	15.6262	15.6262	15.7382	7.737	1.92032
Propane	10.342	10.342	10.3485	9.88296	3.51642
Isobutane	2.36151	2.36151	2.34367	3.61814	1.71008
n-Butane	4.86063	4.86063	4.79808	9.26818	4.87552
Isopentane	1.70821	1.70821	1.66316	4.88266	3.49998
n-Pentane	1.99046	1.99046	1.92399	6.67477	5.18559
i-C6	1.95644	1.95644	1.83219	10.7112	11.4931
i-C7	1.38324	1.38324	1.22245	12.7133	21.9544
Octane	0.19694	0.19694	0.151382	3.40721	14.2676
Nonane	0.016331	0.016331	0.0101913	0.448964	4.9527
Benzene	0.042732	0.042732	0.0393622	0.280182	0.341607
Toluene	0.0729338	0.0729338	0.0616208	0.870102	1.81404
Ethylbenzene	0.00157122	0.00157122	0.00117314	0.0296215	0.126699
o-Xylene	0.0152884	0.0152884	0.0109591	0.320357	1.65782
n-Hexane	0.911497	0.911497	0.840317	5.92718	7.2936
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000130965	0.000130965	5.06952E-05	0.00578718	0.612134
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	15	16	17	18	20
Temperature	°F	275 *	100 *	100	100	99.3328
Pressure	psig	1300 *	1296	1296	1296	141
Molecular Weight	lb/lbmol	21.7794	21.7794	21.6453	38.6458	53.9755
Mass Flow	lb/h	37658.2	37658.2	37131.2	526.947	1495.09
Std Vapor Volumetric Flow	MMSCFD	15.7477	15.7477	15.6235	0.124185	0.252276
Std Liquid Volumetric Flow	sgpm	212.005	212.005	210.108	1.89766	4.44564
API Gravity					118.592	
Net Ideal Gas Heating Value	Btu/ft ³	1180.14	1180.14	1175.59	1752.21	2382.55

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Connections

	21	22	23	24	26
From Block	MIX-101	SPLT-100	SPLT-100	GAS TO COMPRESSIO N	MIX-102
To Block	3516 HP DUMPS	GAS TO DEHY1	GAS TO DEHY2	SPLT-101	SPLT-100

Stream Composition

Mass Flow	21 lb/h	22 lb/h	23 lb/h	24 lb/h	26 lb/h
Triethylene Glycol	5.21475E-16	7.94199E-20	7.94199E-20	1.7111E-06	2.40666E-19
Water	67.2624	150.788	150.788	4485.2	456.934
Hydrogen Sulfide	0.00474335	2.96863	2.96863	9.11733	8.99583
Carbon Dioxide	0.508278	578.957	578.957	1765.36	1754.42
Nitrogen	0.385382	1561.67	1561.67	4738.19	4732.34
Methane	54.2089	107479	107479	326688	325695
Ethane	40.7699	29276.4	29276.4	89719.9	88716.4
Propane	52.078	19239.4	19239.4	59889.5	58301.3
Isobutane	19.0657	4352.7	4352.7	13881	13190
n-Butane	48.8384	8905.53	8905.53	28878.4	26986.5
Isopentane	25.729	3082.57	3082.57	10554.2	9341.11
n-Pentane	35.1725	3565.61	3565.61	12549.3	10804.9
i-C6	56.4422	3402.75	3402.75	13785.7	10311.4
i-C7	66.9925	2326.44	2326.44	12883.7	7049.83
Octane	17.9542	334.579	334.579	4361.81	1013.88
Nonane	2.3658	29.3922	29.3922	1216.81	89.0673
Benzene	1.47641	73.3127	73.3127	321.652	222.16
Toluene	4.58498	119.695	119.695	828.232	362.713
Ethylbenzene	0.156089	2.60037	2.60037	37.7185	7.8799
o-Xylene	1.68811	25.3838	25.3838	463.424	76.9207
n-Hexane	31.2331	1569.13	1569.13	6862.59	4754.95
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0304954	0.260195	0.260195	139.608	0.788469
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	21 %	22 %	23 %	24 %	26 %
Triethylene Glycol	2.54669E-17	6.15391E-24	6.15391E-24	4.2747E-11	6.15391E-24
Water	27.3821	0.0973958	0.0973958	0.934035	0.0973958
Hydrogen Sulfide	0.00102073	0.00101358	0.00101358	0.00100364	0.00101358
Carbon Dioxide	0.0847013	0.153078	0.153078	0.15049	0.153078
Nitrogen	0.100893	0.648691	0.648691	0.634554	0.648691
Methane	24.7819	77.9593	77.9593	76.3985	77.9593
Ethane	9.94387	11.3295	11.3295	11.1942	11.3295
Propane	8.66151	5.07704	5.07704	5.09539	5.07704
Isobutane	2.40572	0.871425	0.871425	0.895985	0.871425
n-Butane	6.16247	1.78292	1.78292	1.86403	1.78292
Isopentane	2.61535	0.497161	0.497161	0.548808	0.497161
n-Pentane	3.57528	0.575066	0.575066	0.652551	0.575066
i-C6	4.80348	0.459474	0.459474	0.600163	0.459474
i-C7	4.90326	0.270165	0.270165	0.482379	0.270165
Octane	1.15273	0.034083	0.034083	0.143257	0.034083
Nonane	0.135282	0.00266668	0.00266668	0.0355935	0.00266668
Benzene	0.13862	0.0109213	0.0109213	0.0154487	0.0109213
Toluene	0.364948	0.0151165	0.0151165	0.0337236	0.0151165
Ethylbenzene	0.0107827	0.000285015	0.000285015	0.00133289	0.000285015
o-Xylene	0.116615	0.00278221	0.00278221	0.0163764	0.00278221
n-Hexane	2.65808	0.21188	0.21188	0.298763	0.21188
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00145795	1.97373E-05	1.97373E-05	0.00341435	1.97373E-05
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Mass Fraction	21 %	22 %	23 %	24 %	26 %
Triethylene Glycol	9.89616E-17	4.26806E-23	4.26806E-23	2.88035E-10	4.26806E-23
Water	12.7645	0.0810343	0.0810343	0.755008	0.0810343
Hydrogen Sulfide	0.000900156	0.00159535	0.00159535	0.00153475	0.00159535
Carbon Dioxide	0.0964572	0.311134	0.311134	0.297168	0.311134
Nitrogen	0.0731348	0.839251	0.839251	0.797594	0.839251
Methane	10.2873	57.7599	57.7599	54.9925	57.7599
Ethane	7.737	15.7333	15.7333	15.1028	15.7333
Propane	9.88296	10.3394	10.3394	10.0814	10.3394
Isobutane	3.61814	2.33916	2.33916	2.33663	2.33916
n-Butane	9.26818	4.78587	4.78587	4.8612	4.78587
Isopentane	4.88266	1.65659	1.65659	1.77663	1.65659
n-Pentane	6.67477	1.91617	1.91617	2.11247	1.91617
i-C6	10.7112	1.82865	1.82865	2.3206	1.82865
i-C7	12.7133	1.25024	1.25024	2.16876	1.25024
Octane	3.40721	0.179804	0.179804	0.734238	0.179804
Nonane	0.448964	0.0157955	0.0157955	0.204829	0.0157955
Benzene	0.280182	0.0393986	0.0393986	0.0541447	0.0393986
Toluene	0.870102	0.0643249	0.0643249	0.139419	0.0643249
Ethylbenzene	0.0296215	0.00139745	0.00139745	0.00634928	0.00139745
o-Xylene	0.320357	0.0136414	0.0136414	0.0780096	0.0136414
n-Hexane	5.92718	0.843259	0.843259	1.1552	0.843259
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00578718	0.00013983	0.00013983	0.0235007	0.00013983
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	21	22	23	24	26
Temperature	°F	100	98.8743	98.8743	83.1825	98.8743
Pressure	psig	1296	1296	1296	48	1296
Molecular Weight	lb/lbmol	38.6458	21.6527	21.6527	22.2871	21.6527
Mass Flow	lb/h	526.947	186080	186080	594060	563877
Std Vapor Volumetric Flow	MMSCFD	0.124185	78.2692	78.2692	242.763	237.18
Std Liquid Volumetric Flow	sgpm	1.89766	1052.72	1052.72	3284.14	3190.05
API Gravity		118.592				
Net Ideal Gas Heating Value	Btu/ft ³	1752.21	1175.97	1175.97	1199.1	1175.97

Remarks

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

Connections

	27	28	3606 & 3516 INLET	3616 INLET	
From Block	3616 DISCHARGE	SPLT-100	SPLT-101	SPLT-101	
To Block	MIX-102	GAS TO DEHY3	1st Stage Scrubber	3616 COMP	

Stream Composition

	27	28	3606 & 3516 INLET	3616 INLET	
Mass Flow	lb/h	lb/h	lb/h	lb/h	
Triethylene Glycol	5.53706E-20	8.18265E-20	1.12775E-07	1.59832E-06	
Water	426.432	155.358	295.61	4189.59	
Hydrogen Sulfide	8.40323	3.05858	0.600904	8.51643	
Carbon Dioxide	1638.86	596.502	116.351	1649.01	
Nitrogen	4420.56	1609	312.284	4425.9	
Methane	304241	110736	21531.3	305157	
Ethane	82872.7	30163.6	5913.25	83806.7	
Propane	54458.7	19822.4	3947.19	55942.3	
Isobutane	12319.8	4484.6	914.867	12966.1	
n-Butane	25204.9	9175.4	1903.32	26975.1	
Isopentane	8723.56	3175.98	695.608	9858.63	
n-Pentane	10090.5	3673.65	827.101	11722.2	
i-C6	9631.05	3505.86	908.59	12877.2	
i-C7	6595.92	2396.94	849.141	12034.6	
Octane	957.667	344.718	287.478	4074.34	
Nonane	85.2832	30.2829	80.1973	1136.61	
Benzene	207.544	75.5343	21.1994	300.453	
Toluene	339.833	123.323	54.587	773.645	
Ethylbenzene	7.4443	2.67917	2.48595	35.2326	
o-Xylene	72.8515	26.153	30.5433	432.881	
n-Hexane	4442.93	1616.68	452.299	6410.29	
2,2,4-Trimethylpentane	0	0	0	0	
Decanes Plus	0.769645	0.26808	9.20128	130.407	
Decanes Plus Sat	0	0	0	0	

	27	28	3606 & 3516 INLET	3616 INLET	
Mole Fraction	%	%	%	%	
Triethylene Glycol	1.51569E-24	6.15391E-24	4.2747E-11	4.2747E-11	
Water	0.097304	0.0973958	0.934035	0.934035	
Hydrogen Sulfide	0.00101358	0.00101358	0.00100364	0.00100364	
Carbon Dioxide	0.153079	0.153078	0.15049	0.15049	
Nitrogen	0.648683	0.648691	0.634554	0.634554	
Methane	77.9592	77.9593	76.3985	76.3985	
Ethane	11.3296	11.3295	11.1942	11.1942	
Propane	5.07684	5.07704	5.09539	5.09539	
Isobutane	0.871328	0.871425	0.895985	0.895985	
n-Butane	1.78264	1.78292	1.86403	1.86403	
Isopentane	0.497034	0.497161	0.548808	0.548808	
n-Pentane	0.574915	0.575066	0.652551	0.652551	
i-C6	0.459422	0.459474	0.600163	0.600163	
i-C7	0.270595	0.270165	0.482379	0.482379	
Octane	0.0344636	0.034083	0.143257	0.143257	
Nonane	0.00273344	0.00266668	0.0355935	0.0355935	
Benzene	0.0109223	0.0109213	0.0154487	0.0154487	
Toluene	0.0151616	0.0151165	0.0337236	0.0337236	
Ethylbenzene	0.000288246	0.000285015	0.00133289	0.00133289	
o-Xylene	0.00282084	0.00278221	0.0163764	0.0163764	
n-Hexane	0.211937	0.21188	0.298763	0.298763	
2,2,4-Trimethylpentane	0	0	0	0	

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3516s	

	27	28	3606 & 3516 INLET	3616 INLET	
Mole Fraction	%	%	%	%	
Decanes Plus	2.06247E-05	1.97373E-05	0.00341435	0.00341435	
Decanes Plus Sat	0	0	0	0	

	27	28	3606 & 3516 INLET	3616 INLET	
Mass Fraction	%	%	%	%	
Triethylene Glycol	1.05118E-23	4.26806E-23	2.88035E-10	2.88035E-10	
Water	0.080956	0.0810343	0.755008	0.755008	
Hydrogen Sulfide	0.00159531	0.00159535	0.00153475	0.00153475	
Carbon Dioxide	0.311129	0.311134	0.297168	0.297168	
Nitrogen	0.83922	0.839251	0.797594	0.797594	
Methane	57.7585	57.7599	54.9925	54.9925	
Ethane	15.7329	15.7333	15.1028	15.1028	
Propane	10.3387	10.3394	10.0814	10.0814	
Isobutane	2.33884	2.33916	2.33663	2.33663	
n-Butane	4.78501	4.78587	4.8612	4.8612	
Isopentane	1.65612	1.65659	1.77663	1.77663	
n-Pentane	1.91562	1.91617	2.11247	2.11247	
i-C6	1.8284	1.82865	2.3206	2.3206	
i-C7	1.2522	1.25024	2.16876	2.16876	
Octane	0.181808	0.179804	0.734238	0.734238	
Nonane	0.0161906	0.0157955	0.204829	0.204829	
Benzene	0.0394012	0.0393986	0.0541447	0.0541447	
Toluene	0.0645155	0.0643249	0.139419	0.139419	
Ethylbenzene	0.00141326	0.00139745	0.00634928	0.00634928	
o-Xylene	0.0138305	0.0136414	0.0780096	0.0780096	
n-Hexane	0.843466	0.843259	1.1552	1.1552	
2,2,4-Trimethylpentane	0	0	0	0	
Decanes Plus	0.000146113	0.00013983	0.0235007	0.0235007	
Decanes Plus Sat	0	0	0	0	

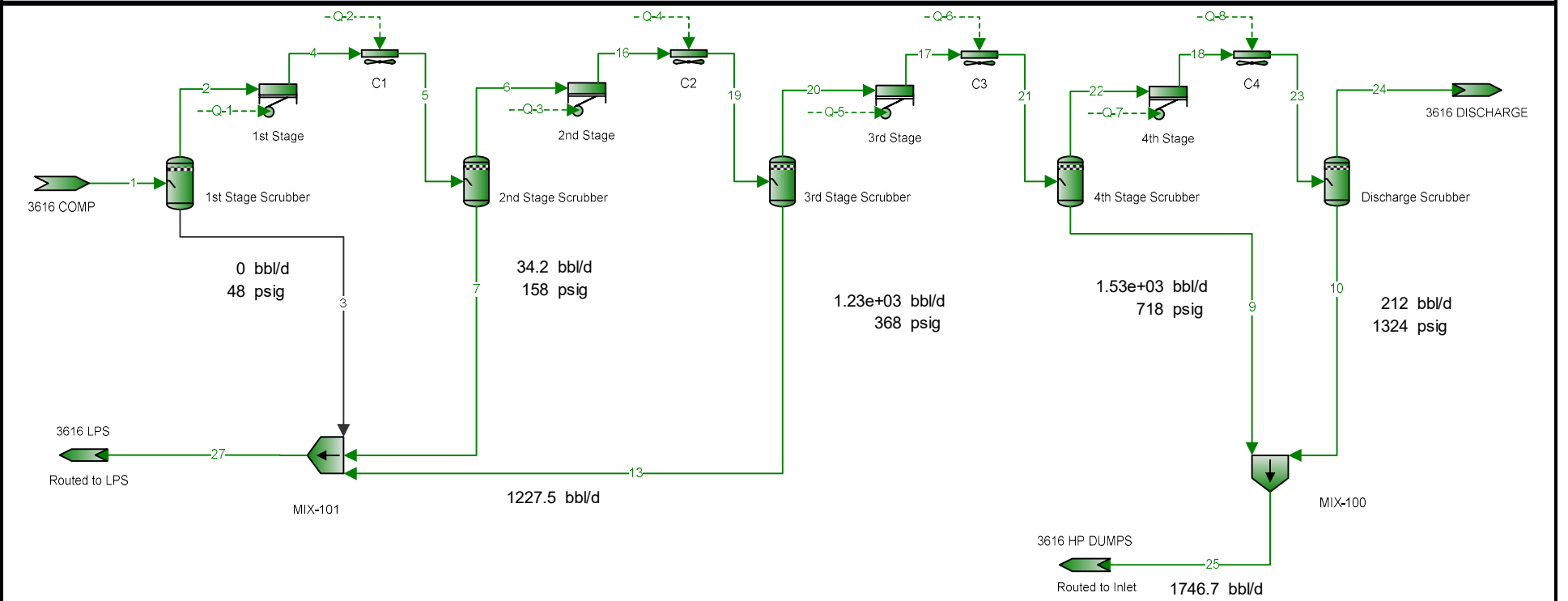
Stream Properties

Property	Units	27	28	3606 & 3516 INLET	3616 INLET	
Temperature	°F	100	98.8743	83.1825	83.1825	
Pressure	psig	1324	1296	48	48	
Molecular Weight	lb/lbmol	21.6532	21.6527	22.2871	22.2871	
Mass Flow	lb/h	526746	191718	39153.2	554907	
Std Vapor Volumetric Flow	MMSCFD	221.556	80.641	16 *	226.763	
Std Liquid Volumetric Flow	sgpm	2979.95	1084.62	216.451	3067.69	
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1175.99	1175.97	1199.1	1199.1	

Remarks

3616s Plant Schematic

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	



Names	Units	1st Stage	2nd Stage	3rd Stage	4th Stage
Compression Ratio		2.8397	2.2406	1.9242	1.8319
Power	hp	14578	13294	12274	8337.6

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report All Streams Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Connections

	1	2	3	4	5
From Block	3616 COMP	1st Stage Scrubber	1st Stage Scrubber	1st Stage	C1
To Block	1st Stage Scrubber	1st Stage	MIX-101	C1	2nd Stage Scrubber

Stream Composition

Mass Flow	1 lb/h	2 lb/h	3 lb/h	4 lb/h	5 lb/h
Triethylene Glycol	1.59832E-06	1.59832E-06	0	1.59832E-06	1.59832E-06
Water	4189.59	4189.59	0	4189.59	4189.59
Hydrogen Sulfide	8.51643	8.51643	0	8.51643	8.51643
Carbon Dioxide	1649.01	1649.01	0	1649.01	1649.01
Nitrogen	4425.9	4425.9	0	4425.9	4425.9
Methane	305157	305157	0	305157	305157
Ethane	83806.7	83806.7	0	83806.7	83806.7
Propane	55942.3	55942.3	0	55942.3	55942.3
Isobutane	12966.1	12966.1	0	12966.1	12966.1
n-Butane	26975.1	26975.1	0	26975.1	26975.1
Isopentane	9858.63	9858.63	0	9858.63	9858.63
n-Pentane	11722.2	11722.2	0	11722.2	11722.2
i-C6	12877.2	12877.2	0	12877.2	12877.2
i-C7	12034.6	12034.6	0	12034.6	12034.6
Octane	4074.34	4074.34	0	4074.34	4074.34
Nonane	1136.61	1136.61	0	1136.61	1136.61
Benzene	300.453	300.453	0	300.453	300.453
Toluene	773.645	773.645	0	773.645	773.645
Ethylbenzene	35.2326	35.2326	0	35.2326	35.2326
o-Xylene	432.881	432.881	0	432.881	432.881
n-Hexane	6410.29	6410.29	0	6410.29	6410.29
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	130.407	130.407	0	130.407	130.407
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	1 %	2 %	3 %	4 %	5 %
Triethylene Glycol	4.2747E-11	4.2747E-11		4.2747E-11	4.2747E-11
Water	0.934035	0.934035		0.934035	0.934035
Hydrogen Sulfide	0.00100364	0.00100364		0.00100364	0.00100364
Carbon Dioxide	0.15049	0.15049		0.15049	0.15049
Nitrogen	0.634554	0.634554		0.634554	0.634554
Methane	76.3985	76.3985		76.3985	76.3985
Ethane	11.1942	11.1942		11.1942	11.1942
Propane	5.09539	5.09539		5.09539	5.09539
Isobutane	0.895985	0.895985		0.895985	0.895985
n-Butane	1.86403	1.86403		1.86403	1.86403
Isopentane	0.548808	0.548808		0.548808	0.548808
n-Pentane	0.652551	0.652551		0.652551	0.652551
i-C6	0.600163	0.600163		0.600163	0.600163
i-C7	0.482379	0.482379		0.482379	0.482379
Octane	0.143257	0.143257		0.143257	0.143257
Nonane	0.0355935	0.0355935		0.0355935	0.0355935
Benzene	0.0154487	0.0154487		0.0154487	0.0154487
Toluene	0.0337236	0.0337236		0.0337236	0.0337236
Ethylbenzene	0.00133289	0.00133289		0.00133289	0.00133289
o-Xylene	0.0163764	0.0163764		0.0163764	0.0163764
n-Hexane	0.298763	0.298763		0.298763	0.298763
2,2,4-Trimethylpentane	0	0		0	0
Decanes Plus	0.00341435	0.00341435		0.00341435	0.00341435
Decanes Plus Sat	0	0		0	0

* User Specified Values
? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Mass Fraction	1 %	2 %	3 %	4 %	5 %
Triethylene Glycol	2.88035E-10	2.88035E-10		2.88035E-10	2.88035E-10
Water	0.755008	0.755008		0.755008	0.755008
Hydrogen Sulfide	0.00153475	0.00153475		0.00153475	0.00153475
Carbon Dioxide	0.297168	0.297168		0.297168	0.297168
Nitrogen	0.797594	0.797594		0.797594	0.797594
Methane	54.9925	54.9925		54.9925	54.9925
Ethane	15.1028	15.1028		15.1028	15.1028
Propane	10.0814	10.0814		10.0814	10.0814
Isobutane	2.33663	2.33663		2.33663	2.33663
n-Butane	4.8612	4.8612		4.8612	4.8612
Isopentane	1.77663	1.77663		1.77663	1.77663
n-Pentane	2.11247	2.11247		2.11247	2.11247
i-C6	2.3206	2.3206		2.3206	2.3206
i-C7	2.16876	2.16876		2.16876	2.16876
Octane	0.734238	0.734238		0.734238	0.734238
Nonane	0.204829	0.204829		0.204829	0.204829
Benzene	0.0541447	0.0541447		0.0541447	0.0541447
Toluene	0.139419	0.139419		0.139419	0.139419
Ethylbenzene	0.00634928	0.00634928		0.00634928	0.00634928
o-Xylene	0.0780096	0.0780096		0.0780096	0.0780096
n-Hexane	1.1552	1.1552		1.1552	1.1552
2,2,4-Trimethylpentane	0	0		0	0
Decanes Plus	0.0235007	0.0235007		0.0235007	0.0235007
Decanes Plus Sat	0	0		0	0

Stream Properties

Property	Units	1	2	3	4	5
Temperature	°F	83.1825	83.1825		220 *	115 *
Pressure	psig	48	48	48	160 *	158
Molecular Weight	lb/lbmol	22.2871	22.2871		22.2871	22.2871
Mass Flow	lb/h	554907	554907	0	554907	554907
Std Vapor Volumetric Flow	MMSCFD	226.763	226.763	0	226.763	226.763
Std Liquid Volumetric Flow	sgpm	3067.69	3067.69	0	3067.69	3067.69
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1199.1	1199.1		1199.1	1199.1

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Connections

	6	7	9	10	13
From Block	2nd Stage Scrubber	2nd Stage Scrubber	4th Stage Scrubber	Discharge Scrubber	3rd Stage Scrubber
To Block	2nd Stage	MIX-101	MIX-100	MIX-100	MIX-101

Stream Composition

Mass Flow	6 lb/h	7 lb/h	9 lb/h	10 lb/h	13 lb/h
Triethylene Glycol	2.30039E-09	1.59602E-06	3.63479E-13	9.39245E-17	2.30003E-09
Water	4009.24	180.349	1104.16	611.192	1867.45
Hydrogen Sulfide	8.51613	0.000292742	0.0703659	0.013877	0.028665
Carbon Dioxide	1648.99	0.0210672	6.33296	1.4845	2.30912
Nitrogen	4425.9	0.00677235	3.27488	1.12054	0.941058
Methane	305155	1.4585	572.287	156.075	186.496
Ethane	83804.7	1.98369	589.121	115.434	227.469
Propane	55938.3	3.95569	926.65	145.843	407.075
Isobutane	12964.1	1.99008	398.244	52.8975	193.229
n-Butane	26969.4	5.74967	1084.25	134.986	545.258
Isopentane	9854.03	4.59581	671.474	70.507	388.491
n-Pentane	11715.3	6.96938	955.477	96.2433	573.094
i-C6	12860.2	16.9818	1808.22	153.579	1267.33
i-C7	11993.4	41.1937	2715.7	185.224	2496.57
Octane	4022.66	51.6777	1143.06	57.5045	1864.43
Nonane	1098.26	38.3471	249.549	9.91747	753.515
Benzene	299.887	0.565748	49.9724	4.03886	38.3313
Toluene	769.521	4.12343	200.94	12.978	215.77
Ethylbenzene	34.7373	0.495256	9.88344	0.502637	16.907
o-Xylene	425.248	7.63287	117.642	5.68535	229.068
n-Hexane	6398.86	11.4251	1066.68	85.2126	804.04
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	110.64	19.7665	9.45476	0.228663	100.187
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	6 %	7 %	9 %	10 %	13 %
Triethylene Glycol	6.15542E-14	8.63968E-08	9.22448E-16	1.01086E-18	6.51314E-12
Water	0.894269	81.3812	23.3585	54.833	44.0817
Hydrogen Sulfide	0.0010041	6.98272E-05	0.000786876	0.000658095	0.000357677
Carbon Dioxide	0.150563	0.00389145	0.0548422	0.0545179	0.0223126
Nitrogen	0.634867	0.00196528	0.0445538	0.0646497	0.0142856
Methane	76.4359	0.73907	13.5956	15.7241	4.94365
Ethane	11.1994	0.536298	7.46689	6.20468	3.217
Propane	5.09755	0.729252	8.00894	5.3456	3.9258
Isobutane	0.89629	0.278342	2.61133	1.47095	1.41377
n-Butane	1.86456	0.804177	7.10953	3.75363	3.98941
Isopentane	0.548823	0.517826	3.54695	1.57946	2.28982
n-Pentane	0.652486	0.785264	5.04715	2.15599	3.3779
i-C6	0.599668	1.60196	7.99692	2.88041	6.25394
i-C7	0.480966	3.34199	10.3291	2.98763	10.5954
Octane	0.14151	3.67772	3.81372	0.813641	6.94097
Nonane	0.0344096	2.43057	0.741542	0.124977	2.49842
Benzene	0.0154272	0.0588785	0.243819	0.0835695	0.208682
Toluene	0.0335604	0.363805	0.831152	0.227652	0.995864
Ethylbenzene	0.00131481	0.0379227	0.0354798	0.00765206	0.0677225
o-Xylene	0.0160956	0.584463	0.422316	0.0865528	0.917557
n-Hexane	0.298378	1.07778	4.71744	1.59818	3.96774
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00289825	1.0475	0.0234898	0.00240922	0.277738
Decanes Plus Sat	0	0	0	0	0

* User Specified Values

? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Mass Fraction	6 %	7 %	9 %	10 %	13 %
Triethylene Glycol	4.14854E-13	3.99715E-07	2.65653E-15	4.94166E-18	1.88868E-11
Water	0.723027	45.1676	8.0699	32.1567	15.3347
Hydrogen Sulfide	0.0015358	7.33156E-05	0.000514279	0.000730109	0.000235384
Carbon Dioxide	0.297378	0.00527617	0.0462853	0.0781041	0.0189614
Nitrogen	0.798167	0.0016961	0.0239349	0.058955	0.00772753
Methane	55.0318	0.365273	4.18264	8.21157	1.53142
Ethane	15.1134	0.496806	4.30568	6.07334	1.86787
Propane	10.0879	0.990682	6.77255	7.67327	3.34271
Isobutane	2.33796	0.498405	2.91062	2.7831	1.58671
n-Butane	4.86366	1.43997	7.92437	7.10202	4.4774
Isopentane	1.77708	1.151	4.90756	3.70959	3.19011
n-Pentane	2.11274	1.74544	6.98323	5.06366	4.70599
i-C6	2.31921	4.25301	13.2156	8.08027	10.4067
i-C7	2.1629	10.3167	19.8481	9.7452	20.5007
Octane	0.725447	12.9424	8.3542	3.02549	15.3098
Nonane	0.198061	9.60384	1.82386	0.521789	6.18751
Benzene	0.0540817	0.141689	0.36523	0.212497	0.314759
Toluene	0.138776	1.03269	1.4686	0.682811	1.77181
Ethylbenzene	0.00626454	0.124034	0.0722345	0.0264453	0.138832
o-Xylene	0.0766893	1.91161	0.859806	0.299124	1.881
n-Hexane	1.15397	2.86136	7.79599	4.4833	6.6024
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0199529	4.95042	0.0691014	0.0120307	0.822691
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	6	7	9	10	13
Temperature	°F	115	115	115	100	120
Pressure	psig	158	158	718	1324	368
Molecular Weight	lb/lbmol	22.282	32.4593	52.1457	30.7193	51.7875
Mass Flow	lb/h	554507	399.29	13682.4	1900.67	12178
Std Vapor Volumetric Flow	MMSCFD	226.651	0.112035	2.38974	0.563507	2.14169
Std Liquid Volumetric Flow	sgpm	3066.69	0.997951	44.7663	6.18032	35.8007
API Gravity			43.9259	92.9062	95.7998	72.0814
Net Ideal Gas Heating Value	Btu/ft ³	1199.25	898.836	2459.33	1083.38	2229.48

Remarks

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Connections

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

Stream Composition

Mass Flow	16 lb/h	17 lb/h	18 lb/h	19 lb/h	20 lb/h
Triethylene Glycol	2.30039E-09	3.63572E-13	9.39798E-17	2.30039E-09	3.63572E-13
Water	4009.24	2141.78	1037.62	4009.24	2141.78
Hydrogen Sulfide	8.51613	8.48747	8.4171	8.51613	8.48747
Carbon Dioxide	1648.99	1646.68	1640.34	1648.99	1646.68
Nitrogen	4425.9	4424.95	4421.68	4425.9	4424.95
Methane	305155	304969	304397	305155	304969
Ethane	83804.7	83577.2	82988.1	83804.7	83577.2
Propane	55938.3	55531.2	54604.6	55938.3	55531.2
Isobutane	12964.1	12770.9	12372.7	12964.1	12770.9
n-Butane	26969.4	26424.1	25339.9	26969.4	26424.1
Isopentane	9854.03	9465.54	8794.07	9854.03	9465.54
n-Pentane	11715.3	11142.2	10186.7	11715.3	11142.2
i-C6	12860.2	11592.8	9784.63	12860.2	11592.8
i-C7	11993.4	9496.84	6781.14	11993.4	9496.84
Octane	4022.66	2158.23	1015.17	4022.66	2158.23
Nonane	1098.26	344.749	95.2006	1098.26	344.749
Benzene	299.887	261.555	211.583	299.887	261.555
Toluene	769.521	553.751	352.811	769.521	553.751
Ethylbenzene	34.7373	17.8304	7.94694	34.7373	17.8304
o-Xylene	425.248	196.179	78.5368	425.248	196.179
n-Hexane	6398.86	5594.82	4528.14	6398.86	5594.82
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	110.64	10.4531	0.998308	110.64	10.4531
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	16 %	17 %	18 %	19 %	20 %
Triethylene Glycol	6.15542E-14	9.82132E-18	2.56603E-21	6.15542E-14	9.82132E-18
Water	0.894269	0.482287	0.236166	0.894269	0.482287
Hydrogen Sulfide	0.0010041	0.00101027	0.00101267	0.0010041	0.00101027
Carbon Dioxide	0.150563	0.151786	0.152829	0.150563	0.151786
Nitrogen	0.634867	0.640787	0.647202	0.634867	0.640787
Methane	76.4359	77.1179	77.8013	76.4359	77.1179
Ethane	11.1994	11.2756	11.3166	11.1994	11.2756
Propane	5.09755	5.10872	5.07752	5.09755	5.10872
Isobutane	0.89629	0.891354	0.872849	0.89629	0.891354
n-Butane	1.86456	1.84429	1.78764	1.86456	1.84429
Isopentane	0.548823	0.532215	0.49978	0.548823	0.532215
n-Pentane	0.652486	0.626487	0.578926	0.652486	0.626487
i-C6	0.599668	0.54573	0.465564	0.599668	0.54573
i-C7	0.480966	0.38448	0.277488	0.480966	0.38448
Octane	0.14151	0.0766467	0.0364404	0.14151	0.0766467
Nonane	0.0344096	0.0109043	0.00304357	0.0344096	0.0109043
Benzene	0.0154272	0.0135837	0.0111066	0.0154272	0.0135837
Toluene	0.0335604	0.0243806	0.0157007	0.0335604	0.0243806
Ethylbenzene	0.00131481	0.000681318	0.000306928	0.00131481	0.000681318
o-Xylene	0.0160956	0.00749622	0.00303326	0.0160956	0.00749622
n-Hexane	0.298378	0.263375	0.215454	0.298378	0.263375
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00289825	0.000276432	2.66844E-05	0.00289825	0.000276432
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

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Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Mass Fraction	16 %	17 %	18 %	19 %	20 %
Triethylene Glycol	4.14854E-13	6.70391E-17	1.77774E-20	4.14854E-13	6.70391E-17
Water	0.723027	0.394923	0.196279	0.723027	0.394923
Hydrogen Sulfide	0.0015358	0.001565	0.0015922	0.0015358	0.001565
Carbon Dioxide	0.297378	0.30363	0.310291	0.297378	0.30363
Nitrogen	0.798167	0.815916	0.836415	0.798167	0.815916
Methane	55.0318	56.2332	57.5803	55.0318	56.2332
Ethane	15.1134	15.4108	15.6982	15.1134	15.4108
Propane	10.0879	10.2394	10.3291	10.0879	10.2394
Isobutane	2.33796	2.35482	2.34044	2.33796	2.35482
n-Butane	4.86366	4.87234	4.79334	4.86366	4.87234
Isopentane	1.77708	1.74535	1.6635	1.77708	1.74535
n-Pentane	2.11274	2.05451	1.92694	2.11274	2.05451
i-C6	2.31921	2.1376	1.85088	2.31921	2.1376
i-C7	2.1629	1.75112	1.28274	2.1629	1.75112
Octane	0.725447	0.397955	0.192032	0.725447	0.397955
Nonane	0.198061	0.0635683	0.0180084	0.198061	0.0635683
Benzene	0.0540817	0.0482282	0.0400235	0.0540817	0.0482282
Toluene	0.138776	0.102106	0.0667385	0.138776	0.102106
Ethylbenzene	0.00626454	0.00328774	0.00150326	0.00626454	0.00328774
o-Xylene	0.0766893	0.0361735	0.0148562	0.0766893	0.0361735
n-Hexane	1.15397	1.03163	0.856553	1.15397	1.03163
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.0199529	0.00192744	0.000188842	0.0199529	0.00192744
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	16	17	18	19	20
Temperature	°F	240 *	240 *	210 *	120 *	120
Pressure	psig	370 *	720 *	1326 *	368	368
Molecular Weight	lb/lbmol	22.282	22.0006	21.6762	22.282	22.0006
Mass Flow	lb/h	554507	542329	528647	554507	542329
Std Vapor Volumetric Flow	MMSCFD	226.651	224.509	222.119	226.651	224.509
Std Liquid Volumetric Flow	sgpm	3066.69	3030.89	2986.13	3066.69	3030.89
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1199.25	1189.42	1175.76	1199.25	1189.42

Remarks

Process Streams Report					
All Streams					
Tabulated by Total Phase					

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

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

Stream Composition					
---------------------------	--	--	--	--	--

Mass Flow	21 lb/h	22 lb/h	23 lb/h	24 lb/h	25 lb/h
Triethylene Glycol	3.63572E-13	9.39798E-17	9.39798E-17	5.53706E-20	3.63572E-13
Water	2141.78	1037.62	1037.62	426.432	1715.35
Hydrogen Sulfide	8.48747	8.4171	8.4171	8.40323	0.0842428
Carbon Dioxide	1646.68	1640.34	1640.34	1638.86	7.81746
Nitrogen	4424.95	4421.68	4421.68	4420.56	4.39542
Methane	304969	304397	304397	304241	728.361
Ethane	83577.2	82988.1	82988.1	82872.7	704.555
Propane	55531.2	54604.6	54604.6	54458.7	1072.49
Isobutane	12770.9	12372.7	12372.7	12319.8	451.141
n-Butane	26424.1	25339.9	25339.9	25204.9	1219.23
Isopentane	9465.54	8794.07	8794.07	8723.56	741.98
n-Pentane	11142.2	10186.7	10186.7	10090.5	1051.72
i-C6	11592.8	9784.63	9784.63	9631.05	1961.8
i-C7	9496.84	6781.14	6781.14	6595.92	2900.93
Octane	2158.23	1015.17	1015.17	957.667	1200.56
Nonane	344.749	95.2006	95.2006	85.2832	259.466
Benzene	261.555	211.583	211.583	207.544	54.0113
Toluene	553.751	352.811	352.811	339.833	213.918
Ethylbenzene	17.8304	7.94694	7.94694	7.4443	10.3861
o-Xylene	196.179	78.5368	78.5368	72.8515	123.328
n-Hexane	5594.82	4528.14	4528.14	4442.93	1151.89
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	10.4531	0.998308	0.998308	0.769645	9.68342
Decanes Plus Sat	0	0	0	0	0

Mole Fraction	21 %	22 %	23 %	24 %	25 %
Triethylene Glycol	9.82132E-18	2.56603E-21	2.56603E-21	1.51569E-24	7.46629E-16
Water	0.482287	0.236166	0.236166	0.097304	29.3642
Hydrogen Sulfide	0.00101027	0.00101267	0.00101267	0.00101358	0.000762303
Carbon Dioxide	0.151786	0.152829	0.152829	0.153079	0.0547803
Nitrogen	0.640787	0.647202	0.647202	0.648683	0.0483883
Methane	77.1179	77.8013	77.8013	77.9592	14.0017
Ethane	11.2756	11.3166	11.3166	11.3296	7.22605
Propane	5.10872	5.07752	5.07752	5.07684	7.50075
Isobutane	0.891354	0.872849	0.872849	0.871328	2.39374
n-Butane	1.84429	1.78764	1.78764	1.78264	6.46919
Isopentane	0.532215	0.49978	0.49978	0.497034	3.17153
n-Pentane	0.626487	0.578926	0.578926	0.574915	4.49549
i-C6	0.54573	0.465564	0.465564	0.459422	7.02064
i-C7	0.38448	0.277488	0.277488	0.270595	8.92825
Octane	0.0766467	0.0364404	0.0364404	0.0344636	3.24127
Nonane	0.0109043	0.00304357	0.00304357	0.00273344	0.623895
Benzene	0.0135837	0.0111066	0.0111066	0.0109223	0.213242
Toluene	0.0243806	0.0157007	0.0157007	0.0151616	0.715998
Ethylbenzene	0.000681318	0.000306928	0.000306928	0.000288246	0.03017
o-Xylene	0.00749622	0.00303326	0.00303326	0.00282084	0.358249
n-Hexane	0.263375	0.215454	0.215454	0.211937	4.12226
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.000276432	2.66844E-05	2.66844E-05	2.06247E-05	0.0194675
Decanes Plus Sat	0	0	0	0	0

* User Specified Values
 ? Extrapolated or Approximate Values

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Mass Fraction	21	22	23	24	25
	%	%	%	%	%
Triethylene Glycol	6.70391E-17	1.77774E-20	1.77774E-20	1.05118E-23	2.33312E-15
Water	0.394923	0.196279	0.196279	0.080956	11.0078
Hydrogen Sulfide	0.001565	0.0015922	0.0015922	0.00159531	0.000540604
Carbon Dioxide	0.30363	0.310291	0.310291	0.311129	0.0501662
Nitrogen	0.815916	0.836415	0.836415	0.83922	0.0282063
Methane	56.2332	57.5803	57.5803	57.7585	4.67404
Ethane	15.4108	15.6982	15.6982	15.7329	4.52128
Propane	10.2394	10.3291	10.3291	10.3387	6.88241
Isobutane	2.35482	2.34044	2.34044	2.33884	2.89507
n-Butane	4.87234	4.79334	4.79334	4.78501	7.82407
Isopentane	1.74535	1.6635	1.6635	1.65612	4.76144
n-Pentane	2.05451	1.92694	1.92694	1.91562	6.7491
i-C6	2.1376	1.85088	1.85088	1.8284	12.5893
i-C7	1.75112	1.28274	1.28274	1.2522	18.6158
Octane	0.397955	0.192032	0.192032	0.181808	7.70426
Nonane	0.0635683	0.0180084	0.0180084	0.0161906	1.66505
Benzene	0.0482282	0.0400235	0.0400235	0.0394012	0.346601
Toluene	0.102106	0.0667385	0.0667385	0.0645155	1.37276
Ethylbenzene	0.00328774	0.00150326	0.00150326	0.00141326	0.0666496
o-Xylene	0.0361735	0.0148562	0.0148562	0.0138305	0.79142
n-Hexane	1.03163	0.856553	0.856553	0.843466	7.39194
2,2,4-Trimethylpentane	0	0	0	0	0
Decanes Plus	0.00192744	0.000188842	0.000188842	0.000146113	0.0621405
Decanes Plus Sat	0	0	0	0	0

Stream Properties

Property	Units	21	22	23	24	25
Temperature	°F	115 *	115	100 *	100	111.92
Pressure	psig	718	718	1324	1324	718
Molecular Weight	lb/lbmol	22.0006	21.6762	21.6762	21.6532	48.0573
Mass Flow	lb/h	542329	528647	528647	526746	15583.1
Std Vapor Volumetric Flow	MMSCFD	224.509	222.119	222.119	221.556	2.95324
Std Liquid Volumetric Flow	sgpm	3030.89	2986.13	2986.13	2979.95	50.9466
API Gravity						
Net Ideal Gas Heating Value	Btu/ft ³	1189.42	1175.76	1175.76	1175.99	2196.79

Remarks

Process Streams Report					
All Streams					
Tabulated by Total Phase					
Client Name:	DELAWARE DIVISION				Job:
Location:	Spartan Compressor Station				
Flowsheet:	3616s				
Connections					
	27				
From Block	MIX-101				
To Block	3616 LPS				
Stream Composition					
Mass Flow	27				
	lb/h				
Triethylene Glycol	1.59832E-06				
Water	2047.8				
Hydrogen Sulfide	0.0289578				
Carbon Dioxide	2.33019				
Nitrogen	0.94783				
Methane	187.955				
Ethane	229.452				
Propane	411.03				
Isobutane	195.219				
n-Butane	551.007				
Isopentane	393.087				
n-Pentane	580.064				
i-C6	1284.31				
i-C7	2537.76				
Octane	1916.11				
Nonane	791.862				
Benzene	38.8971				
Toluene	219.894				
Ethylbenzene	17.4022				
o-Xylene	236.701				
n-Hexane	815.465				
2,2,4-Trimethylpentane	0				
Decanes Plus	119.954				
Decanes Plus Sat	0				
Mole Fraction	27				
	%				
Triethylene Glycol	4.30108E-09				
Water	45.9359				
Hydrogen Sulfide	0.000343367				
Carbon Dioxide	0.0213968				
Nitrogen	0.0136732				
Methane	4.73463				
Ethane	3.08374				
Propane	3.76689				
Isobutane	1.35733				
n-Butane	3.83107				
Isopentane	2.20173				
n-Pentane	3.24901				
i-C6	6.02269				
i-C7	10.2348				
Octane	6.77875				
Nonane	2.49505				
Benzene	0.201235				
Toluene	0.964443				
Ethylbenzene	0.0662411				
o-Xylene	0.900998				
n-Hexane	3.82408				
2,2,4-Trimethylpentane	0				
Decanes Plus	0.316004				
Decanes Plus Sat	0				

Process Streams Report
All Streams
 Tabulated by Total Phase

Client Name:	DELAWARE DIVISION	Job:
Location:	Spartan Compressor Station	
Flowsheet:	3616s	

Mass Fraction	27 %				
Triethylene Glycol	1.2708E-08				
Water	16.2818				
Hydrogen Sulfide	0.000230239				
Carbon Dioxide	0.018527				
Nitrogen	0.00753605				
Methane	1.4944				
Ethane	1.82434				
Propane	3.26804				
Isobutane	1.55216				
n-Butane	4.38097				
Isopentane	3.12538				
n-Pentane	4.612				
i-C6	10.2113				
i-C7	20.1774				
Octane	15.2347				
Nonane	6.29597				
Benzene	0.309265				
Toluene	1.74834				
Ethylbenzene	0.138362				
o-Xylene	1.88198				
n-Hexane	6.48364				
2,2,4-Trimethylpentane	0				
Decanes Plus	0.953733				
Decanes Plus Sat	0				

Stream Properties

Property	Units	27			
Temperature	°F	115.749			
Pressure	psig	158			
Molecular Weight	lb/lbmol	50.8266			
Mass Flow	lb/h	12577.3			
Std Vapor Volumetric Flow	MMSCFD	2.25372			
Std Liquid Volumetric Flow	sgpm	36.7987			
API Gravity					
Net Ideal Gas Heating Value	Btu/ft ³	2163.33			

Remarks

August 26, 2020

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

For: XTO Energy, Inc.
22777 Springswoods Village Pkwy., W4.6B.345
Spring, Texas 77389

Sample: Maverick Compressor Station
First Stage Separator
Spot Gas Sample @ 48 psig & 100 °F

Date Sampled: 08/19/2020

Job Number: 202352.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	0.641	
Carbon Dioxide	0.151	
Methane	77.048	
Ethane	11.244	3.080
Propane	5.100	1.439
Isobutane	0.895	0.300
n-Butane	1.860	0.601
2-2 Dimethylpropane	0.012	0.005
Isopentane	0.549	0.206
n-Pentane	0.642	0.238
Hexanes	0.697	0.294
Heptanes Plus	<u>1.161</u>	<u>0.511</u>
Totals	100.000	6.674

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity -----	3.518	(Air=1)
Molecular Weight -----	101.45	
Gross Heating Value -----	5410	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	0.780	(Air=1)
Compressibility (Z) -----	0.9956	
Molecular Weight -----	22.48	
Gross Heating Value		
Dry Basis -----	1374	BTU/CF
Saturated Basis -----	1351	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: (24) D. Field
Analyst: RG
Processor: RG
Cylinder ID: T-4014

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	0.641		0.799
Carbon Dioxide	0.151		0.296
Methane	77.048		54.973
Ethane	11.244	3.080	15.037
Propane	5.100	1.439	10.002
Isobutane	0.895	0.300	2.314
n-Butane	1.860	0.601	4.808
2,2 Dimethylpropane	0.012	0.005	0.039
Isopentane	0.549	0.206	1.762
n-Pentane	0.642	0.238	2.060
2,2 Dimethylbutane	0.015	0.006	0.057
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.047	0.020	0.180
2 Methylpentane	0.211	0.090	0.809
3 Methylpentane	0.115	0.048	0.441
n-Hexane	0.309	0.130	1.184
Methylcyclopentane	0.090	0.032	0.337
Benzene	0.016	0.005	0.056
Cyclohexane	0.134	0.047	0.501
2-Methylhexane	0.059	0.028	0.263
3-Methylhexane	0.059	0.028	0.263
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.112	0.050	0.494
n-Heptane	0.133	0.063	0.593
Methylcyclohexane	0.162	0.067	0.707
Toluene	0.039	0.013	0.160
Other C8's	0.157	0.075	0.770
n-Octane	0.051	0.027	0.259
Ethylbenzene	0.002	0.001	0.009
M & P Xylenes	0.023	0.009	0.109
O-Xylene	0.004	0.002	0.019
Other C9's	0.070	0.036	0.393
n-Nonane	0.016	0.009	0.091
Other C10's	0.025	0.015	0.157
n-Decane	0.005	0.003	0.032
Undecanes (11)	<u>0.004</u>	<u>0.003</u>	<u>0.026</u>
Totals	100.000	6.674	100.000

Computed Real Characteristics of Total Sample

Specific Gravity -----	0.780	(Air=1)
Compressibility (Z) -----	0.9956	
Molecular Weight -----	22.48	
Gross Heating Value		
Dry Basis -----	1374	BTU/CF
Saturated Basis -----	1351	BTU/CF

August 26, 2020

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

Sample: Maverick Compressor Station
First Stage Separator
Spot Gas Sample @ 48 psig & 100 °F

Date Sampled: 08/19/2020

Job Number: 202352.001

GLYCALC FORMAT

COMPONENT	MOL%	GPM	Wt %
Carbon Dioxide	0.151		0.296
Hydrogen Sulfide	< 0.001		< 0.001
Nitrogen	0.641		0.799
Methane	77.048		54.973
Ethane	11.244	3.080	15.037
Propane	5.100	1.439	10.002
Isobutane	0.895	0.300	2.314
n-Butane	1.872	0.605	4.847
Isopentane	0.549	0.206	1.762
n-Pentane	0.642	0.238	2.060
Cyclopentane	0.000	0.000	0.000
n-Hexane	0.309	0.130	1.184
Cyclohexane	0.134	0.047	0.501
Other C6's	0.388	0.164	1.487
Heptanes	0.453	0.200	1.950
Methylcyclohexane	0.162	0.067	0.707
2,2,4 Trimethylpentane	0.000	0.000	0.000
Benzene	0.016	0.005	0.056
Toluene	0.039	0.013	0.160
Ethylbenzene	0.002	0.001	0.009
Xylenes	0.027	0.011	0.128
Octanes Plus	<u>0.328</u>	<u>0.168</u>	<u>1.728</u>
Totals	100.000	6.674	100.000

Real Characteristics Of Octanes Plus:

Specific Gravity ----- 4.108 (Air=1)
Molecular Weight ----- 118.45
Gross Heating Value ----- 6263 BTU/CF

Real Characteristics Of Total Sample:

Specific Gravity ----- 0.780 (Air=1)
Compressibility (Z) ----- 0.9956
Molecular Weight ----- 22.48
Gross Heating Value
Dry Basis ----- 1374 BTU/CF
Saturated Basis ----- 1351 BTU/CF

GAS COMPRESSION APPLICATION

ENGINE SPEED (rpm):	1000	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	7.6	FUEL SYSTEM:	GAV
AFTERCOOLER TYPE:	SCAC		WITH AIR FUEL RATIO CONTROL
AFTERCOOLER - STAGE 2 INLET (°F):	130	SITE CONDITIONS:	
AFTERCOOLER - STAGE 1 INLET (°F):	214	FUEL:	Maverick
JACKET WATER OUTLET (°F):	230	FUEL PRESSURE RANGE (psig): (See note 1)	58.0-70.3
ASPIRATION:	TA	FUEL METHANE NUMBER:	29.5
COOLING SYSTEM:	JW+1AC, OC+2AC	FUEL LHV (Btu/scf):	1223
CONTROL SYSTEM:	ADEM4	ALTITUDE(ft):	3366
EXHAUST MANIFOLD:	DRY	INLET AIR TEMPERATURE(°F):	77
COMBUSTION:	LOW EMISSION	STANDARD RATED POWER:	5000 bhp@1000rpm
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.3		
SET POINT TIMING:	16		

RATING	NOTES	LOAD	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE			
			100%	100%	75%	50%
ENGINE POWER (WITHOUT FAN)	(2)	bhp	4938	4938	3703	2500
INLET AIR TEMPERATURE		°F	77	77	77	77

ENGINE DATA							
FUEL CONSUMPTION (LHV)		(3)	Btu/bhp-hr	6797	6797	6925	7377
FUEL CONSUMPTION (HHV)		(3)	Btu/bhp-hr	7481	7481	7622	8118
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(4)(5)	ft3/min	13464	13464	10076	6910
AIR FLOW	(WET)	(4)(5)	lb/hr	59701	59701	44678	30637
FUEL FLOW (60°F, 14.7 psia)			scfm	457	457	349	251
INLET MANIFOLD PRESSURE		(6)	in Hg(abs)	117.6	117.6	87.3	61.1
EXHAUST TEMPERATURE - ENGINE OUTLET		(7)	°F	722	722	787	860
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(8)(5)	ft3/min	31415	31415	24805	18050
EXHAUST GAS MASS FLOW	(WET)	(8)(5)	lb/hr	61303	61303	45905	31518

EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(9)(10)	g/bhp-hr	0.30	0.30	0.30	0.30
CO		(9)(10)	g/bhp-hr	3.47	3.47	3.47	3.48
THC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	3.20	3.20	3.42	3.65
NMHC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	1.49	1.49	1.59	1.70
NMNEHC (VOCs) (mol. wt. of 15.84)		(9)(10)(11)	g/bhp-hr	0.99	0.99	1.06	1.13
HCHO (Formaldehyde)		(9)(10)	g/bhp-hr	0.18	0.18	0.18	0.20
CO2		(9)(10)	g/bhp-hr	493	493	507	531
EXHAUST OXYGEN		(9)(12)	% DRY	12.1	12.1	11.9	11.6

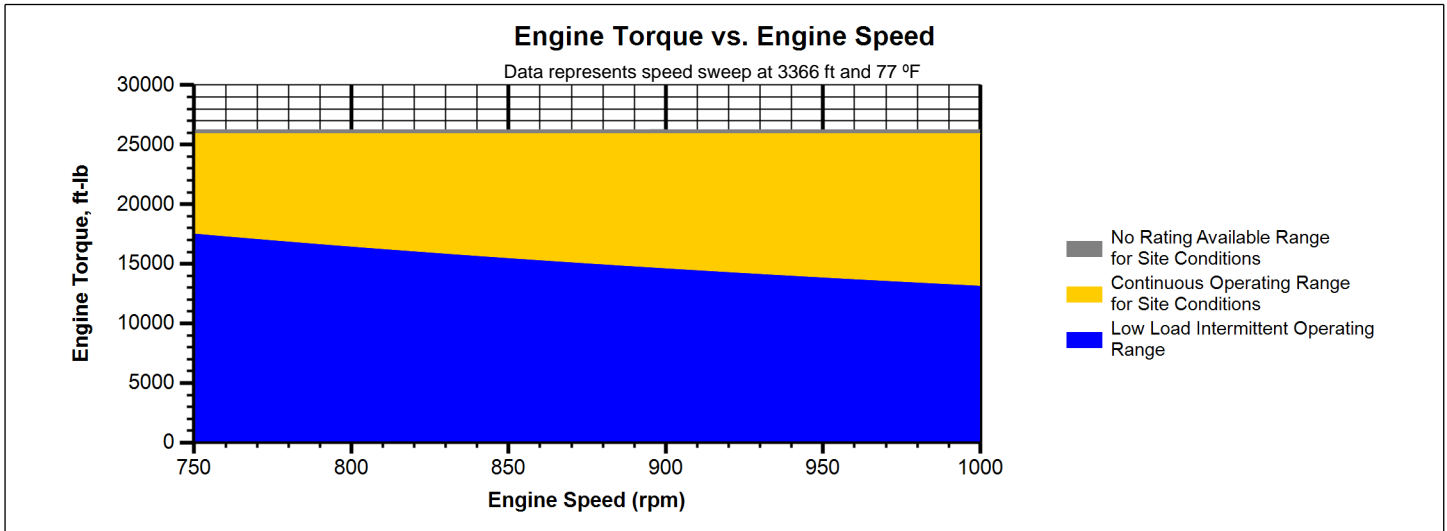
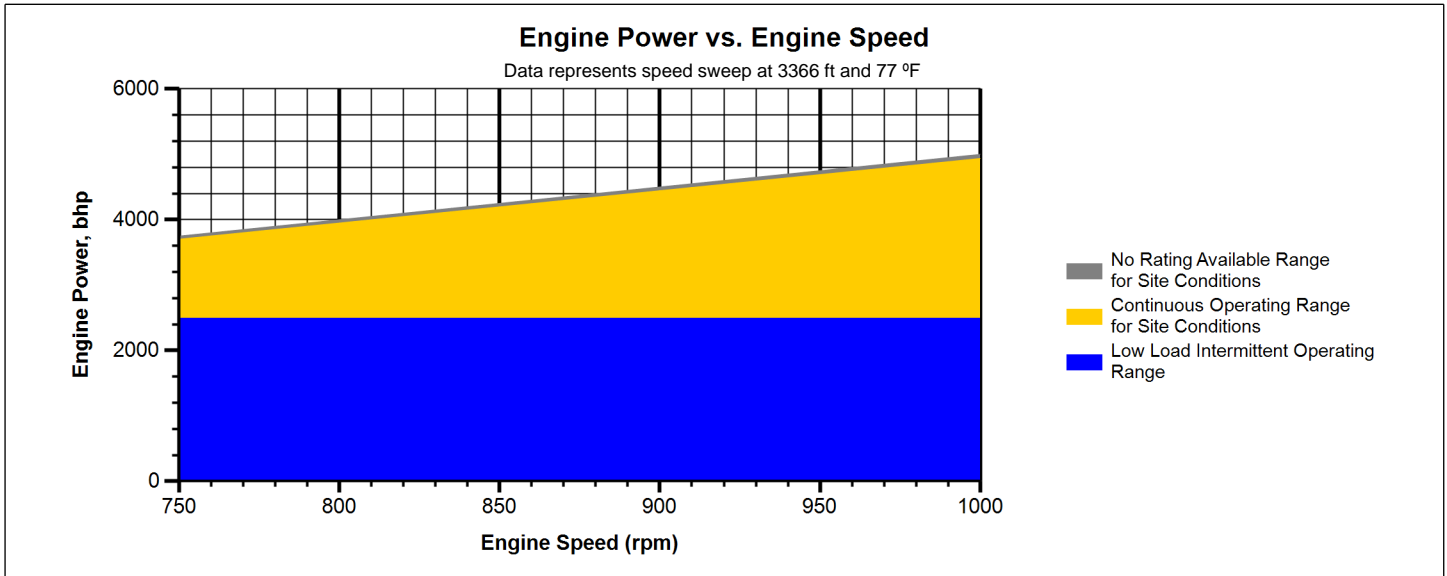
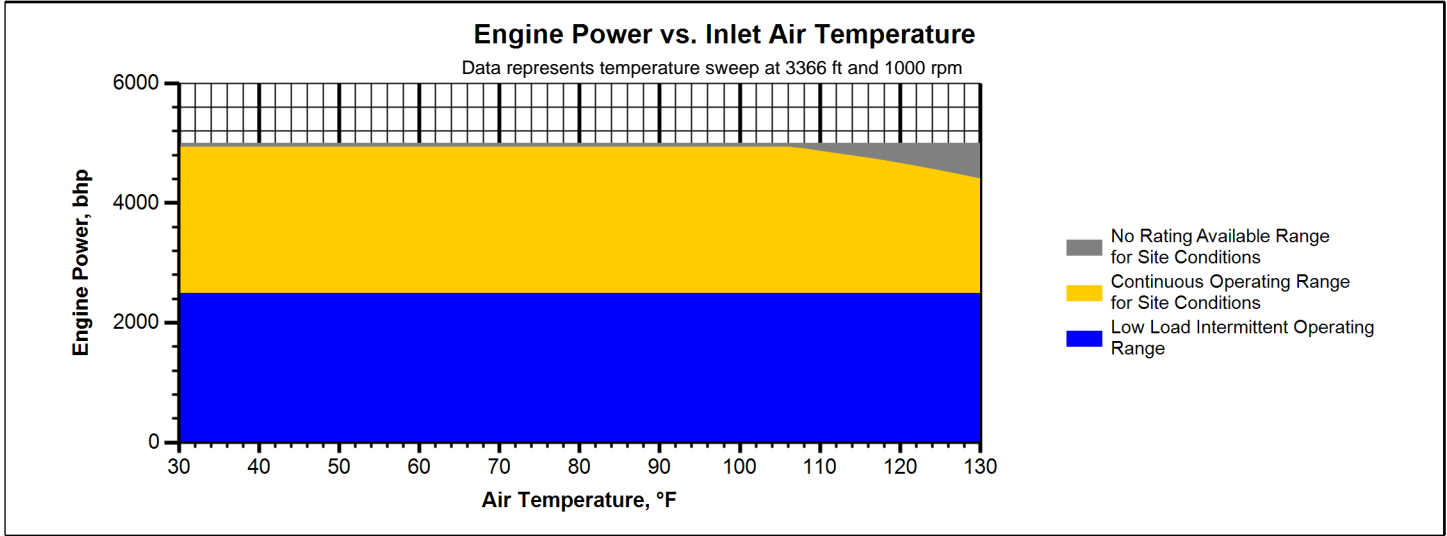
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(13)	Btu/min	51385	51385	40587	35052
HEAT REJ. TO ATMOSPHERE		(13)	Btu/min	20454	20454	18807	17049
HEAT REJ. TO LUBE OIL (OC)		(13)	Btu/min	30509	30509	26764	23482
HEAT REJ. TO A/C - STAGE 1 (1AC)		(13)(14)	Btu/min	52276	52276	23846	4677
HEAT REJ. TO A/C - STAGE 2 (2AC)		(13)(14)	Btu/min	23117	23117	15675	9427

COOLING SYSTEM SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+1AC)	(14)(15)	Btu/min	111413
TOTAL STAGE 2 AFTERCOOLER CIRCUIT (OC+2AC)	(14)(15)	Btu/min	60883

A cooling system safety factor of 0% has been added to the cooling system sizing criteria.

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

For notes information consult page three.



Note:

At site conditions of 3366 ft and 77°F inlet air temp., constant torque can be maintained down to 750 rpm. The minimum speed for loading at these conditions is 750 rpm.

NOTES:

1. Fuel pressure range specified is to the engine gas shutoff valve (GSOV). Additional fuel train components should be considered in pressure and flow calculations.
2. Engine rating is with two engine driven water pumps. Tolerance is $\pm 3\%$ of full load.
3. Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site ambient temperature.
4. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of $\pm 5\%$.
5. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.
6. Inlet manifold pressure is a nominal value with a tolerance of $\pm 5\%$.
7. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.
8. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of $\pm 6\%$.
9. Emissions data is at engine exhaust flange prior to any after treatment.
10. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate the maximum values expected under steady state conditions. Fuel methane number cannot vary more than ± 3 . THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.
11. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ
12. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is ± 0.5 .
13. Heat rejection values are nominal. Tolerances, based on treated water, are $\pm 10\%$ for jacket water circuit, $\pm 50\%$ for radiation, $\pm 20\%$ for lube oil circuit, and $\pm 5\%$ for aftercooler circuit.
14. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.
15. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

GAS COMPRESSION APPLICATION

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0000	0.0000
Methane	CH4	77.0480	77.0472
Ethane	C2H6	11.2440	11.2439
Propane	C3H8	5.1000	5.0999
Isobutane	iso-C4H10	0.8950	0.8950
Norbutane	nor-C4H10	1.8600	1.8600
Isopentane	iso-C5H12	0.5610	0.5610
Norpentane	nor-C5H12	0.6420	0.6420
Hexane	C6H14	0.6970	0.6970
Heptane	C7H16	1.1610	1.1610
Nitrogen	N2	0.6410	0.6410
Carbon Dioxide	CO2	0.1510	0.1510
Hydrogen Sulfide	H2S	0.0010	0.0010
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0000	0.0000
Nonane	C9H20	0.0000	0.0000
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		100.0010	100.0000

Fuel Makeup:
Unit of Measure:

Nat Gas
English

Calculated Fuel Properties

Caterpillar Methane Number:	29.5
Lower Heating Value (Btu/scf):	1223
Higher Heating Value (Btu/scf):	1346
WOBBE Index (Btu/scf):	1389
THC: Free Inert Ratio:	125.26
Total % Inerts (% N2, CO2, He):	0.792%
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.996
Stoich A/F Ratio (Vol/Vol):	12.67
Stoich A/F Ratio (Mass/Mass):	16.33
Specific Gravity (Relative to Air):	0.776
Fuel Specific Heat Ratio (K):	1.277

CONDITIONS AND DEFINITIONS

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

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

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

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

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

FUEL LIQUIDS

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

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

GAS COMPRESSION APPLICATION

ENGINE SPEED (rpm):	1400	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	8	FUEL SYSTEM:	CAT WIDE RANGE
AFTERCOOLER TYPE:	SCAC		WITH AIR FUEL RATIO CONTROL
AFTERCOOLER - STAGE 2 INLET (°F):	130	SITE CONDITIONS:	
AFTERCOOLER - STAGE 1 INLET (°F):	201	FUEL:	Maverick
JACKET WATER OUTLET (°F):	210	FUEL PRESSURE RANGE (psig): (See note 1)	7.0-40.0
ASPIRATION:	TA	FUEL METHANE NUMBER:	29.5
COOLING SYSTEM:	JW+OC+1AC, 2AC	FUEL LHV (Btu/scf):	1223
CONTROL SYSTEM:	ADEM3	ALTITUDE(ft):	3366
EXHAUST MANIFOLD:	ASWC	INLET AIR TEMPERATURE(°F):	77
COMBUSTION:	LOW EMISSION	STANDARD RATED POWER:	1380 bhp@1400rpm
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.5		
SET POINT TIMING:	27		

RATING	NOTES	LOAD	MAXIMUM RATING		SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
			100%	100%	75%	50%	
ENGINE POWER (WITHOUT FAN)	(2)	bhp	1225	1225	918	690	
INLET AIR TEMPERATURE		°F	77	77	77	77	

ENGINE DATA							
FUEL CONSUMPTION (LHV)		(3)	Btu/bhp-hr	7234	7234	7594	8018
FUEL CONSUMPTION (HHV)		(3)	Btu/bhp-hr	7962	7962	8358	8824
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(4)(5)	ft3/min	2774	2774	2120	1624
AIR FLOW	(WET)	(4)(5)	lb/hr	12301	12301	9400	7201
FUEL FLOW (60°F, 14.7 psia)			scfm	121	121	95	75
INLET MANIFOLD PRESSURE		(6)	in Hg(abs)	77.6	77.6	61.7	47.4
EXHAUST TEMPERATURE - ENGINE OUTLET		(7)	°F	848	848	846	889
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(8)(5)	ft3/min	7232	7232	5527	4381
EXHAUST GAS MASS FLOW	(WET)	(8)(5)	lb/hr	12728	12728	9736	7468

EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(9)(10)	g/bhp-hr	0.50	0.50	0.50	0.50
CO		(9)(10)	g/bhp-hr	2.60	2.60	2.61	2.53
THC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	3.38	3.38	3.31	3.16
NMHC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	1.57	1.57	1.54	1.47
NMNEHC (VOCs) (mol. wt. of 15.84)		(9)(10)(11)	g/bhp-hr	1.05	1.05	1.02	0.98
HCHO (Formaldehyde)		(9)(10)	g/bhp-hr	0.35	0.35	0.33	0.32
CO2		(9)(10)	g/bhp-hr	530	530	554	586
EXHAUST OXYGEN		(9)(12)	% DRY	9.0	9.0	8.7	8.3

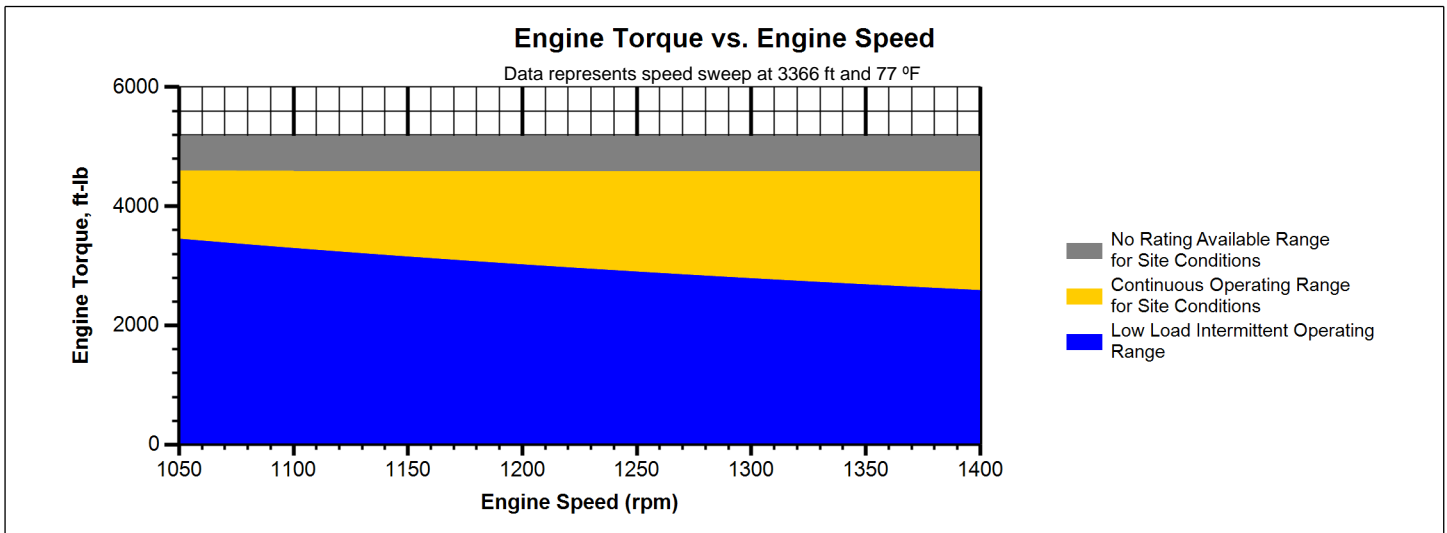
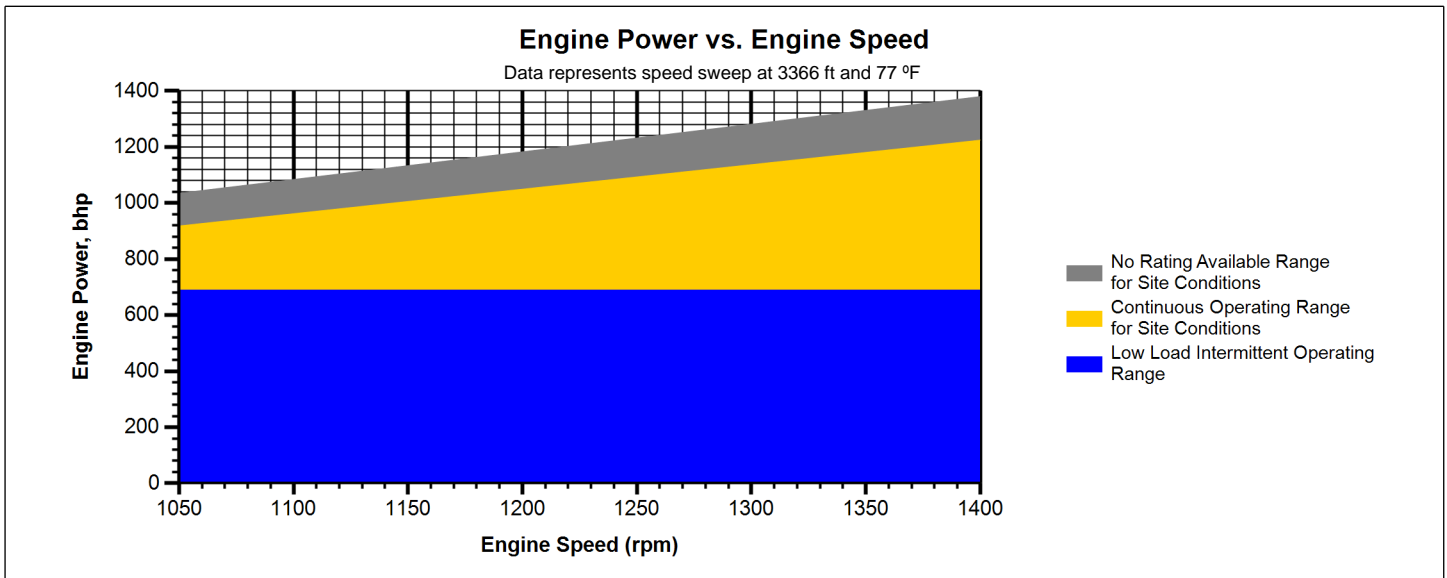
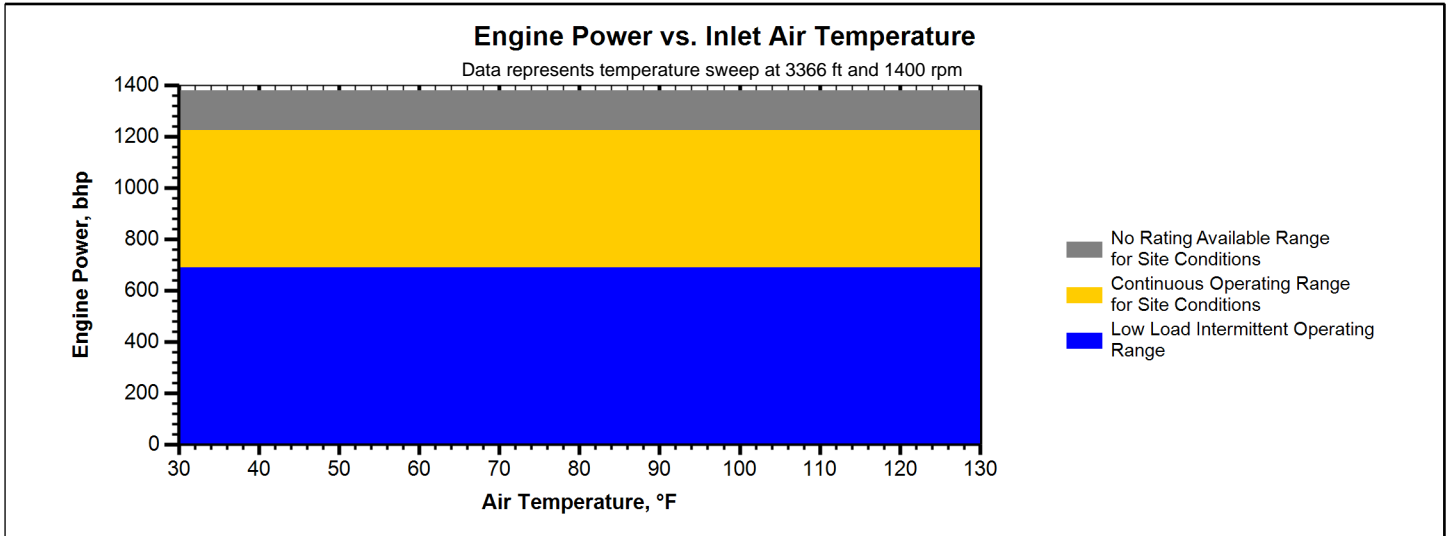
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(13)	Btu/min	31012	31012	26712	23889
HEAT REJ. TO ATMOSPHERE		(13)	Btu/min	4914	4914	4129	3543
HEAT REJ. TO LUBE OIL (OC)		(13)	Btu/min	3749	3749	3229	2888
HEAT REJ. TO A/C - STAGE 1 (1AC)		(13)(14)	Btu/min	6592	6592	4838	1422
HEAT REJ. TO A/C - STAGE 2 (2AC)		(13)(14)	Btu/min	4438	4438	3911	2786

COOLING SYSTEM SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+OC+1AC)	(14)(15)	Btu/min	45533
TOTAL AFTERCOOLER CIRCUIT (2AC)	(14)(15)	Btu/min	4660

A cooling system safety factor of 0% has been added to the cooling system sizing criteria.

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

For notes information consult page three.



Note:
At site conditions of 3366 ft and 77°F inlet air temp., constant torque can be maintained down to 1050 rpm. The minimum speed for loading at these conditions is 1050 rpm.

NOTES:

1. Fuel pressure range specified is to the engine fuel pressure regulator. Additional fuel train components should be considered in pressure and flow calculations.
2. Engine rating is with two engine driven water pumps. Tolerance is $\pm 3\%$ of full load.
3. Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site ambient temperature.
4. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of $\pm 5\%$.
5. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.
6. Inlet manifold pressure is a nominal value with a tolerance of $\pm 5\%$.
7. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.
8. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of $\pm 6\%$.
9. Emissions data is at engine exhaust flange prior to any after treatment.
10. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate the maximum values expected under steady state conditions. Fuel methane number cannot vary more than ± 3 . THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.
11. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ
12. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is ± 0.5 .
13. Heat rejection values are nominal. Tolerances, based on treated water, are $\pm 10\%$ for jacket water circuit, $\pm 50\%$ for radiation, $\pm 20\%$ for lube oil circuit, and $\pm 5\%$ for aftercooler circuit.
14. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.
15. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

GAS COMPRESSION APPLICATION

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0000	0.0000
Methane	CH4	77.0480	77.0472
Ethane	C2H6	11.2440	11.2439
Propane	C3H8	5.1000	5.0999
Isobutane	iso-C4H10	0.8950	0.8950
Norbutane	nor-C4H10	1.8600	1.8600
Isopentane	iso-C5H12	0.5610	0.5610
Noropentane	nor-C5H12	0.6420	0.6420
Hexane	C6H14	0.6970	0.6970
Heptane	C7H16	1.1610	1.1610
Nitrogen	N2	0.6410	0.6410
Carbon Dioxide	CO2	0.1510	0.1510
Hydrogen Sulfide	H2S	0.0010	0.0010
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0000	0.0000
Nonane	C9H20	0.0000	0.0000
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		100.0010	100.0000

Fuel Makeup:
Unit of Measure:

Nat Gas
English

Calculated Fuel Properties

Caterpillar Methane Number:	29.5
Lower Heating Value (Btu/scf):	1223
Higher Heating Value (Btu/scf):	1346
WOBBE Index (Btu/scf):	1389
THC: Free Inert Ratio:	125.26
Total % Inerts (% N2, CO2, He):	0.792%
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.996
Stoich A/F Ratio (Vol/Vol):	12.67
Stoich A/F Ratio (Mass/Mass):	16.33
Specific Gravity (Relative to Air):	0.776
Fuel Specific Heat Ratio (K):	1.277

CONDITIONS AND DEFINITIONS

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

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

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

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

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

FUEL LIQUIDS

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

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

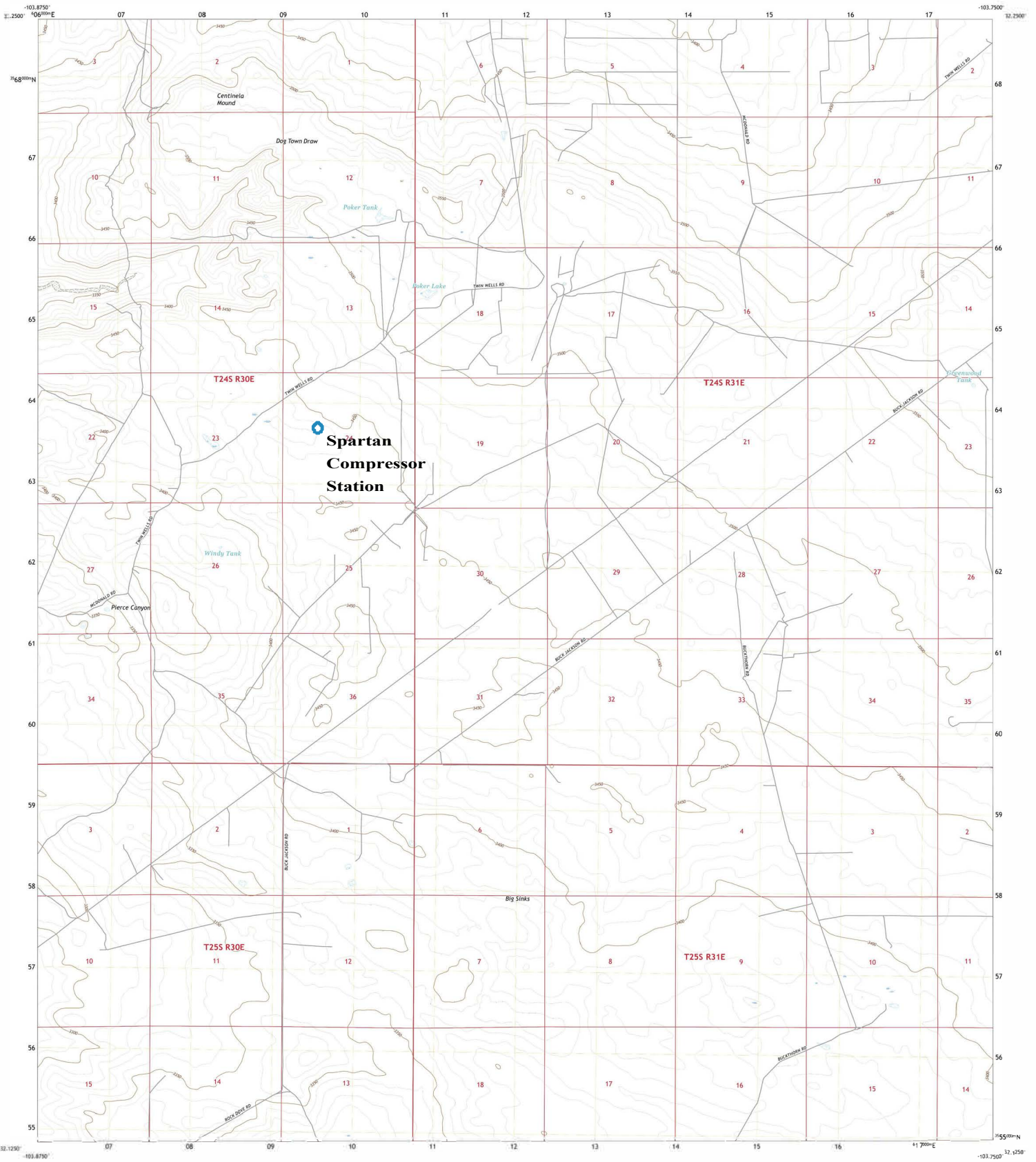
Section 8

Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

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

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



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projections and
1:100,000 scale digital elevation model (DEM) based on 1:50,000
This map is not a legal document. Boundaries may be
disputed. For more information, see www.fws.gov.
revisions may not
correctly indicate

MapInfo 2016 - August 2016
U.S. Census Bureau, 2010
National Hydrography Dataset, 2000-2010
National Elevation Dataset, 2000-2010
Public Land Survey System, 1830-2010
Wetlands Inventory, 2014

UTM GRID AND 2015 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

UTM Zone Designation
10Q

Magnetic Declination
10Q

SCALE 1:24 000

0 500 1000 1500 2000 2500 3000 METERS

0 500 1000 1500 2000 2500 3000 FEET

CONTOUR INTERVAL: 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

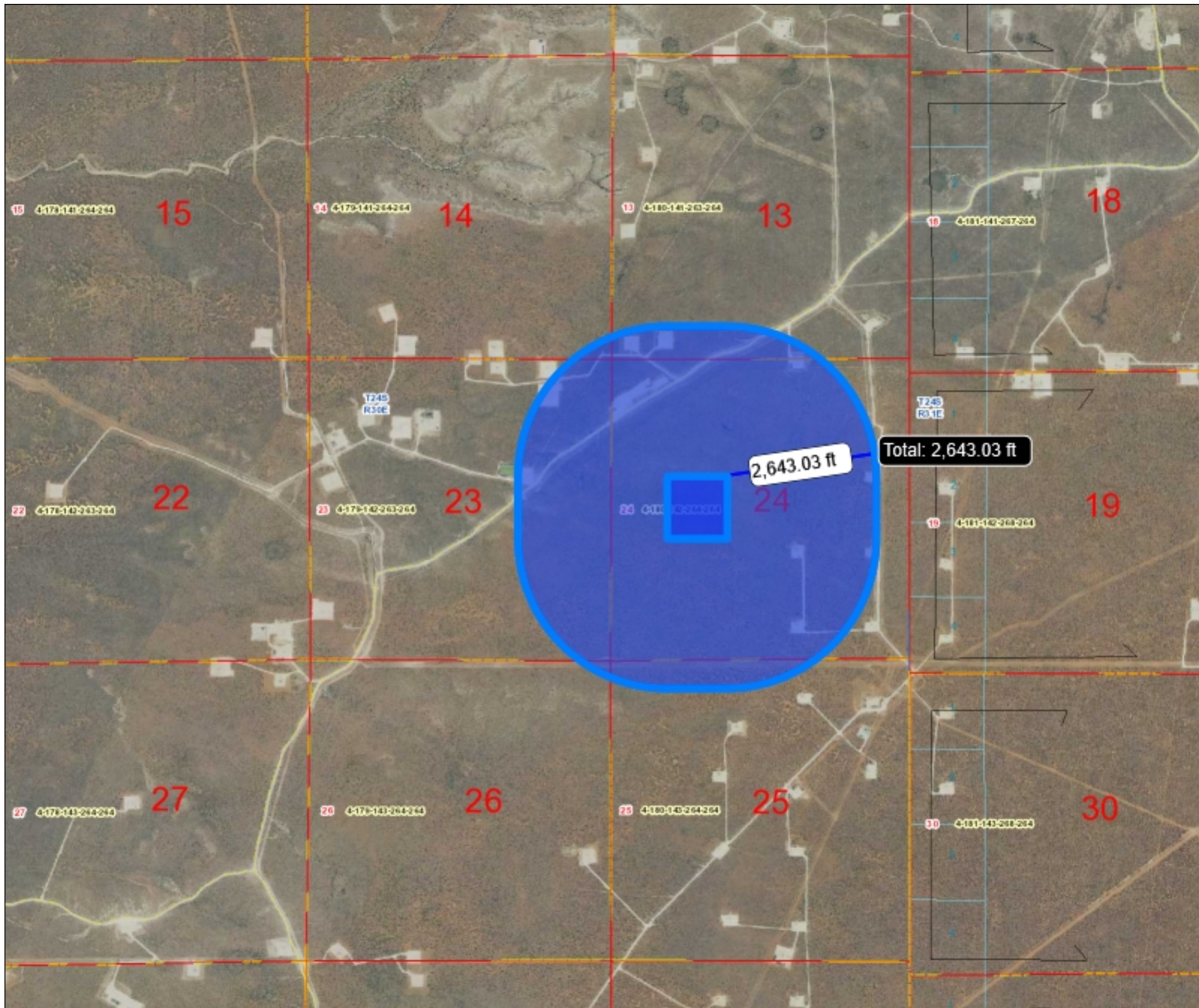
This map was produced in conformance with the
National Geospatial Program US Topo Product Standard, 2011
A metadata file associated with this product is draft version 0.6.18

ROAD CLASSIFICATION

- Expressway
- Secondary Hwy
- Ramp
- Local Connector
- Local Road
- US Route
- State Route

Legend for symbols: Interstate Route (blue circle), US Route (red line), State Route (black line).

Legend for features: 1. Remuda Basin, 2. Los Alamos, 3. Saddle Ridge, 4. Pierce Canyon, 5. Packer Sinks, 6. Rock Ranch, 7. Packer Sinks, 8. Packer Sinks West.



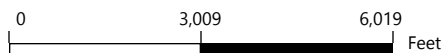
Legend

Cartography

- <all other values>
- Govt Lot Lines
- Dimension Tic
- Leader Lines
- Misc Carto
- Owner Hooks
- Sub Corners
- Roads
- Railroads
- Water
- Geographic
- Section
- Subdivision
- Parcel

Spartan Compressor Station 1/2 Miles Radius

Web Print: 09/20/2020



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.



Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC “Documentary Proof of applicant’s public notice”)

I have read the AQB “Guidelines for Public Notification for Air Quality Permit Applications”

This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant’s Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
 2. A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
 3. A copy of the property tax record (20.2.72.203.B NMAC).
 4. A sample of the letters sent to the owners of record.
 5. A sample of the letters sent to counties, municipalities, and Indian tribes.
 6. A sample of the public notice posted and a verification of the local postings.
 7. A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
 8. A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
 9. A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
 10. A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
 11. A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.
-

The public notice documents are included.

Item 1.

Certified Mail Receipts with Postmarks

DEPARTMENT (XTO)

CONTACT: Benjamin Schneider

LOCATION: W4.6B.374

PHONE: 832 624-2768

SPRING, TX 77389



CERTIFIED MAIL

LINE	ARTICLE NUMBER	NAME OF ADDRESSEE	Description	POSTAGE	Certified Fee/Registered Fee	Return Fee
1	7017 3380 0001 1262 1899	Bureau of Land Management 620 E. Greene St. Carlsbad, New Mexico, 88220-6292	Spartan Compressor Station Notification of NSR Permit Application	0.50	3.55	2.85
2	7017 3380 0001 1262 1905	Eddy County Manager 101 W. Greene St. Suite 110 Carlsbad, New Mexico, 88220	Spartan Compressor Station Notification of NSR Permit Application			
3	7017 3380 0001 1262 1806	Lea County Manager 100 N. Main Avenue Suite 4 Lovington, New Mexico, 88260	Spartan Compressor Station Notification of NSR Permit Application			
4	7017 3380 0001 1262 1813	State of New Mexico Land Office 310 Old Santa Fe Trail Santa Fe, New Mexico, 87501	Spartan Compressor Station Notification of NSR Permit Application			

Mail Center: Please have this form stamped by the Post Office

Benjamin Schneider
22777 Springwoods Village Pkwy.
WA 6B.374
Spring, TX 77389

DEPARTMENT (XTO)
CONTACT: Benjamin Schneider
LOCATION: WA.6B.374
PHONE: 832.624-2768
SPRING, TX 77389

CERTIFIED MAIL						
LINE	ARTICLE NUMBER	NAME OF ADDRESSEE	Description	POSTAGE	Certified Fee/Registered Fee	Return Fee
1	7017 3380 0001 1262 1899	Bureau of Land Management 620 E. Greene St. Carlsbad, New Mexico, 88220-6292	Spartan Compressor Station Notification of NSR Permit Application			
2	7017 3380 0001 1262 1905	Eddy County Manager 101 W. Greene St. Suite 110 Carlsbad, New Mexico, 88220	Spartan Compressor Station Notification of NSR Permit Application			
3	7017 3380 0001 1262 1806	Lea County Manager 100 N. Main Avenue Suite 4 Lovington, New Mexico, 88260	Spartan Compressor Station Notification of NSR Permit Application			
4	7017 3380 0001 1262 1813	State of New Mexico Land Office 310 Old Santa Fe Trail Santa Fe, New Mexico, 87501	Spartan Compressor Station Notification of NSR Permit Application			

Mail Center: Please have this form stamped by the Post Office

Mail Center: Please have this form date stamped by the Post Office.

CERTIFIED MAIL

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

Total Postage \$ _____

Send To: Bureau of Land Management
620 E. Greene St.
Carlsbad, New Mexico, 88220-6

PS Form 3849, 10/2013

CERTIFIED MAIL

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

Total Postage \$ _____

Send To: Eddy County Manager
101 W. Greene St.
Suite 110
Carlsbad, New Mexico, 88220

PS Form 3849, 10/2013

CERTIFIED MAIL

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

Total Postage \$ _____

Send To: Lea County Manager
100 N. Main Avenue
Suite 4
Lovington, New Mexico, 88260

PS Form 3849, 10/2013

CERTIFIED MAIL

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

Certified Mail Fee \$ _____

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ _____

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$ _____

Total Postage \$ _____

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

PS Form 3849, 10/2013

Item 2.

List of Places Posted

Site Location

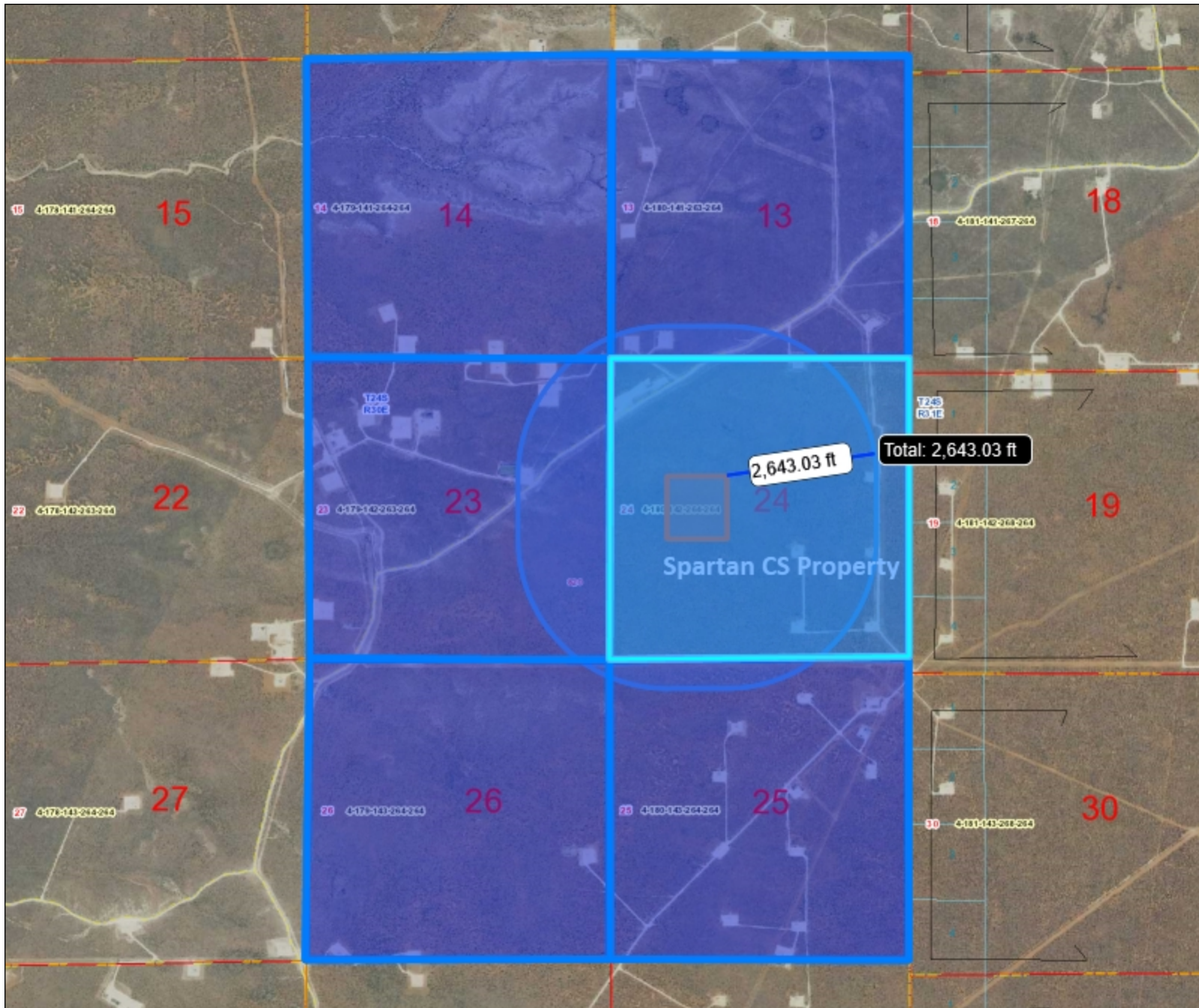
Carlsbad Post Office

Hobbs Wal-Mart

Hobbs Lowe's

Item 3.

Property Tax Records



Legend

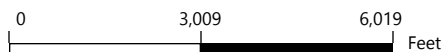
Cartography

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

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

Spartan Compressor Station Property
 Web Print: 09/20/2020

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.





OBJECTID_12_13_14: 19943
UPC: 4-180-142-264-264
UPC_join: 4180142264264
ACCOUNTNUMBER: R091423
LEGALSUMMARY: Quarter: NE S: 24 T: 24S
R: 30E Quarter: NW S: 24 T: 24S R: 30E
Quarter: SW S: 24 T: 24S R: 30E Quarter: SE S:
24 T: 24S R: 30E ALL MAP# 369- LOC EXEMPT
OWNERNAME: BUREAU OF LAND
MANAGEMENT
LANDACTUAL: 2880
OBJECTID_1: 60958
TAXYEAR_1: 2020
ACCOUNTNUMBER_1: R091423
SEQUENCE_R: 0
OWNER_OCCURENCE: 0
INTERNALID: C20160020093.1451631600000
DOCUMENTTYPE: Owner
ACTIVE_1: A
CONFIDENTIAL: 0
OWNERID_1: C20160020093
OBJECTID_12: 52508
TAXYEAR_12: 2020
ACCOUNTNUMBER_12: R091423
SEQUENCE_R_1: 0
INTERNALID_1:
R091423.LAND2768024.1511265221301
MODEL_TYPE: Land
ACCOUNTNUMBER_12_13: R091423
ACTUALAREA: 640
LANDCODE: 137_4_5
TAXAREA: CO_NR
VERSIONEND_1: 9223372036854775807
VERSIONSTART_1: 1511265221301

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.



OBJECTID_12_13_14: 19909
UPC: 4-179-141-264-264
UPC_join: 4179141264264
ACCOUNTNUMBER: R091415
LEGALSUMMARY: Quarter: NE S: 14 T: 24S
R: 30E Quarter: NW S: 14 T: 24S R: 30E
Quarter: SW S: 14 T: 24S R: 30E Quarter: SE S:
14 T: 24S R: 30E ALL MAP# 369- LOC EXEMPT
OWNERNAME: BUREAU OF LAND
MANAGEMENT
LANDACTUAL: 2880
OBJECTID_1: 60950
TAXYEAR_1: 2020
ACCOUNTNUMBER_1: R091415
SEQUENCE_R: 0
OWNER_OCCURENCE: 0
INTERNALID: C20160020093.1451631600000
DOCUMEN_TTYPE: Owner
ACTIVE_1: A
CONFIDENTIAL: 0
OWNERID_1: C20160020093
OBJECTID_12: 52501
TAXYEAR_12: 2020
ACCOUNTNUMBER_12: R091415
SEQUENCE_R_1: 0
INTERNALID_1:
R091415.LAND2768017.1511265216553
MODEL_TYPE: Land
ACCOUNTNUMBER_12_13: R091415
ACTUALAREA: 640
LANDCODE: 137_4_5
TAXAREA: CO_NR
VERSIONEND_1: 9223372036854775807
VERSIONSTART_1: 1511265216553

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.



OBJECTID_12_13_14: 19944
UPC: 4-180-143-264-264
UPC_join: 4180143264264
ACCOUNTNUMBER: R091424
LEGALSUMMARY: Quarter: NE S: 25 T: 24S
R: 30E Quarter: NW S: 25 T: 24S R: 30E
Quarter: SW S: 25 T: 24S R: 30E Quarter: SE S:
25 T: 24S R: 30E ALL MAP# 369- LOC EXEMPT
OWNERNAME: BUREAU OF LAND
MANAGEMENT
LANDACTUAL: 2880
OBJECTID_1: 60959
TAXYEAR_1: 2020
ACCOUNTNUMBER_1: R091424
SEQUENCE_R: 0
OWNER_OCCURENCE: 0
INTERNALID: C20160020093.1451631600000
DOCUMENT_TTYPE: Owner
ACTIVE_1: A
CONFIDENTIAL: 0
OWNERID_1: C20160020093
OBJECTID_12: 52509
TAXYEAR_12: 2020
ACCOUNTNUMBER_12: R091424
SEQUENCE_R_1: 0
INTERNALID_1:
R091424.LAND2768025.1511265221849
MODEL_TYPE: Land
ACCOUNTNUMBER_12_13: R091424
ACTUALAREA: 640
LANDCODE: 137_4_5
TAXAREA: CO_NR
VERSIONEND_1: 9223372036854775807
VERSIONSTART_1: 1511265221849

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.



OBJECTID_12_13_14: 19910
UPC: 4-179-142-263-264
UPC_join: 4179142263264
ACCOUNTNUMBER: R091422
LEGALSUMMARY: Quarter: NE S: 23 T: 24S
R: 30E Quarter: NW S: 23 T: 24S R: 30E
Quarter: SW S: 23 T: 24S R: 30E Quarter: SE S:
23 T: 24S R: 30E ALL MAP# 369- LOC EXEMPT
OWNERNAME: BUREAU OF LAND
MANAGEMENT
LANDACTUAL: 2880
OBJECTID_1: 60957
TAXYEAR_1: 2020
ACCOUNTNUMBER_1: R091422
SEQUENCE_R: 0
OWNER_OCCURENCE: 0
INTERNALID: C20160020093.1451631600000
DOCUMENTTYPE: Owner
ACTIVE_1: A
CONFIDENTIAL: 0
OWNERID_1: C20160020093
OBJECTID_12: 52507
TAXYEAR_12: 2020
ACCOUNTNUMBER_12: R091422
SEQUENCE_R_1: 0
INTERNALID_1:
R091422.LAND2768023.1511265220457
MODEL_TYPE: Land
ACCOUNTNUMBER_12_13: R091422
ACTUALAREA: 640
LANDCODE: 137_4_5
TAXAREA: CO_NR
VERSIONEND_1: 9223372036854775807
VERSIONSTART_1: 1511265220457

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.



OBJECTID_12_13_14: 19942
UPC: 4-180-141-263-264
UPC_join: 4180141263264
ACCOUNTNUMBER: R091414
LEGALSUMMARY: Quarter: NE S: 13 T: 24S
R: 30E Quarter: NW S: 13 T: 24S R: 30E
Quarter: SW S: 13 T: 24S R: 30E Quarter: SE S:
13 T: 24S R: 30E ALL MAP# 369- LOC EXEMPT
OWNERNAME: BUREAU OF LAND
MANAGEMENT
LANDACTUAL: 2880
OBJECTID_1: 60949
TAXYEAR_1: 2020
ACCOUNTNUMBER_1: R091414
SEQUENCE_R: 0
OWNER_OCCURENCE: 0
INTERNALID: C20160020093.1451631600000
DOCUMEN_TTYPE: Owner
ACTIVE_1: A
CONFIDENTIAL: 0
OWNERID_1: C20160020093
OBJECTID_12: 52500
TAXYEAR_12: 2020
ACCOUNTNUMBER_12: R091414
SEQUENCE_R_1: 0
INTERNALID_1:
R091414.LAND2768016.1511265216000
MODEL_TYPE: Land
ACCOUNTNUMBER_12_13: R091414
ACTUALAREA: 640
LANDCODE: 137_4_5
TAXAREA: CO_NR
VERSIONEND_1: 9223372036854775807
VERSIONSTART_1: 1511265216000

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.



OBJECTID_12_13_14: 19911
UPC: 4-179-143-264-264
UPC_join: 4179143264264
ACCOUNTNUMBER: R091425
LEGALSUMMARY: Quarter: NE S: 26 T: 24S
R: 30E Quarter: NW S: 26 T: 24S R: 30E
Quarter: SW S: 26 T: 24S R: 30E Quarter: SE S:
26 T: 24S R: 30E ALL MAP# 369- LOC EXEMPT
OWNERNAME: BUREAU OF LAND
MANAGEMENT
LANDACTUAL: 2880
OBJECTID_1: 60960
TAXYEAR_1: 2020
ACCOUNTNUMBER_1: R091425
SEQUENCE_R: 0
OWNER_OCCURENCE: 0
INTERNALID: C20160020093.1451631600000
DOCUMENTTYPE: Owner
ACTIVE_1: A
CONFIDENTIAL: 0
OWNERID_1: C20160020093
OBJECTID_12: 52510
TAXYEAR_12: 2020
ACCOUNTNUMBER_12: R091425
SEQUENCE_R_1: 0
INTERNALID_1:
R091425.LAND2768026.1511265222383
MODEL_TYPE: Land
ACCOUNTNUMBER_12_13: R091425
ACTUALAREA: 640
LANDCODE: 137_4_5
TAXAREA: CO_NR
VERSIONEND_1: 9223372036854775807
VERSIONSTART_1: 1511265222383

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.

Items 4 & 5.

**Letters to Owners of Record and Applicable
Counties, Municipalities, and Tribes**



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

October 14, 2020

Certified Mail No. 7017 3380 0001 1262 1899

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

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

Dear Federal Official,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Spartan Compressor Station on your property in Eddy County, NM. A public notice will be published in the Artesia Daily Press newspaper, at the proposed site location, two other locations in Carlsbad, NM and one location in Hobbs, NM. A copy of the notice is attached. Please contact me at (832) 624-2768 should you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Ben Schneider".

Benjamin Schneider
Environmental Engineer

Attachment: Public Notice



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

October 14, 2020

Certified Mail No. 7017 3380 0001 1262 1905

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

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

Dear County Manager,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Spartan Compressor Station in Eddy County, NM. A public notice will be published in the Artesia Daily Press newspaper, at the proposed site location, two other locations in Carlsbad, NM and one location in Hobbs, NM. A copy of the notice is attached. Please contact me at (832) 624-2768 should you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Ben Schneider'.

Benjamin Schneider
Environmental Engineer

Attachment: Public Notice



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

October 14, 2020

Certified Mail No. 7017 3380 0001 1262 1806

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

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

Dear County Manager,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Spartan Compressor Station in Eddy County, NM. The proposed site is within 10 miles of Lea County. A public notice will be published in the Artesia Daily Press newspaper, at the proposed site location, two other locations in Carlsbad, NM and one location in Hobbs, NM. A copy of the notice is attached. Please contact me at (832) 624-2768 should you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Ben Schneider".

Benjamin Schneider
Environmental Engineer

Attachment: Public Notice



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

October 14, 2020

Certified Mail No. 7017 3380 0001 1262 1813

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

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

Dear Commissioner,

In accordance with the application requirements of 20.2.72 NMAC, XTO Energy Inc. is providing notification of the planned modification of the Spartan Compressor Station near your property in Eddy County, NM. A public notice will be published in the Artesia Daily Press newspaper, at the proposed site location, two other locations in Carlsbad, NM and one location in Hobbs, NM. A copy of the notice is attached. Please contact me at (832) 624-2768 should you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Ben Schneider".

Benjamin Schneider
Environmental Engineer

Attachment: Public Notice

Item 6.

**Sample of Notice posted and
Verification of Postings**

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 13.5 miles E of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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
Particulate Matter (PM)	26 pph	18 tpy
PM ₁₀	26 pph	18 tpy
PM _{2.5}	26 pph	18 tpy
Sulfur Dioxide (SO ₂)	10 pph	22 tpy
Nitrogen Oxides (NO _x)	522 pph	220 tpy
Carbon Monoxide (CO)	997 pph	239 tpy
Volatile Organic Compounds (VOC)	961 pph	264 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	39 pph	27 tpy
Toxic Air Pollutant (TAP)	0 pph	0 tpy
Green House Gas Emissions as Total CO _{2e}	n/a	261,550 tpy

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.347; 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.

Please refer to the company name and site name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a 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.

General information about air quality and the permitting process can be found at the Air Quality Bureau's web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the "Permits" section of this web site.

Atención

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.

General Posting of Notices – Certification

Maverick Compressor Station
(Spartan Compressor Station)
Tiger Compressor Station

1. Braydan Hamlin, the undersigned, certify that on 11-9-20 posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **Hobbs and Carlsbad** of Eddy County, State of New Mexico on the following dates:

1. Facility entrance on this date: 11/9/20
2. Walmart on this date: 11/9/20
3. Lowes on this date: 11/9/20
4. Post-Office on this date: 11/9/20

Signed this 9th day of November, 2020.


Signature

11/9/20
Date

Braydan Hamlin
Printed Name

Safety Environmental
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

SPARTAN
COMPRESSOR STATION

XTO
ENERGY INC.

CONSTRUCTION
SITE

877-907-7239

Item 7.

A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.

Noticed Citizens, Counties, Municipalities, and Tribes

Bureau Of Land Management: Carlsbad Field Office (Federal Official)

Eddy County: Eddy County Manager

Lea County: Lea County Manager

State of New Mexico Land Office: Commissioner

Item 8.

A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.

Transmission Report

Date/Time
Local ID 1

11-30-2020
8326252631

04:02:22 p.m.

Transmit Header Text
Local Name 1

This document : Confirmed
(reduced sample and details below)
Document size : 8.5"x11"

November 30, 2020

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 for Spartan Compressor Station is attached. Will you air the PSA?

Thank you.

Benjamin Schneider
XTO Energy Inc.
(832) 624-2768

Total Pages Scanned : 2

Total Pages Confirmed : 2

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	461	VFD212M6N22	04:00:54 p.m. 11-30-2020	00:01:01	2/2	1	G3	HS	CP14400

Abbreviations:

HS: Host send
HR: Host receive
WS: Waiting send

PL: Polled local
PR: Polled remote
MS: Mailbox save

MP: Mailbox print
RP: Report
FF: Fax Forward

CP: Completed
FA: Fail
TU: Terminated by user

TS: Terminated by system
G3: Group 3
EC: Error Correct

Transmission Report

Date/Time
Local ID 1

11-30-2020
8326252631

04:04:38 p.m.

Transmit Header Text
Local Name 1

This document : Confirmed
(reduced sample and details below)
Document size : 8.5"x11"

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is December 10, 2020. XTO Energy Inc. is planning to remove two engines, update engine emission rates, update glycol recirculation rate, remove two heaters, add additional flaring, and update oil/water production rates.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 13.5 miles E of Malaga in Eddy County, NM.

The notice was posted at the facility and three other public locations: The Carlsbad post office, the Hobbs Wal-Mart, and the Hobbs Lowes stores. 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

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	463	VFD211M6N21	04:03:25 p.m. 11-30-2020	00:00:49	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
HR: Host receive
WS: Waiting send

PL: Polled local
PR: Polled remote
MS: Mailbox save

MP: Mailbox print
RP: Report
FF: Fax Forward

CP: Completed
FA: Fail
TU: Terminated by user

TS: Terminated by system
G3: Group 3
EC: Error Correct

November 30, 2020

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 for Spartan Compressor Station is attached. Will you air the PSA?

Thank you.

Benjamin Schneider
XTO Energy Inc.
(832) 624-2768

NOTICE OF AIR QUALITY PERMIT APPLICATION

XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is December 10, 2020. XTO Energy Inc. is planning to remove two engines, update engine emission rates, update glycol recirculation rate, remove two heaters, add additional flaring, and update oil/water production rates.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 13.5 miles E of Malaga in Eddy County, NM.

The notice was posted at the facility and three other public locations: The Carlsbad post office, the Hobbs Wal-Mart, and the Hobbs Lowes stores. 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

Item 9.

A copy of the classified or legal ad including the page header (date and newspaper title)

Affidavit of Publication

No. 25575

State of New Mexico Publisher

County of Eddy:

Danny Scott

being duly sworn says that he is the Publisher

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Display Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 Consecutive weeks/day on the same

day as follows:

First Publication October 22, 2020

Second Publication _____

Third Publication _____

Fourth Publication _____

Fifth Publication _____

Sixth Publication _____

Seventh Publication _____

Subscribed and sworn before me this

22nd day of October 2020



OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2023

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

Legal 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 the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 13.5 miles E of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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
Particulate Matter (PM)	26 pph	18 tpy
PM 10	26 pph	18 tpy
PM 2.5	26 pph	18 tpy
Sulfur Dioxide (SO ₂)	10 pph	22 tpy
Nitrogen Oxides (NO _x)	522 pph	220 tpy
Carbon Monoxide (CO)	997 pph	239 tpy
Volatile Organic Compounds (VOC)	961 pph	264 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	39 pph	27 tpy
Toxic Air Pollutant (TAP)	0 pph	0 tpy
Green House Gas Emissions as Total CO ₂ e	n/a	261,550 tpy

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.347; 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.

Please refer to the company name and site name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a 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.

General information about air quality and the permitting process can be found at the Air Quality Bureau's web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the "Permits" section of this web site.

Atención

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Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25575.

NMSU Carlsbad - Allied Health Case Mgmt Adv (Req#20003925). Minimum qualifications include a Bachelor's degree in a related field and three (3) years of professional experience related to the standard duties as outlined. Go to <https://jobs.nmsu.edu> to submit an application. For additional information please call HR Ops Unit Coordinator Judith Cox-Tindol at 575-234-9208. NMSU is an equal opportunity and affirmative action employer.

Legal Notice

NOTICE OF ACCEPTANCE OF COMMENT FOR PUBLIC MEETING

Eddy County Administration is providing notice to inform all interested parties that the Eddy County Community Services and Planning Department will hold a meeting on October 29, 2020 at 8:30pm in the Eddy County Planning Office at 101 W. Greene St. Carlsbad, NM. This meeting will be available via dial in only. Dial in information will be available at <http://www.eddycounty.org/182/Planning-Development>.

The purpose the meeting is for public comment, review and possible approval under the Eddy County Summary Review process for the Twin Wells Ranch Summary Subdivision as required under section 6.1.5 of Ordinance O-13-76.

A copy of the agenda is available online at <http://www.eddycounty.org/182/Planning-Development> and is available during normal business hours at the Eddy County Administration Building. Please send email comments to Steve McCroskey at smccroskey@co.eddy.nm.us. This notice is given pursuant to Section 10-15-1 NMSA 1978.

Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25578.

Legal 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 the Maverick Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Maverick Compressor Station will be latitude 32 deg, 06 min, 40 sec and longitude -103 deg, 48 min, 17 sec. The approximate location of this facility is 17 miles SE of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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
Particulate Matter (PM)	26 pph	18 tpy
PM 10	26 pph	18 tpy
PM 2.5	26 pph	18 tpy
Sulfur Dioxide (SO2)	10 pph	22 tpy
Nitrogen Oxides (NOx)	522 pph	220 tpy
Carbon Monoxide (CO)	997 pph	239 tpy
Volatile Organic Compounds (VOC)	961 pph	264 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	39 pph	27 tpy
Toxic Air Pollutant (TAP)	0 pph	0 tpy
Green House Gas Emissions as Total CO2e	n/a	261,550 tpy

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.347; 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.

Please refer to the company name and site name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a 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.

General information about air quality and the permitting process can be found at the Air Quality Bureau's web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the "Permits" section of this web site.

Atención

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Notice of Non-Discrimination

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Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25574.

NMSU Carlsbad is seeking an HR Operations Unit Coordinator (REQ# 20003705) minimum qualifications include a Bachelor's degree in a related field plus one (1) year of experience or any equivalent combination of education, training and/or experience as approved by Human Resources Services. To apply please visit <http://jobs.nmsu.edu/postings/39622> NMSU is an equal opportunity and an affirmative action employer.

Legal Notice

The City of Artesia Council meeting scheduled for Tuesday, October 27, 2020 will be held in the Council Chambers at City Hall, 511 W. Texas Avenue at 6:00 pm.

The Mayor, City Council, Department Heads and Assistant City Clerk will be present.

In compliance with the Governor's Orders, members of the public that wish to address the City Council will be asked to be available in a designated area at City Hall and will be called upon to address council.

The Governor's order requiring the use of face masks in public places will be enforced.

For additional information or questions, please contact the Mayor's office at (575)748-8282.

Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25577.

Legal 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 the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 13.5 miles E of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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
Particulate Matter (PM)	26 pph	18 tpy
PM 10	26 pph	18 tpy
PM 2.5	26 pph	18 tpy
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Nitrogen Oxides (NOx)	522 pph	220 tpy
Carbon Monoxide (CO)	997 pph	239 tpy
Volatile Organic Compounds (VOC)	961 pph	264 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	39 pph	27 tpy
Toxic Air Pollutant (TAP)	0 pph	0 tpy
Green House Gas Emissions as Total CO2e	n/a	261,550 tpy

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.347; 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.

Please refer to the company name and site name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a 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.

General information about air quality and the permitting process can be found at the Air Quality Bureau's web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the "Permits" section of this web site.

Atención

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Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25575.

Legal Notice

Artesia Special Hospital District PO Box 628, Artesia, NM 88210 Artesia Special Hospital District is issuing a request for proposal for the purchase & installation of a new Ultrasound Machine at Artesia General Hospital, in accordance with PROPOSAL: ULTRASOUND EQUIPMENT FOR THE ARTESIA SPECIAL HOSPITAL DISTRICT. A copy of the RFP PROPOSAL: ULTRASOUND Machine can be obtained by contacting Administrator of the Artesia General Hospital, 702 N. 13th Street, Artesia General Hospital, by calling (575)736-8290 or by emailing at cyates@artesiageneral.com, or from Roy Thomas, Radiology Director. Please Contact Roy Thomas at (575) 736-8155 or by e-mail rthomas@artesiageneral.com. To discuss the project. The name and address of all sealed proposals revived by the deadline, October 26th, 2020 11:30 am will be publicly recorded at the proposal opening set for 12:00 pm October 26th, 2020, in a meeting room at Artesia General Hospital. The Artesia Special Hospital district Board of Trustees will review all proposals at its regularly scheduled meeting on October 26, 2020, at 5:15PM, and reserves the right to request additional information: Artesia Special Hospital District reserves the right to reject any or all proposals and to waive any or all technicalities when it is in the best interest of the Hospital District, in Accordance with Section 13-1-131, Procurement Code, NMSA 1978, 1984 Supplement. Board of Trustees, Artesia Special Hospital District.

Published in the Artesia Daily Press, Artesia, N.M., Oct. 8, 15, 22 2020 Legal No. 25567.

Legal 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 the Tiger Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Tiger Compressor Station will be latitude 32 deg, 07 min, 06 sec and longitude -103 deg, 54 min, 23 sec. The approximate location of this facility is 12 miles SE of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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
Particulate Matter (PM)	26 pph	18 tpy
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Toxic Air Pollutant (TAP)	0 pph	0 tpy
Green House Gas Emissions as Total CO2e	n/a	261,550 tpy

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.347; Spring, Texas, 77389.

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

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Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25576.

Go for the Green in the Classifieds

Item 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.

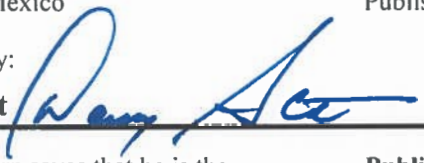
Affidavit of Publication

No. _____

State of New Mexico Publisher

County of Eddy:

Danny Scott



being duly sworn says that he is the Publisher

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Display Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for _____

day as follows:

First Publication	October 22, 2020
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	

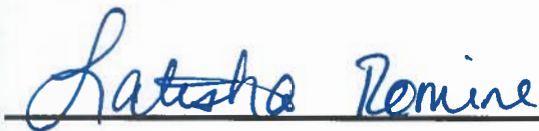
Subscribed and sworn before me this

22nd day of October 2020



OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2023



Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

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Poll worker training set for today

ARTESIA -- The Eddy County Bureau of Elections is informing the public that poll worker training for the upcoming General Election will be held today.

• ARTESIA: 3:30 p.m. or 5:30 p.m. Thursday, Oct. 22, at the Eddy County Public Works Building, 2611 S. 13th St.

Anyone interested in working the General Election polls on Nov. 3 should attend a training session. For more information, call the Bureau at 575-885-3383.

Free developmental screenings still available for children ages 3-5

ARTESIA -- The Artesia Public Schools (APS) is informing families that it continues to offer free developmental screenings for children ages 3-5.

If parents suspect their child may have a disability, they are encouraged to contact Cari Jowers at 746-3585 or cjowers@bulldogs.org.

Vitalant in urgent need of Type O-neg

ARTESIA -- Vitalant is asking residents with Type O-negative blood to consider donating at one of its upcoming drives.

Donor recruitment specialist Faith Behanna reports the organization has gone into urgent need for Type O-, which can be transfused to any patient, regardless of blood type. This type is therefore used first following a major incident or disaster.

Behanna says Vitalant strives to maintain a four-day supply of O- blood and currently has half of that.

For a list of upcoming blood drives, see the Public Notices on Page 1.

State Bar to offer free divorce options workshop

ALBUQUERQUE -- The State Bar of New Mexico will present a free Divorce Options Workshop from 6-8 p.m. Wednesday, Nov. 4, via video and teleconference.

At the workshop, a volunteer attorney will give a general presentation on divorce, followed by an open question-and-answer period. This free event is a community service and is open to the public.

To join the meeting via Zoom, visit us02web.zoom.us/j/85389624006?pwd=UjVtSHRWM2pQdHFjT2xkUTkrT2duUT09. To join by phone, call 346-248-7799.

For both methods, enter Meeting ID 853-8962-4006 and passcode 712948.

To register for the workshop, call 505-797-6022.

Pharma

(Continued from Page 6)

... in the agreed statement of facts,” Steve Miller, who became chairman of the company’s board in 2018, said in a statement. No members of the Sackler family remain on that board, though they still own the company.

Family members, in a statement, expressed “deep compassion for people who suffer from opioid addiction and abuse and hope the proposal will be implemented as swiftly as possible to help address their critical needs.”

As part of the resolution, Purdue is admitting that it impeded the Drug Enforcement Administration by falsely representing that it had maintained an effective program to avoid drug diversion and by reporting misleading information to the agency to boost the company’s manufacturing quotas, the officials said.

Purdue is also admitting to violating federal anti-kickback laws by paying doctors, through a speaking program, to induce them to write more prescriptions for the company’s opioids and for using electronic health records software to influence the prescription of pain medication, according to the officials.

Purdue will make a direct payment to the government of \$225 million, which is part of a larger \$2 billion criminal forfeiture. In addition to that forfeiture, Purdue also faces a \$3.54 billion criminal fine, though that money probably will not be fully collected because it will be taken through a bankruptcy, which includes a large number of other creditors, including thousands of state and local governments. Purdue will also agree to \$2.8 billion in damages to resolve its civil liability.

Part of the money from the settlement would go to aid in medication-assisted treatment and other drug programs to combat the opioid epidemic. That part of the arrangement echoes the plan the company is pushing in bankruptcy court and which about half the states oppose.

As part of the plea deal, the company admits it violated federal law and “knowingly and intentionally conspired and agreed with others to aid and abet” the dispensing of medication from doctors “without a legitimate medical purpose and outside the usual course of professional practice,” according to the plea agreement.

While some state attorneys general opposed the prospect of Purdue becoming a public benefit company, the lead lawyers representing 2,800 local governments in lawsuits against Purdue and other drugmakers, distributors and pharmacies put out a statement supporting the principle but saying more work needs to be done.

The Sackler family has already pledged to hand over the company itself plus at least \$3 billion to resolve thousands of suits against the Stamford, Connecticut-based drugmaker. The company declared bankruptcy as a way to work out that plan, which could be worth \$10 billion to \$12 billion over time. In their statement, family members said that is “more than double all Purdue profits the Sackler family retained since the introduction of OxyContin.”

“Both the company and the shareholders are paying a very steep price for what occurred here,” Deputy U.S. Attorney General Jeffrey Rosen said Wednesday.

While there are conflicting views of whether it’s enough, it’s clear the Sacklers’ reputation has taken a hit.

Until recently, the Sackler name was on museum galleries and educational programs around the world because of gifts from family members. But under pressure from activists, institutions from the Louvre in Paris to Tufts University in Massachusetts have disassociated themselves from the family in the last few years.

Watchdogs call on state to limit waste dump

ALBUQUERQUE (AP) — Watchdogs on Wednesday renewed their call for New Mexico Gov. Michelle Lujan Grisham and state environmental regulators to take a stand against the federal government as it looks to extend and expand operations at the nation’s only underground nuclear waste repository.

They suggested that the state over the years has rubber-stamped decisions related to the Waste Isolation Pilot Plant and needs to assert its authority as other states have in holding the U.S. Energy Department accountable for cleaning up contamination and dealing with radioactive waste.

In an application for a 10-year permit renewal, the Energy Department has proposed removing 2024 as the date when closure and decommissioning would begin. The date has been included in every permit since the first in 1999. The Southwest Research and Information Center, residents and former regulators say allowing the change would mark another step toward New Mexico becoming a permanent dumping ground for the nation’s waste.

While federal law limits the kind of waste that can be shipped to the repository, opponents say the Energy Department is looking to expand the mission to include high-level and other types of waste. They say the federal government and Congress have stalled numerous efforts to open other repositories and find other solutions to both defense-related waste and spent fuel that’s piling up at commercial nuclear power plants around the U.S.

“If WIPP can be expanded as long as DOE wants for whatever DOE wants, there won’t be other repositories,” Don Hancock with the Southwest Information and Research Center told state lawmakers during a meeting Wednesday.

He and others also voiced concerns about the state’s temporary approval of plans to construct another shaft at the repository, which would allow for more ventilation and expansion.

State environment officials said they are considering an extension of that temporary approval and are reviewing the permit application to ensure it’s technically complete before a draft permit is released and a public comment period is initiated.

The repository is at the center of a multibillion-dollar effort to clean up waste from decades of U.S. nuclear research and bomb-making. Tons of waste have been stashed for more than 20 years deep in the salt caverns of the New Mexico site. The idea is that the shifting salt will eventually entomb the radioactive tools,

NOTICE OF AIR QUALITY PERMIT APPLICATION
XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Spartan Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Spartan Compressor Station will be latitude 32 deg, 12 min, 12 sec and longitude -103 deg, 50 min, 17 sec. The approximate location of this facility is 13.5 miles E of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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
Particulate Matter (PM)	26 pph	18 tpy
PM 10	26 pph	18 tpy
PM 2.5	26 pph	18 tpy
Sulfur Dioxide (SO2)	10 pph	22 tpy
Nitrogen Oxides (NOx)	522 pph	220 tpy
Carbon Monoxide (CO)	997 pph	239 tpy
Volatile Organic Compounds (VOC)	961 pph	264 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	39 pph	27 tpy
Toxic Air Pollutant (TAP)	0 pph	0 tpy
Green House Gas Emissions as Total CO2e	n/a	261,550 tpy

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.347; 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.

Please refer to the company name and site name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a 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.

General information about air quality and the permitting process can be found at the Air Quality Bureau’s web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the “Permits” section of this web site.

Atención

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clothing, gloves and other debris that make up the waste.

Democratic Rep. Christine Chandler of Los Alamos questioned an Energy Department official during the meeting about why more shipments of Cold War-era waste from Los Alamos National Laboratory are not being sent to the repository. The official acknowledged that shipments from Los Alamos — both legacy waste and newer waste — made up 26% of shipments during the last fiscal year and are expected to make up only 14% of shipments during this fiscal year.

Chandler suggested that New Mexico take that into consideration as part of the permit and include a provision to prioritize cleaning up the contamination at Los Alamos, which played a key role in the once-secret Manhattan Project during World War II and is now in line to restart production of the tritium used in the U.S. nuclear arsenal.

Reinhard Knerr, manager of the Energy Department’s Carlsbad Field Office, said he didn’t understand why that should be a regulatory requirement.

“As a policymaker who represents the citizens of the state of New Mexico, I think the rationale would be that since we are the repository for the waste that perhaps our waste should get priority so that the citizens of New Mexico are getting greater value for the burden that they have accepted in allowing this facility to operate,” Chandler said.

The Lujan Grisham administration is facing pivotal decisions about whether the state takes on more nuclear waste. The governor already has voiced her opposition to a proposal to build a temporary storage facility for spent nuclear fuel in southeastern New Mexico.

New Mexico Environment Department spokeswoman Maddy Hayden said Wednesday that the administration won’t issue an open-ended permit for the Waste Isolation Pilot Plant and any action that it can take to expedite and prioritize the disposal of waste generated by Department of Energy or National Nuclear Security Administration operations in New Mexico is on the table.

“Ensuring New Mexico waste is prioritized via an operating permit makes sense and is an option for further consideration by NMED. New Mexicans deserve nothing less,” Hayden told The Associated Press.

NOTICE OF AIR QUALITY PERMIT APPLICATION
XTO Energy, Inc. announces its application to the New Mexico Environment Department for an air quality permit for the modification of the Maverick Compressor Station. The expected date of application submittal to the Air Quality Bureau is October 28, 2020.

The exact location for the facility known as the Maverick Compressor Station will be latitude 32 deg, 06 min, 40 sec and longitude -103 deg, 48 min, 17 sec. The approximate location of this facility is 17 miles SE of Malaga in Eddy County, NM.

The proposed modification consists removing two engines, updating engine emission rates, updating glycol recirculation rate, removing two heaters, adding additional flaring, and updating oil/water production rates.

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Atención

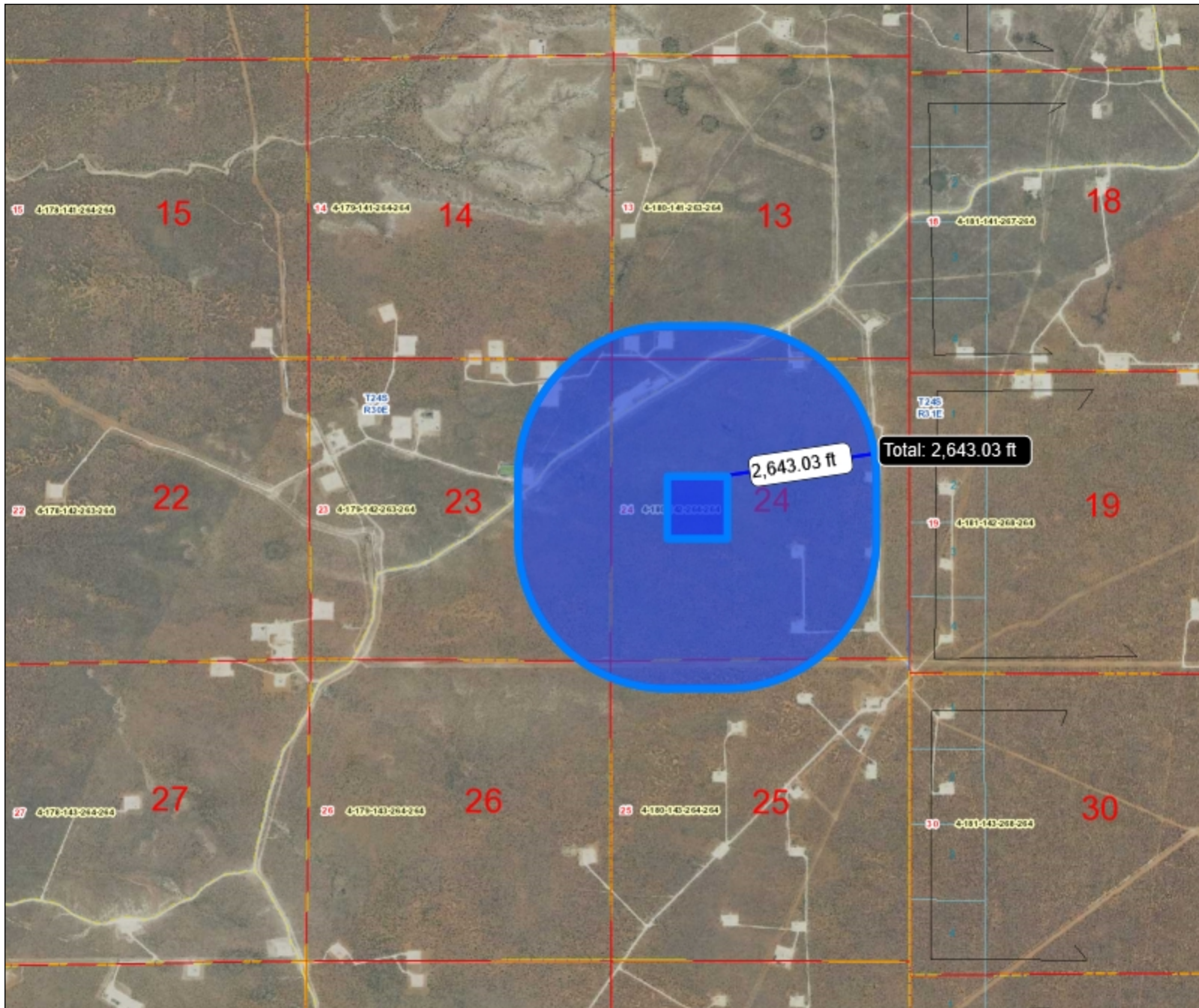
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Item 11.

A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail.



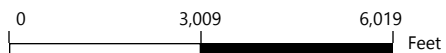
Legend

Cartography

- <all other values>
- Govt Lot Lines
- Dimension Tic
- Leader Lines
- Misc Carto
- Owner Hooks
- Sub Corners
- Roads
- Railroads
- Water
- Geographic
- Section
- Subdivision
- Parcel

Spartan Compressor Station 1/2 Miles Radius

Web Print: 09/20/2020



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.



Section 10

Written Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

Field gas flows into two inlet slug catchers. The site uses natural gas engines to compress the field gas to 1200-1300 psig, including nine (9) Caterpillar 3616TA engines (ENG1-ENG9) and two (2) Caterpillar 3516J engines (ENG11-ENG12). The Caterpillar engines are equipped with oxidation catalysts to reduce CO, VOC, and formaldehyde emissions.

The high-pressure gas is then dehydrated using triethylene glycol dehydration units (DEHY1-DEHY3), each handling up to 80 MMscfd each. The systems are equipped with flash tanks and condensers. Flash tank vapors are recycled in the dehydration system. The glycol still vent vapors are routed to condensers. Uncondensed vapors are controlled by the vapor combustor (VC1). Dehydrated gas is then transferred to a sales pipeline.

Low pressure liquids generated anywhere in the system are routed to a low pressure three phase separator (LPS). Vapors from the LPS are controlled by a VRU and routed to compression. When the LPS VRU is not operational, vapors from the LPS are routed to the flare system (FL1 – FL3). From the LPS, oil at approximately 15 psig is dumped to four (4) oil storage tanks (OT1-OT4), which are controlled by the flare system (FL1 – FL3). Water from the LPS flows to redundant skim tanks (SKT1/SKT2). The skim tanks are arranged as a redundant system in which one unit can be used if another is down for unforeseen circumstances. Water is then dumped to two (2) water tanks (WT1-WT2).

Any residual oil flows from the skim tanks into the oil storage tanks. The oil from the oil storage tanks are then pumped back into the high pressure three phase separator (HPS), to be transferred offsite via pipeline. Vapors from the water storage tanks and skim tanks are also controlled by the flare system (FL1 – FL3). Oil can be trucked offsite or pumped offsite via pipeline, water is transferred offsite via pipeline to saltwater disposal (SWD).

High pressure liquids generated anywhere in the system are routed to high pressure three phase separator (HPS). Vapors from the high pressure separator are routed back to the inlet slug catchers. From the HPS, liquid hydrocarbons at approximately 400 psig are transferred offsite via pipeline pipeline. Water from the HPS is transferred offsite via pipeline to SWD.

The flare system (FL1 – FL3) is also used to flare gas in the event of an emergency.

Section 11

Source Determination

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

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

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

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

See Table 2A

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

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

Yes **No**

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

Yes **No**

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

Yes **No**

C. Make a determination:

The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "YES" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "NO" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- a minor PSD source before and after this modification (if so, delete C and D below).
- a major PSD source before this modification. This modification will make this a PSD minor source.
- an existing PSD Major Source that has never had a major modification requiring a BACT analysis.
- an existing PSD Major Source that has had a major modification requiring a BACT analysis
- a new PSD Major Source after this modification.

Section 13

Determination of State & Federal Air Quality Regulations

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

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

Required Information for Specific Equipment:

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

Required Information for Regulations that Apply to the Entire Facility:

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

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

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

Regulatory Citations for Emission Standards:

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

Federally Enforceable Conditions:

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

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

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

<u>STATE REGU- LATIONS CITATION</u>	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	If subject, this would normally apply to the entire 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	If subject, this would normally apply to the entire facility. If your entire facility or individual pieces of equipment are subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation, this applies. This would not apply to Notices of Intent since these are not permits.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	None of the equipment has a rating greater than 1 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	OT1- OT4	The site uses a flare to comply with 20.2.38 NMAC.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	The facility does not operate a sulfur recovery plant.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	FL1-3, RB1-3, ENG1- 9, ENG11 -12, HTR1	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your equipment is subject to another state regulation that limits particulate matter such as 20.2.19 NMAC (see 20.2.61.109 NMAC).
20.2.70 NMAC	Operating Permits	Yes	Facility	The facility is a major source and will apply for a Title V Operating Permit.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	The facility is a major source and will apply for a Title V Operating Permit.
20.2.72 NMAC	Construction Permits	Yes	Facility	This application requests a NSR in accordance with 20.2.72.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	No	N/A	The site is subject to 20.2.72 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.

<u>STATE REGU- LATIONS CITATION</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.77 NMAC	New Source Performance	Yes	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.
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	Yes	DEHY1- 3, ENG1-9, ENG11- 12	See regulatory discussion in Federal Regulations Citation section.
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	If subject, this would normally apply to the entire 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

<u>FEDERAL REGU- LATIONS CITATION</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	Facility	Compliance with the requirements of the GCP indicates 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.

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR 60, Subpart Ka	Storage Vessels for 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	Standards of Performance for 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 OOOO	Crude Oil and Natural Gas Production, Transmission, and Distribution after August 23, 2011 and before September 18, 2015	No	N/A	The site will be constructed after 9/18/15. See NSPS OOOOa discussion below.
NSPS 40 CFR Part 60 Subpart OOOOa	Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	Yes	FUG	The storage tanks were constructed after the applicability date of the rule; however, XTO is requesting emissions be limited by permit to less than 6 tpy. The regulation is applicable to the storage tanks but the tanks are not affected sources. The site uses low-bleed pneumatic controllers. The site is subject to leak monitoring from fugitive components.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No	N/A	The facility does not operate any affected sources.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	TBD	ENG1-9, ENG11- 12	All engines are subject to the limitations in Table 1 per 40 CFR 60.4233(e). A determination of applicability will be made for each engine to be used at the site.

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR 60 Subpart TTTT	Greenhouse Gas Emissions for Electric Generating Units	No	N/A	The facility does not operate any affected sources.
NSPS 40 CFR 60 Subpart UUUU	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	See Below	See Below	See regulatory discussion below.
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	Yes	DEHY1- 3	As a major source of HAP, sources subject to HH include storage vessels with flash emissions, fugitive components, and compressors in VHAP service ((see §63.760(b)(1)(ii), (iii), and (iv)). Fugitives and compressors are exempt per §63.769(b) since they are subject to NSPS OOOO. Storage vessels use a closed vent system connected to a combustor to comply with §63.766(b).The dehydrators process more than 3 mmscfd; however, since benzene emissions are less than 1 tpy, there are no applicable requirements. (See §63.764(E)(1))
MACT 40 CFR 63 Subpart HHH	Natural Gas Transmission and Storage Facilities	No	N/A	This regulation does not apply as the plant is not a natural gas transmission and storage facility as defined by the subpart (§63.1270(a)).
MACT 40 CFR 63 Subpart DDDDD	Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	The facility is not a major source of HAP as defined in §63.7575 "Major source for oil and natural gas production facilities". Therefore, MACT 40 CFR 63 Subpart DDDDD does not apply.
MACT 40 CFR 63 Subpart JJJJJ	Boilers and Process Heaters	No	N/A	The units are exempt per §63.1195(e) since they burn natural gas.
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	TBD	ENG1-9, ENG11- 12	All engines comply with NSPS JJJJ to comply with NESHAP ZZZZ per 60.6590(c)(1). A determination of applicability will be made for each engine to be used at the site.

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
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.
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.

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 startup, shutdown, maintenance, and emergencies will be minimized through the site specific Startup, Shutdown, and Malfunction Plan (SSMP) as required by 40 CFR §63.6(e)(3), 20.2.70.300.D.5(g) NMAC, 20.2.72.203.A.5 NMAC, and 20.2.7.14.A NMAC.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

XTO is not proposing any alternative operating scenarios.

Section 16

Air Dispersion Modeling

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

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. Note: Neither modeling nor a modeling waiver is required for VOC emissions.	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.

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:	Spartan Compressor Station
2	Name of company:	XTO Energy, Inc.
3	Current Permit number:	7681M1
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	Was a modeling protocol submitted and approved?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2	Why is the modeling being done?	Other (describe below)	
3	Describe the permit changes relevant to the modeling.		
	Revised emissions and stack parameters		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	indefinite	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	155	

16-B: Brief			
8	List the PSD baseline dates for this region (minor or major, as appropriate).		
	NO2	3/16/1988	
	SO2	7/28/1978	
	PM10	2/20/1979	
	PM2.5	11/13/2013	
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). Carlsbad Caverns at approximately 50 km		
10	Is the facility located in a non-attainment area? If so describe below	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
11	Describe any special modeling requirements, such as streamline permit requirements. None		

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			
	NO ₂			
	SO ₂			
	H ₂ S			
	PM _{2.5}			
	PM ₁₀			
	Lead			
	Ozone (PSD only)			
NM Toxic Air Pollutants (20.2.72.402 NMAC)				

16-D: Modeling performed for this application

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO ₂	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SO ₂	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H ₂ S	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PM _{2.5}	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PM ₁₀	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State air toxic(s) (20.2.72.402 NMAC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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					
2	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	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	March 11, 2020, MergeMaster File used for PM10 & PM2.5 modeling, most current available on NMED website. Texas sources received August 4, 2020.	
2	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 table below to describe them. Add rows as needed.		
	AQB Source ID	Description of Corrections	
	Various	Sources numbered less than 10,000 and greater than 10 km from the proposed site were removed from the PM ₁₀ and PM _{2.5} surrounding source inventories	
	TCEQ Sources	The majority of the Texas sources were provided with emission rates but without stack parameters. The sources consisted of engines and heaters. Engines were modeled using height of 7.62 m, diameter of 0.45 m, velocity of 90 m/s and temp of 705 K. Heaters were modeled using height of 4.5 m, diameter of 0.23 m, velocity of 2.2 m/s and temp of 700 K. MSS emissions from Texas inventory were not included.	
	38927R3 (10112)	SSM emissions were included in source 38927R2 (10111) and this source was removed because the emissions were duplicated.	
	38927R2 (10111)	All of the SSM PM emissions listed in the application were for abrasive blasting. The emissions were speciated for PM/PM10/PM2.5 with the PM2.5 emissions listed as 0.377 lb/hr PM2.5. The emissions were changed from 26.4 lb/hr contained in the inventory file to 0.377 lb/hr which was contained in the application. The PM10 emissions were changed to 3.77 lb/hr which was contained in the application.	
	The effective diameter was estimated for the following sources based on the emissions, emission factor of 7.6 lb/MMscf, MW of 21.64 and btu of 1176 btu/scf.		
	10001	Effective diameter of 12.65 m was used.	
	10041	Effective diameter of 12.85 m was used.	
	10042	Effective diameter of 1.16 m was used.	
	10053	Effective diameter of 3.67 m was used.	
	10069	Effective diameter of 6.33 m was used.	
	10086	Effective diameter of 1.39 m was used.	
	10147	Effective diameter of 1.85 m was used.	
	10257	Effective diameter of 1.09 m was used.	
	10276	Effective diameter of 2.84 m was used.	
	10318	Effective diameter of 1.48 m was used.	
	10403	Effective diameter of 0.87 m was used.	
	10404	Effective diameter of 1.75 m was used.	
	10573	Effective diameter of 13.66 m was used.	
	10651	Effective diameter of 6.32 m was used.	
	10839	Effective diameter of 12.65 m was used.	
10843	Effective diameter of 12.86 m was used.		
10850	Effective diameter of 1.16 m was used.		
10865	Effective diameter of 12.86 m was used.		
10866	Effective diameter of 1.16 m was used.		
10900	Effective diameter of 13.67 m was used.		
10960	Effective diameter of 12.68 m was used.		
10961	Effective diameter of 1.52 m was used.		
10975	Effective diameter of 12.65 m was used.		
10976	Effective diameter of 1.12 m was used.		
11014	Effective diameter of 8.89 m was used.		
11101	Effective diameter of 8.95 m was used.		
11102	Effective diameter of 1.23 m was used.		

16-G: Surrounding source modeling

11136	Effective diameter of 12.86 m was used.
11137	Effective diameter of 1.16 m was used.
11140	Effective diameter of 12.72 m was used.
11141	Effective diameter of 1.39 m was used.
11147	Effective diameter of 12.72 m was used.
11148	Effective diameter of 1.39 m was used.
11157	Effective diameter of 3.32 m was used.
11196	Effective diameter of 15.53 m was used.
11197	Effective diameter of 1.16 m was used.
11212	Effective diameter of 12.86 m was used.
11213	Effective diameter of 1.16 m was used.
11230	Effective diameter of 12.69 m was used.
11231	Effective diameter of 1.26 m was used.
11476	Effective diameter of 12.68 m was used.
11657	Effective diameter of 13.66 m was used.
11773	Effective diameter of 6.33 m was used.
11870	Effective diameter of 12.72 m was used.
11871	Effective diameter of 1.39 m was used.
11902	Effective diameter of 13.67 m was used.
12145	Effective diameter of 9.1 m was used.
12146	Effective diameter of 1.26 m was used.
12154	Effective diameter of 9.1 m was used.
12260	Effective diameter of 1.51 m was used.
12266	Effective diameter of 1.12 m was used.
12325	Effective diameter of 1.62 m was used.
12326	Effective diameter of 1.62 m was used.
12327	Effective diameter of 1.62 m was used.
12328	Effective diameter of 1.62 m was used.
12862	Effective diameter of 12.68 m was used.
12977	Effective diameter of 6.33 m was used.
12997	Effective diameter of 8.95 m was used.
13009	Effective diameter of 8.95 m was used.
13422	Effective diameter of 1.3 m was used.
13591	Effective diameter of 12.86 m was used.
13592	Effective diameter of 1.23 m was used.
13596	Effective diameter of 0.92 m was used.
13926	Effective diameter of 12.65 m was used.
13927	Effective diameter of 1.48 m was used.
13997	Effective diameter of 2.01 m was used.
14063	Effective diameter of 12.96 m was used.
14170	Effective diameter of 5.66 m was used.
14259	Effective diameter of 3.48 m was used.
14272	Effective diameter of 12.69 m was used.
14312	Effective diameter of 0.65 m was used.
14346	Effective diameter of 1.59 m was used.
14401	Effective diameter of 3.48 m was used.

16-G: Surrounding source modeling

	14634	Effective diameter of 3.03 m was used.
	12998	Effective diameter of 0.82 m was used.
	13277	Effective diameter of 4 m was used.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	None
2	How many above ground storage tanks are present at the facility?	8
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Building comments	

16-I: Receptors and modeled property boundary

1	<p>“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.</p> <p>Describe the fence or other physical barrier at the facility that defines the restricted area.</p> <p>Fence encompasses the facility.</p>					
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
3	Are restricted area boundary coordinates included in the modeling files?			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
4	Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.					
	Grid Type	Shape	Spacing	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comments
	Cartesian	Circular	50 m	0	1 km	
	Cartesian	Circular	100 m	1 km	3 km	
	Cartesian	Circular	250 m	3 km	6 km	
	Cartesian	Circular	500 m	6 km	10 km	
	Cartesian	Circular	1000 m	10 km	50 km	
5	Describe receptor spacing along the fence line.					
	50 meter spacing was used on the fence line					
6	Describe the PSD Class I area receptors.					
	Receptors posted at National Park Service https://irma.nps.gov/DataStore/Reference/Profile/2249830 . Additionally, receptors were placed along the boundary of the Class 1 area at 750 meter spacing.					

16-J: Sensitive areas			
1	Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>

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).											
	Three scenarios were modeled based on the flaring emission. The scenario "Normal" included the emissions as presented on tab 2-E. The scenario "SSM" included the emissions as presented on tab 2-E and includes the emission on tab 2-F. The scenario "Even" evenly distributed the flare emissions on tab 2-E and 2-F across all three flares.											
2	Which scenario produces the highest concentrations? Why?											
	The scenario "Even" produces the highest emissions because flares are modeled with an effective diameter based on the heat release. Distributing the emissions evenly across the three flares results in the lowest plume rise for the same emissions. Because the flares are located in the same general area, this results in the highest ground level impacts.											
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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 below. N/A												
6	Were different emission rates used for short-term and annual modeling? If so describe below.										Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

16-L: NO ₂ Modeling			
1	Which types of NO ₂ modeling were used? Check all that apply.		
	<input type="checkbox"/>	ARM2	
	<input checked="" type="checkbox"/>	100% NO _x to NO ₂ conversion	
	<input type="checkbox"/>	PVMRM	
	<input type="checkbox"/>	OLM	
	<input type="checkbox"/>	Other:	
2	Describe the NO ₂ modeling.		
	The initial modeling was performed assuming full conversion of NO _x to NO ₂ . Significance run used with monitored background to demonstrate compliance.		
3	Were default NO ₂ /NO _x ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below.		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Default values allowed by NMED guideline		
4	Describe the design value used for each averaging period modeled.		
	1-hour: High eighth high Annual: One Year Annual Average		

16-M: Particulate Matter Modeling							
1	Select the pollutants for which plume depletion modeling was used.						
	<input type="checkbox"/>	PM2.5					
	<input type="checkbox"/>	PM10					
	<input checked="" type="checkbox"/>	None					
2	Describe the particle size distributions used. Include the source of information.						
	None						
3	Does the facility emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ ? Sources that emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
	4	Was secondary PM modeled for PM2.5?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.							
NO _x (ton/yr)		SO ₂ (ton/yr)	[PM2.5] _{annual}	[PM2.5] _{24-hour}			
199.48		21.65	0.004	0.078			
5	Southwest Climate Zone Lowest MERPs						
	State	County	Metric	Precursor	Emissions	Stack	MERP
	Colorado	Weld Co	Annual PM _{2.5}	NO _x	1000	10	10530
	Colorado	Weld Co	Annual PM _{2.5}	SO ₂	1000	10	7359
	Colorado	Weld Co	Daily PM _{2.5}	NO _x	1000	10	5215
	Colorado	Weld Co	Daily PM _{2.5}	SO ₂	1000	10	814
	$[PM2.5]_{annual} = SIL \times [NO_x \text{ Annual Emissions}/10530 + SO_2 \text{ Annual Emissions}/7359]$ $= (0.2 \text{ ug}/m^3)[(199.48/10530) + (21.65/7359)]$ $= 0.004 \text{ ug}/m^3$ $[PM2.5]_{24-hour} = SIL \times [NO_x \text{ Annual Emissions}/5215 + SO_2 \text{ Annual Emissions}/814]$ $= (1.2 \text{ ug}/m^3)[(199.48/5215) + (21.64/814)]$ $= 0.078 \text{ ug}/m^3$						

16-N: Setback Distances	
1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location. N/A
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling. N/A

16-O: PSD Increment and Source IDs					
1	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? If not, provide a cross-reference table between unit numbers if they do not match below.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Unit Number in UA-2		Unit Number in Modeling Files		
2	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Which units consume increment for which pollutants? Constructed after minor source baseline date, so all sources at the facility consume increment				
	Unit ID	NO ₂	SO ₂	PM10	PM2.5
	ENG1 – ENG12	X	X	X	X
	RB1-RB3	X	X	X	X
	DEHY1-DEHY3	X	X	X	X
	FL1-FL3	X	X	X	X
	ROAD		X	X	
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).		None		
6	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. If not please explain how increment consumption status is determined for the missing installation dates below.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

16-P: 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)
	<u>Scenario "Normal"</u>			
	FL1	51.68	1,478,033	0.983
	FL2	20.51	239,504	0.433
	FL3	20.51	239,504	0.433
	<u>Scenario "SSM"</u>			
	FL3_SSM	21.71	242,843,864	13.731
	<u>Scenario "Even"</u>			
	FL1_Even	21.78	81,520,467	7.954
	FL2_Even	21.78	81,520,467	7.954
	FL3_Even	21.78	81,520,467	7.954

16-Q: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources. As presented in NMED guideline for a large truck		
3	Describe how the volume sources are related to unit numbers. Or say they are the same. Haul road represented by volume sources L0000001 to L0000023		
4	Describe any open pits. N/A		
5	Describe emission units included in each open pit. N/A		

16-R: Background Concentrations

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	CO: Del Norte High School (350010023)			
	NO ₂ : Outside Carlsbad (350151005)			
	PM _{2.5} : Hobbs-Jefferson (350450019)			
	PM ₁₀ : Hobbs-Jefferson (350250008)			
	SO ₂ : Amarillo (483751025)			
	Other:			
	Comments:	Values obtained from NMED Air Dispersion Modeling Guidelines, Revised June 6, 2019.		
2	Were background concentrations refined to monthly or hourly values? If so describe below.		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so, select the station used.		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Artesia Year 2015 downloaded from NMED website			
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.			
	Met data used as downloaded from the NMED website.			

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	N/A			
2	What was the source of the terrain data?			
	NED data from http://www.webgis.com/ , downloaded through the Lakes Environmental GUI			

16-U: Modeling Files

Describe the modeling files:		
File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
SIA\CO.zip	CO	ROI
SIA\NOx.zip	NO2	ROI & Cumulative
SIA\PM10.zip	PM10 & PM2.5	ROI
SIA\SO2.zip	SO2	ROI & Cumulative
CIA\PM10.zip	PM10	Cumulative
CIA\PM25.zip	PM2.5	Cumulative
CL1\NOx.zip	NO2	Class 1 significance
CL1\PM10.zip	PM10 & PM2.5	Class 1 significance
CL1\SO2.zip	SO2	Class 1 significance
Surrounding Sources\	Surrounding source files generated by MergeMaster	
Surrounding Sources\RS21331_Application (8276).pdf	PM10/PM2.5	Correction to PM10/PM2.5 emissions for 38927R3 of surrounding source inventory
Surrounding Sources\RS21461_Application (8397).pdf	PM10/PM2.5	Correction to effective diameter for 39069E3 of surrounding source inventory
Surrounding Sources\TCEQ\	Texas Surrounding Sources	
MERPs table_export.xlsx	MERPs downloaded from EPA for Southwest Climate Zone	
[Pollutant].ADI	AERMOD input file	
[Pollutant].ADO	AERMOD output file	
[Pollutant].sum	AERMOD output summary file	
[Pollutant].bpi	BPIP input file	
[Pollutant].pro	BPIP output file	
\[Pollutant].AD\	Plot File Directory	
[Avg Period][Rank]G[xxx].PLT	Plot file naming convention. Where facility source groups were used G001 denotes normal operation, G002 denotes SSM operations and G003 denotes flaring evenly distributed between flares. For PM10 & PM2.5 cumulative G001 denotes NAAQS modeling and G002 denotes PSD increment modeling.	
Spartan.jpg & .jgw	Georeferenced facility layout	

16-V: PSD New or Major Modification Applications (Not Applicable)

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 <input type="checkbox"/>	No <input type="checkbox"/>
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption. N/A		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC. N/A		
5	If required, have ozone and secondary PM _{2.5} ambient impacts analyses been completed? If so describe below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	As a minor source ozone was not evaluated. MERPs were used to estimate secondary formation of PM _{2.5}		

16-W: 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. Was culpability analysis performed? If so describe below.							Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
2	Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary.										
Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location			
								UTM E (m)	UTM N (m)	Elevation (ft)	
CO 1hr SIL	126.43742	N/A	N/A	N/A	126.43742	2,000	6.3	609800.00	3563550.00	1049.25	
CO 8hr SIL	72.94537	N/A	N/A	N/A	72.94537	500	14.6	609800.00	3563600.00	1049.66	
NO ₂ 1hr NAAQS	125.72080	N/A	N/A	38.7	164.4208	188.03	87.4	609800.00	3563550.00	1049.25	
NO ₂ Annual NMAAQs	9.69203	N/A	N/A	8.1	17.79203	94.02	18.9	609466.38	3563751.96	1048.65	
NO ₂ Annual	9.69203	N/A	N/A	8.1	17.79203	25	71.2	609466.38	3563751.96	1048.65	
SO ₂ 1hr NAAQS	14.38771	N/A	N/A	47.0	61.38771	196.4	31.3	609800.00	3563600.00	1049.66	
SO ₂ Annual NMAAQs	1.00397	N/A	N/A	0.670	1.67397	52.4	3.2	609466.38	3563751.96	1048.65	
SO ₂ 3-hr SIL	10.69565	N/A	N/A	N/A	10.69565	25	42.8	609800.00	3563600.00	1049.66	
SO ₂ 24-hr PSD*	5.90754	N/A	N/A	<47.0	<52.9	91	<58.1	609650.00	3563350.00	1048.81	
SO ₂ Annual PSD*	1.00397	N/A	N/A	0.670	1.67397	20	8.4	609466.38	3563751.96	1048.65	
PM ₁₀ 24hr NAAQS	6.77312	11.41392	N/A	37.3	48.71392	150	32.5	609598.00	3563419.47	1047.69	
PM ₁₀ 24hr PSD	6.77312	10.06305	N/A	N/A	10.06305	30	33.5	609598.00	3563419.47	1047.69	
PM ₁₀ Annual PSD	1.50925	3.41575	N/A	N/A	3.41575	17	20.1	609598.00	3563419.47	1047.69	
PM _{2.5} 24hr NAAQS		5.26396	0.078	13.4	18.74196	35	53.5	609553.16	3563419.13	1047.62	
PM _{2.5} Annual NAAQS	1.50925	2.23301	0.004	5.9	8.13701	12	67.8	609598.00	3563419.47	1047.69	
PM _{2.5} 24hr PSD	5.91640	8.11865	0.078	N/A	8.19665	9	91.1	609598.00	3563419.47	1047.69	
PM _{2.5} Annual PSD	1.50925	2.23301	0.004	N/A	2.23701	4	55.9	609598.00	3563419.47	1047.69	
NO ₂ Class I Annual SIL	0.02224	N/A	N/A	N/A	0.02224	0.1	22.2	557248.36	3562665.48	1236.31	
PM _{2.5} Class I Annual SIL	0.00109	N/A	0.004	N/A	0.005	0.05	10.1	557248.36	3562665.48	1236.31	
PM _{2.5} Class I 24-hr SIL	0.03226	N/A	0.078	N/A	0.11026	0.27	40.8	553804.88	3562097.16	1267.16	
SO ₂ Class I Annual SIL	0.00058	N/A	N/A	N/A	0.00058	0.1	0.5	557513.17	3559056.97	1097.39	
SO ₂ Class I 24-hr SIL	0.03109	N/A	N/A	N/A	0.03109	0.2	15.5	550905.65	3552996.04	1105.27	
SO ₂ Class I 3-hr SIL	0.18875	N/A	N/A	N/A	0.18875	1.0	18.9	557513.17	3559056.97	1097.39	
*Monitoring data was used as conservative estimate of surrounding source increment consumption											

16-X: Summary/conclusions

1	<p>A statement that modeling requirements have been satisfied and that the permit can be issued.</p> <p>The facility sources were modeled and found to have impacts below the modeling significance level for CO and the SO₂ 3-hr averaging period. Surrounding source impacts for NO₂ and SO₂ were accounted for using existing monitored data as published in the NMED Air Dispersion Modeling Guidelines, Revised June 6, 2019. Surrounding source impacts for PM₁₀ and PM_{2.5} were accounted for by explicitly modeling NAAQS sources within 10 km, PSD increment sources within 25 km and including the published monitored data. The PM₁₀/PM_{2.5} significant impact was within 100-meter spacings and only receptors found to have an impact above the modeling significance level in preliminary modeling were included in the cumulative analysis.</p> <p>Modeled impacts in the Class 1 area for NO₂, SO₂ and PM₁₀/PM_{2.5} were found to be below the modeling significance level.</p> <p>The modeled impacts were found to be compliant with the NAAQS, NMAAQs and PSD increments. The facility will, therefore, not cause or contribute to an exceedance of the ambient air quality standards and the permit can be issued.</p>
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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.

No tests have been performed.

Section 18

Addendum for Streamline Applications

Do not print this section unless this is a streamline application.

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

This section is not applicable since this is not a Streamline Permit Application.

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Who Must Use this Attachment:

- * Any major source as defined in 20.2.70 NMAC.
 - * Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
 - * Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See <http://www.env.nm.gov/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
 - * Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.
-

This is not a Title V application.

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.

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.

Section 22: Certification

Company Name: XTO Energy Inc.

I, T.J. Tole, 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 3 day of March, 2021, upon my oath or affirmation, before a notary of the State of ~~Illinois~~ Texas.

[Signature]
*Signature

March 3, 2021
Date

T.J. Tole
Printed Name

Environmental Engineer
Title

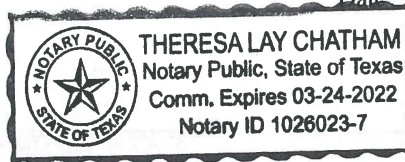
Scribed and sworn before me on this 3 day of March, 2021.

My authorization as a notary of the State of Texas expires on the 24 day of March, 2021.

[Signature]
Notary's Signature

March 2 2021
Date

Theresa Lay Chatham
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.